

# **STAINLESS STEEL AND ALLOY TOOL STEEL**

**Report to the President on  
Investigation No. TA-203-16  
Under Section 203 of the  
Trade Act of 1974**



**USITC PUBLICATION 1975**

**MAY 1987**

# **UNITED STATES INTERNATIONAL TRADE COMMISSION**

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Note.—Information that would reveal the confidential operations of individual concerns may not be published and therefore has been deleted from this report. Such deletions are indicated by asterisks.

REPORT TO THE PRESIDENT  
INVESTIGATION NO. TA-203-16  
STAINLESS STEEL AND ALLOY TOOL STEEL

U.S. International Trade Commission  
May 15, 1987

To the President:

In accordance with section 203(i)(3) of the Trade Act of 1974 (19 U.S.C. 2253(i)(3)), the United States International Trade Commission herein reports the results of an investigation concerning stainless steel and alloy tool steel.

Chairman Liebeler and Vice Chairman Brunsdale provide advice on the probable economic effect of terminating import relief provided to domestic producers of certain stainless steel and alloy tool steel products. They also provide advice on the considerations set forth in section 202(c) of the Trade Act of 1974.

Commissioner Eckes advises the President that termination of the import relief program with respect to stainless steel sheet and strip, and stainless steel plates, would not have an adverse effect on the domestic industries producing those products, assuming the continued administration of voluntary restraint agreements at present levels. He also advises that termination of the import relief program would have an adverse effect on the industries producing stainless steel bars, stainless steel wire rod, and alloy tool steel.

Commissioner Lodwick advises the President that termination of the relief program with respect to stainless steel sheets and strip, and stainless steel plates would not have an adverse effect, assuming the continued administration of the voluntary restraint agreements at present levels. He also advises that termination of the 201 relief would have an adverse effect on the industries producing stainless steel bars, stainless steel wire rod, and alloy tool steel.

Commissioner Rohr advises the President that with respect to stainless steel sheets and strip, and stainless steel plates, termination of the import relief program would not have a significant adverse economic effect on the industries producing these products, assuming the continued administration of the voluntary restraint agreements at present levels. With respect to stainless steel bars and stainless steel wire rod, termination of the import relief program would have a significant adverse economic impact on the industries producing these products. With respect to alloy tool steel, Commissioner Rohr advises that while termination of the import relief program would have some adverse economic effects on the operation of the industry, he finds little indication that firms in this industry have any significant plans to use any further period of relief to further adjust to import competition.

The Commission instituted this investigation on January 27, 1987, following receipt of a petition filed by the Specialty Steel Industry of the United States (SSIUS) and the United Steelworkers of America (AFL-CIO), requesting that the Commission institute an investigation in order that it might advise the President of its judgment as to the probable economic effect on the domestic specialty steel industries of the termination of the import relief provided to the specialty steel industries by Presidential Proclamation 5074. Public notice of the investigation and hearing was given by posting copies of the notice at the office of the Secretary, U.S. International Trade Commission, Washington, DC, and by publishing the notice in the Federal Register of February 4, 1987 (52 F.R. 3501). A public hearing was held in connection with this investigation on April 2, 1987, in Washington, DC. All interested persons were afforded an opportunity to be present, to present evidence, and to be heard.

The information in this report was obtained from field work, questionnaires sent to domestic producers and importers, the Commission's files, other government agencies, briefs filed by interested parties, and

VIEWS OF COMMISSIONERS ALFRED ECKES, SEELEY G. LODWICK,  
AND DAVID B. ROHR

The purpose of this investigation is to provide advice to the President concerning the probable economic effect of termination of the import relief program provided to certain specialty steel industries under Presidential Proclamation 5074 (Proclamation).

This is not the first time the Commission has conducted investigations of these industries. The Commission has conducted five prior investigations under sections 201 or 203 of the Trade Act of 1974 and many investigations under title VII. Also, as part of its responsibilities under the Proclamation, the Commission has closely monitored the progress of these industries and the effect of imports on this progress since the imposition of import relief.

The current import relief program has been in effect since July, 1983, following a section 201 investigation conducted by the Commission at the request of the United States Trade Representative (USTR).<sup>1/</sup> In that investigation, the Commission determined that imports were a substantial cause of serious

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<sup>1/</sup> The request was made as the result of an investigation of certain unfair trade practices conducted by USTR under section 301.

injury to domestic industries producing stainless steel sheet and strip, plate (flat products), bar, and wire rod (long products), and alloy tool steel products.

The relief provided under the Proclamation included tariffs on the flat products that have been progressively reduced from 8 percent and 10 percent respectively, to the current level of 4 percent, and tonnage quotas on the long products and on alloy tool steel products that have increased annually by 3 percent.<sup>1/</sup> The nature and extent of import relief provided to the industries under the Proclamation has changed, however, since the program began.

In September, 1984, the President adopted a national policy for the steel industry, directing the USTR to negotiate voluntary restraint arrangements (VRA's) with respect to the importation of various steel products.<sup>2/</sup> These VRA's include a variety of steel products with varying degrees of specificity. Some of these arrangements extend to products which would otherwise be covered by the import relief program which is the subject of this investigation, and substantially alter the coverage for some products under the Proclamation. In some

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<sup>1/</sup> The Proclamation provided for a number of exemptions for specific products from import relief. To the extent that exemptions are sought for products covered by our recommendation for extension of relief, we do not find it appropriate to provide for further exemptions (either on a product or country-of-origin basis).

<sup>2/</sup> In negotiating these arrangements, USTR apparently decided that VRA's are equivalent to OMA's for the purpose of sec. 203(e).

arrangements, limitations are imposed specifically on specialty steel items, while in others, specialty steel items are included within broad classes of steel products.

This investigation was instituted at the request of the domestic industries whose products are covered by the import relief program instituted under the Proclamation. The Commission's task, under the statutory mandate of section 203 is to consider what the probable economic effect on the industry would be if the import relief program under that proclamation were to be terminated (currently scheduled for July 19, 1987). In providing our advice to the President, we have considered the current condition of the industries and how they have used the period of import relief to adjust to imports, as well as the probable effect of removing present relief on imports and the domestic industries.<sup>1/</sup> Where appropriate, we have incorporated into our discussion the factors enumerated in section 202(c).

For purposes of explaining our analysis in this investigation, we discuss flat products together, long products together, and alloy tool steel products because of the nature of the import relief under review.

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<sup>1/</sup> In view of our recommendation that termination of the present relief on flat products would not have an adverse effect on the flat product industries, we have not considered proposed modifications of relief. With respect to long products and alloy tool steel products, we do not find that there would be any meaningful economic difference between the present tonnage quotas and the petitioners' proposed market-share quotas.

CONDITION OF THE DOMESTIC INDUSTRIES AND ADJUSTMENT

In this investigation, the Commission is not required to make a determination regarding the condition of the respective domestic industries, i.e. whether they are presently experiencing serious injury. Rather, the Commission advises the President as to the probable economic effect of termination of the import relief program. The Commission's assessment of the condition of the industry establishes the framework for the analysis of the impact of removal of relief and is integral to an objective evaluation of industry adjustment.

Flat Products--Most indicators show continuing improvements in the the performance of flat producers. One exception to this improving performance is in production-related indicators. Despite increased consumption trends of both sheet and strip, and plate, over the period covered by this investigation (1983-1986), production of sheet and strip declined, and growth in plate production trailed growth in apparent consumption. Domestic shipments mirror these production trends. Domestic inventories of sheet and strip at 1986 year's-end were comparable to 1985 levels, as were producers' end-of-period unfilled orders. While inventories of plate increased by more than one-third from 1985 to 1986, increases in plate producers' unfilled orders for 1986 offset growth in plate inventories.

Both industries experienced significant improvements in operating margins and cash flow from operations during the period. Operating income margins were at their highest level in 1986 for the four-year period. Of 10 domestic sheet and

strip producers, only one reported an operating loss in 1986. Likewise, of 7 domestic plate producers, one producer reported an operating loss in 1986. Improved cash flow provided the resources for capital spending to enhance competitiveness. (See Table E-7). On the basis of the gross profit variance analysis in the Commission's Report, much of the improvement in profitability was the result of declining costs of production, reflecting both adjustment efforts and declines in raw material and energy costs.

Thus, the flat product producers have been able to pursue important aspects of cost reduction during the period of relief. Reductions in the number of production and related workers and unit labor costs are part of this adjustment. The flat product industries experienced reductions of 25 percent and 20 percent respectively from 1983 to 1986. Also, productivity figures for these producers show a 25 percent increase over the four-year period, as measured by hours worked per ton produced.

Long Products--The performance trends for the long product industries reflect to some degree the improving trends exhibited by the flat products for the period covered by this investigation. Production trends through the period were up from 1983 to 1986, as were domestic shipments of these products. For bar producers, inventory levels for year-end 1986 were down from 1985 levels, and U.S. producers'

end-of-period unfilled orders were up in 1986 over 1985. For wire rod producers, inventory levels increased in 1986, but producers' unfilled orders increased as well.

The financial performance of the long product producers, however, differs markedly from the flat producers. Operating margins for bar producers were low; during 1985 and 1986, these margins were about 1 percent, as 5 of the 8 producers reported operating losses in 1986. For rod producers, operating margins continued to be negative throughout the period, with 3 of the 5 producers showing operating losses in 1986. Long product producers' cash flow was minimal. Despite increased sales revenues during the period of investigation, these long product producers have been unable to match the improvements in reduced cost of goods sold made by flat producers.

Nonetheless, there were some hopeful signs of partial adjustment. Though variance analysis suggests that improved profitability was primarily attributable to increases in average unit revenue per ton, some cost reductions were realized, particularly for wire rod producers. Bar producers were able to maintain margins in 1986 despite a substantial decline in prices. Further, long product producers' employment and hours worked declined despite increased production as productivity improved in excess of 10 percent, and nominal unit labor costs during the period were essentially flat.

Alloy Tool Steel Products--For the industry as a whole, financial indicators show considerable growth in sales and operating income over the period 1983 to 1986, with a modest

improvement in operating margins. However, 5 firms experienced operating losses in 1986, compared with 8 in 1983. Cash flow from operations also improved moderately, and much of it was reinvested. (See Table E-7).

Operating margins increased despite substantial declines in average unit revenue per ton. This is apparently due to major reductions in average cost per ton, as the producers enjoyed improved economies of scale created by increased production levels. Modest reductions in unit labor costs indicate improved competitiveness. Unlike the flat producers, alloy tool steel producers have been unable to consistently improve productivity.

#### PROBABLE ECONOMIC EFFECT OF TERMINATION OF RELIEF

As previously outlined, the existence of the various VRA's is an important aspect of the conditions of trade for these producers. Our analysis of the impact of termination of relief for these products is based on the assumption that the VRA's will continue to operate at present levels. Our advice does not pertain to any present or future restraints on imports provided under the VRA program.

Based upon our analysis of the facts in this investigation, we must first advise extreme caution on any reliance on the estimations of the econometric models of the price, production, employment, and consumer cost of removal of the import relief

programs.<sup>1/</sup> <sup>2/</sup> To allow theory to substitute for comprehensive and circumspect analysis of the facts is to gamble with the future of American industries. Analysis must be thoroughly grounded in actual performance indicators (eg. production, profits, employment, import and price trends, etc.) and not in hypothetical outcomes derived from static assumptions. The appropriate use of econometric models is to supplement this analysis, aiding as a tool of estimation, but not of actual determination.

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<sup>1/</sup> Two models discussed in Appendix G to the Report were prepared by the Office of Economics in this investigation. One of these estimates the probable economic effect of terminating only section 201 import relief, assuming the continued existence of the VRA's; the other estimates the probable economic effects of terminating 201 import restraints along with an end to VRA's.

Commissioner Eckes and Commissioner Rohr did not consider materials distributed to the Commission by the Office of Economics after the Commission meeting of May 7, 1987.

<sup>2/</sup> Commissioner Lodwick does not join his colleagues' discussion of econometric models. He notes that the costs and effects of import relief depend specifically on how the relief is used, and generally on world-wide economic developments. Models are based on prior observation and are by nature somewhat mechanistic. The Commission's investigation indicates that there have been numerous and substantial microeconomic and macroeconomic events since the imposition of import relief. These events are difficult to quantify and may have important implications for the relative competitiveness of domestic and foreign producers in the absence of the import relief program. With respect to the domestic industries' use of the period of adjustment, there have been substantial organizational and operational changes, extensive investment, major changes in employment, productivity, and labor costs, and noteworthy reductions in production costs. More generally, a world-wide restructuring and rationalization of the specialty steel industry is in progress, a national policy for the steel industry (the VRA's) has been adopted, and currency values between the United States and many of the major supplier nations have changed significantly. Thus, the models serve only as a limited element of the fundamental analysis which is the basis for his advice.

The use of econometric analysis is most limited with respect to complex situations. Removal of import restraints involves the independent responses of numerous companies facing different competitive conditions. As the number of variables and assumptions involved in an analysis increase, the utility and reliability of econometric models is commensurately reduced. In the present case, the models hold constant many factors which, independently and through their interaction, were critical to actual performance. Thus, the estimations by the models have little hope of approximating factual outcomes.

In addition, the models imply a consistent relationship between the removal of import relief and volume and price changes that is not supported by the data. For example, in 1983 an 8% tariff was placed on imports of sheet and strip, reduced to 6% in 1984, and to 5% and 4% in 1985 and 1986 respectively. During this four-year period, however, there were no identifiable trends in either the volume and price of imports nor in domestic production in relation to the changes in tariffs. In each of the four other industries examined there was a similar absence of correlation between changes in tariffs and quotas and the effect on domestic production, prices, and import volumes.

These lack of interrelationships suggest that the effect of tariffs on prices, production and import volume cannot be accurately estimated given the numerous other variables that determine change in these indicators. Therefore, holding each

of these other variables constant and attempting to estimate only the effect of the tariff provides, at best, an incomplete and unsatisfactory representation of what is likely to occur.

Flat Products--We are advising the President that termination of the import relief program under the Proclamation will not have an adverse effect on these industries. As noted earlier, tariff relief has been substantially reduced from initial levels. Also, the coverage of imports under the Proclamation has been altered by the subsequent negotiation of VRA's. Currently, 83 percent of combined sheet and strip and plate imports in 1986 are from VRA countries and are not subject to the additional 4 percent tariff. Further, the majority of VRA imports originate in countries having specific product categories in the respective VRA. In 1986, imports of stainless sheet, strip, and plate from countries having stainless-steel specific product categories (EC, Spain, Mexico, and Korea) accounted for more than two-thirds of all such imports. In addition, the volume of 1986 imports is distorted because of the anticipation of the implementation of VRA's.

Imports from non-VRA sources in 1986, such as Canada and Sweden, reflect historical trends. Imports from these countries in 1986 although higher than 1985 levels are comparable to 1983 and 1984 imports. Also, imports from South Africa accounted for about one-fourth of the increase in "All other" imports. (See Table 30) Because of the current trade embargo, and the fact that South African imports are subject to a VRA, South African imports should be non-recurring imports in the short term. When these imports (Canada, Sweden, and South

Africa) are factored out of the increased total imports from 1985 to 1986, imports from all other sources increased 9 percent between 1985 and 1986.<sup>1/</sup> However, as noted, the volume of total imports for 1986 is affected by the anticipation of VRA's, particularly during the first quarter of 1986.

The reduction of tariffs over the period of relief does not appear to have had an impact on import behavior. Likewise, the removal of the remaining 4 percent duty will not result in significant increases in imports from foreign suppliers.<sup>2/</sup> The termination of such import relief for flat products will not frustrate the adjustment which the sheet and strip producers and plate producers have made during the period of relief.<sup>3/</sup>

The removal of a 4 percent tariff on these products will have no discernible impact on the favorable trends in the industries' performance and their ability to avoid further serious injury from imports in the short-term.

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<sup>1/</sup> We note, however, recent increases in imports from Taiwan from zero in 1984 to 4,174 tons in 1986 and Finland from 5,701 tons in 1985 to 9,272 tons in 1986.

<sup>2/</sup> This level of duty did not seem to have any restraining impact on imports when the volume of imports surged in early 1986 in anticipation of conversion of certain imports from coverage under the Proclamation to a VRA program.

<sup>3/</sup> Information supplied by Petitioners in their post-hearing submission (Table 3-1) indicates that most of the cost adjustments for sheet and strip, and plate have been achieved during the period of relief. If relief is extended, projected unit costs for 1990 are not expected to decline for sheet and strip, and would decline 8 percent for plate. More than one-half of sheet and strip and one-third of plate are produced by the same producers.

Long Products--Unlike our advice concerning the impact of termination on flat products, we advise that termination of relief on long products would frustrate the course of adjustment of these producers to import competition. It is apparent that import relief in the form of quotas has helped restrain the level of imports during the period, as imports dropped from 1983 to 1984, and were more stable thereafter. At the same time, domestic production and shipments of both bar and rod increased despite little growth in apparent consumption. Data on the profitability performance of these producers indicate some improvement, but operating returns and cash flow are still inadequate.<sup>1/</sup>

VRA coverage for these products is not comparable to coverage for flat products. Specifically, coverage for wire rod and bars under the EC arrangement was 25 and 20 percent of imports in 1986, respectively. Thus, the potential for increased imports of these products from non-VRA countries should relief be terminated is considerable. Japan, Sweden, and Spain are major exporting countries of these products. Available data indicate that exports by these suppliers of stainless and alloy tool products to the United States represent less than 15 percent of their total exports to all markets of such products. Thus, the prospect of diversion to the U.S. market from other world markets can be expected.

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<sup>1/</sup> If import relief is extended, petitioners project unit costs for 1990 to decline by 4 percent for bar and 12 percent for rod. Wire rod producers account for about one-half of bar production as well.

Alloy Tool Steel Products--Commissioner Eckes and Commissioner Lodwick advise against the termination of import relief for the alloy tool steel products. Similar to the long products, the quota relief program for alloy tool steel has constrained import levels. This period of restraint has enabled domestic production and shipments to participate in the growth in apparent consumption. The profitability performance for alloy tool steel producers is similar to long producers' performance, that is, some improvement, but inadequate operating returns and cash flow.

Further, the particular nature of these products warrants an extended period of import relief. These are an array of products; the size of orders is small, and producers in order to maximize economies of production often must carry inventories. In short, the orderly adjustment for these producers will necessarily be more protracted than for other producers, such as flat producers.

We note that producers accounting for almost one-third of alloy tool steel shipments in 1986 also were major producers of long products, suggesting an important relationship between the operation of relief programs for both industries.<sup>1/</sup>

Commissioner Rohr believes that the restraints on alloy tool steel have reduced levels of imports. The increased volume of domestic sales resulting from this restraint was a

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<sup>1/</sup> If import relief is extended, petitioners project unit costs for 1990 to decline by 11 percent for alloy tool steel products.

significant factor in permitting the industry to fund the modernization which improved the industry's cost of production in 1985 and 1986. He concurs with his colleagues Commissioners Eckes and Lodwick that removal of the restraints at the present time would adversely affect the operating results which the industry has achieved in the last two years.

However, he also believes that particular attention should be paid to the adjustment plans submitted by the domestic producers of alloy tool steel. He notes that the performance of this industry has been essentially static since 1985. While he agrees with his colleagues that further adjustment in this industry is needed, he finds little indication that firms in this industry have significant plans to use any further period of relief to further adjust to import competition.

Advice of Chairman Liebeler and Vice Chairman Brunsdale

Stainless Steel and Alloy Tool Steel  
Investigation TA-203-16

May 15, 1987

On July 19, 1983, the President announced the imposition of import relief under section 201 of the Trade Act of 1974 (the "Act") for domestic producers of certain stainless steel and alloy tool steel ("specialty steel") products.<sup>1</sup> The relief is scheduled to end on July 19, 1987. Pursuant to sections 203(i)(3) and 203(i)(5) of the Act,<sup>2</sup> the Commission has conducted an investigation in order to "advise the President of its judgment as to the probable economic effect on such industr[ies] of such termination." In providing its advice, the Commission must take into account all economic factors that it considers relevant, including the considerations set forth in section 202(c) of the Act and the progress and specific efforts<sup>3</sup> made by the industries to adjust to import competition.

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<sup>1</sup> Presidential Proclamation 5074 of July 19, 1983, 48 F.R. 33233 (1983), Report of the Commission (Report) at a-1. For a description of the relief, see Report at A-9.

<sup>2</sup> 19 U.S.C. 2253(i)(3) and 2253(i)(5).

<sup>3</sup> Section 203(i)(4) of the Act, 19 U.S.C. 2253(i)(4).

This is our first section 203 investigation. We are aware that in previous investigations Commissioners have sometimes provided recommendations to the President as to whether relief should be extended or terminated, and occasionally whether it should be otherwise modified. We have found nothing in the statute or the legislative history that indicates that the Commission is required, or expected, to make a recommendation to the President on whether to extend, terminate, or modify relief.

We believe that, Commission precedent notwithstanding, providing advice to the President as to whether to extend or terminate relief oversteps our mandate as Commissioners. Thus, we only provide to the President advice on the probable economic effect of termination of import relief on the domestic stainless steel and alloy tool steel industries, including the considerations set forth in section 202(c). The Report of the Commission discusses a variety of economic factors relevant to evaluating these effects. In the following discussion we present the information that is, in our view, the most important.

#### Summary data

The estimated effects of terminating section 201 relief are summarized in Appendix 1 (attached). Because termination of section 201 relief may decrease the effectiveness of the import

relief provided by Voluntary Restraint Agreements ("VRAs"), estimates are presented for the situation when VRAs are assumed to be effective (Table 1) and when VRAs are assumed to be ineffective (Table 2).

#### Section 202(c) considerations

Section 202(c)(1). Consideration of information and advice from the Secretary of Labor on the extent to which workers in the industry have applied for, are receiving, or are likely to receive adjustment assistance under chapter 2 or benefits from other manpower programs.

Information specific to workers producing stainless and alloy tool steel is not available. For the overall domestic steel industry, which is dominated by firms that produce carbon steel products, 369,000 employees applied for certification through April 1, 1987, and about half of those were certified. By comparison, there are only about 11,000 workers producing stainless and alloy tool steel products.<sup>4</sup>

Section 202(c)(2). Consideration of information and advice from the Secretary of Commerce on the extent to which firms in the industry have applied for, are receiving, or are likely to receive adjustment assistance under chapters 3 and 4.

Two firms have been certified to receive adjustment assistance, but neither has received benefits. Financial assistance has not

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Report at A-97.

been available under the law since 1986.

Section 202(c)(3). Consideration of the probable effectiveness of import relief as a means to promote adjustment, the efforts being made or to be implemented by the industry concerned to adjust to import competition, and other considerations relative to the position of the industry in the Nation's economy.

To promote adjustment, the industry has made organizational changes and increased capital expenditures, and has also reduced labor costs. There has been a change in the structure of the industry over time. There are now more smaller firms and more privately owned firms. In addition, there has been increasing product specialization among producers. More than 50 percent of 1986 cash flow was spent on capital outlays and research and development; labor productivity increased by 14 percent from 1983

<sup>6</sup>  
to 1986.

Section 202(c)(4). Consideration of the effect of import relief on consumers and on competition in the domestic markets for such articles.

If section 201 import relief were terminated, the gains to consumers are estimated to be between \$16.4 million and \$54.2

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Id. at A-97.

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Id. at A-98-99.

million per year.<sup>7</sup> If import relief under both section 201 and the existing VRAs were terminated, the gains to consumers are estimated to be between \$40.7 million and \$145.5 million per year.<sup>8</sup> The petitioners and the Federal Trade Commission also estimated costs to consumers. An analysis of these estimates is attached as Appendix 2.

Appendix 2 also presents data on industry concentration for each of the five speciality steel products. Concentration, which measures the number and relative sizes of producers, is one dimension of market structure. Other things remaining the same, as concentration increases there is a greater likelihood that domestic firms can exercise market power and increase price -- and therefore increase costs to consumers and also lower real national income. When measured by the Herfindahl index, both the sheet and strip industry and the wire rod industry are significantly concentrated.<sup>9</sup> However, if import relief were to

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<sup>7</sup> Appendix 1 (Table 1).

<sup>8</sup> Appendix 1 (Table 2).

<sup>9</sup> The Herfindahl index is the sum of the squares of the market shares of each producer. See generally, U.S. Department of Justice, Merger Guidelines (1984). Market  
(Footnote continued on next page)

be eliminated for sheet and strip, it is estimated that there would be a significant decline in concentration, which would allay these concerns to some extent. Data are not available to indicate the effect of eliminating import relief on the concentration for wire rod.

Sections 202(c)(5) and 202(c)(6). Consideration of the effect of import relief on the international economic interests of the United States, and the impact on U.S. industries and firms as a consequence of any possible modification of duties or other import restrictions which may result from international obligations with respect to compensation.

Canada and the European Community (EC) requested compensation under GATT for the U.S. imposition of import relief on specialty steel and retaliated against U.S. exports. Canadian retaliation ended when compensation was received. Retaliation by the EC ended when the EC signed a VRA. Major exporting countries that have not signed VRAs or have not already received compensation -- such as Sweden, Taiwan, and Finland -- could do so if relief is

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continued.

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(Footnote continued from previous page)  
concentration is just one factor which effects whether an industry exhibits noncompetitive behavior. For example, if entry into the industry is easy, a high Herfindahl index is unlikely to signify the presence of significant market power.

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Report at A-102-3.

Section 202(c)(7). Consideration of the geographic concentration of imported products marketed in the United States.

About half of all imports of stainless and alloy tool steel enter the United States through mid-Atlantic or northeastern ports.

The remainder are divided among the midwest, Gulf coast, and west

<sup>11</sup>  
coast.

Section 202(c)(8). Consideration of the extent to which the United States market is the focal point for exports of such article by reason of restraints on exports of such article to, or on imports of such article into, third country markets.

The EC is known to have agreements with a number of countries limiting exports of specialty steel to EC member countries.

<sup>12</sup>  
There are reportedly no such barriers on imports into Japan.

Section 202(c)(9). Consideration of the economic and social costs which would be incurred by taxpayers, communities, and workers, if import relief were or were not provided.

If section 201 import relief were terminated, the gain in real national income is estimated to be between \$14.1 million and

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<sup>11</sup>  
Id. at A-103-4.

<sup>12</sup>  
Id. at A-104.

\$39.9 million per year.<sup>13</sup> If import relief under both section 201 and the existing VRAs were terminated, the gain in real national income is estimated to be between \$38.0 million and \$107.1 million per year.<sup>14</sup>

It is estimated that termination of all import relief would reduce tariff revenue by about \$9.5 million.<sup>15</sup> Removing just the 201 relief is projected to reduce employment in the speciality steel business by between 345 and 375 jobs. Removing the 201 relief and also relaxing the VRAs is projected to reduce employment by between 876 and 905 jobs.<sup>16</sup> These employment losses would be offset, at least in part, by employment gains in other sectors of the economy, including industries that consume specialty steel.<sup>17</sup>

#### Adjustment efforts

Expenditures by domestic producers on capital assets and research

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Appendix 1 (Table 1). The largest estimated gain is \$21.3 million from termination of quotas on imports of stainless steel bar.

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Appendix 1 (Table 2). The largest estimated gain is \$48.8 million from termination of quotas on imports of alloy tool steel.

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EC-K-169, at 13 (Table 1).

16

Appendix 1, Tables 1 and 2.

17

Report at A-104-5.

and development are detailed at pages A-48 to A-64 of the Report. The petitioners and respondents generally agree that the industry's investments have been impressive.<sup>18</sup> Nevertheless, capital expenditures by U.S. producers declined by 39 percent from 1983 to 1986. Research and development expenditures were steady over the same period.<sup>19</sup>

Other economic factors

Two characteristics of the U.S. specialty steel industry are especially important: reorganization and profitability. The industry has seen a variety of divestitures, management buy-outs, and curtailed operations that have resulted in major steel firms (such as Bethlehem Steel and USX) leaving the industry. This activity indicates that adjustment (which includes the transfer of resources to more productive activities and the more efficient use of remaining assets)<sup>20</sup> is occurring.<sup>21</sup>

While reorganizing, specialty steel producers have generally been profitable. In 1984, they had an operating margin of 9.1

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See, e.g., Prehearing Brief of Petitioners at 18, Prehearing Brief of Avesta AB and Avesta Stainless Inc. at 25.

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Report at A-45-47.

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19 U.S.C. 2251(a)(1).

21

Report at A-18-20.

percent. In 1985 profitability declined to 3.3 percent. In 1986<sup>22</sup> the operating margin rebounded to 8.3 percent.

Probable economic effects

If section 201 import relief were terminated (but VRA relief<sup>23</sup> remained unchanged), the estimated effects are as follows:

Stainless steel sheet and strip. Declines in production and employment would each be less than 1 percent from 1986 levels. The decline in producers' revenues would be between \$2 million and \$8 million, or less than one percent. The gain to consumers for each job removed from protection would be from \$107,000 to \$393,000.

Stainless steel plate. Declines in production and employment would each be less than 1 percent from 1986 levels. The decline in producers' revenues would be between \$324,000 and \$1 million, or less than one percent. The gain to consumers for each job removed from protection would be from \$74,000 to \$272,000.

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22

Id. at A-30 (Table 13). For the financial results for each of the five individual products see Report at A-31 (Table 14, sheet and strip), A-33 (Table 15, plate), A-35 (Table 16, bar), A-37 (Table 17, wire rod), and A-38 (Table 18, alloy tool steel).

23

The discussion that follows summarizes data presented in Appendix 1 (Table 1).

Stainless steel bar. Declines in production and employment would be about 6 percent from 1986 levels. The decline in producers' revenues would be between \$27 million and \$33 million, or 7 to 8 percent. The gain to consumers for each job removed from protection would be from \$35,000 to \$133,000.

Stainless steel wire rod. Declines in production and employment would be about 2 to 3 percent from 1986 levels. The decline in producers' revenues would be between \$2 million and \$3 million, or 3 to 4 percent. The gain to consumers for each job removed from protection would be from \$36,000 to \$138,000.

Alloy tool steel. Declines in production and employment would be about 6 percent from 1986 levels. The decline in producers' revenues would be between \$21 million and \$25 million, or 7 to 8 percent. The gain to consumers for each job removed from protection would be from \$51,000 to \$193,000.

If import relief under both section 201 and the existing  
VRAs were terminated, the estimated effects are as follows:<sup>24</sup>

Stainless steel sheet and strip. Declines in production and employment would be about 1 percent from 1986 levels. The

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The discussion that follows summarizes data presented in Appendix 1 (Table 2).

decline in producers' revenues would be between \$10 million and \$15 million, or about 1 percent. The gain to consumers for each job removed from protection would be from \$197,000 to \$457,000.

Stainless steel plate. Declines in production and employment would be about 1 percent from 1986 levels. The decline in producers' revenues would be about \$3 million, or about 1 percent. The gain to consumers for each job removed from protection would be from \$69,000 to \$256,000.

Stainless steel bar. Declines in production and employment would be about 10 percent from 1986 levels. The decline in producers' revenues would be between \$47 million and \$59 million, or 11 to 14 percent. The gain to consumers for each job removed from protection would be from \$35,000 to \$134,000.

Stainless steel wire rod. Declines in production and employment would be about 21 percent from 1986 levels. The decline in producers' revenues would be between \$19 million and \$24 million, or 24 to 29 percent. The gain to consumers for each job removed from protection would be from \$37,000 to \$140,000.

Alloy tool steel. Declines in production and employment would be about 17 percent from 1986 levels. The decline in producers' revenues would be between \$62 million and \$78 million, or 19 to 23 percent. The gain to consumers for each job removed from protection would be from \$52,000 to \$196,000.

Appendix 1

Table 1.--Stainless steel and alloy tool steel: Summary table showing range of estimated effects of termination of 201 import relief considering non-VRA imports 1/

Product	Production decline	Decline in domestic price (unit revenue)	Decline in producers' domestic revenue	Employment decline	Consumer gain	Consumer gain	Net Welfare gain
	Tons	Dollars per ton	Thousand dollars	Jobs	Thousand dollars	Thousand dollars per job currently protected	Thousand dollars
<b>Stainless steel:</b>							
Sheet and strip							
Absolute change.....	986-4,009	\$1-\$10	\$2,345-\$7,707	5-20	\$1,967-\$2,142	\$107-\$393	\$100-\$861
(percentage change)...	(0.1-0.6)	(0.0-0.1)	(0.2-0.6)	(0.1-0.5)	N/A	N/A	N/A
Plate							
Absolute change.....	114-462	1	324-1,064	1-4	272-296	74-272	14-118
(percentage change)...	(0.1-0.4)	(0.0) 2/	(0.1-0.4)	(0.1-0.4)	N/A	N/A	N/A
Bar							
Absolute change.....	7,253-7446	20-67	27,317-33,187	212-218	7,621-28,161	35-133	7,726-21,300
(percentage change)...	(5.7-5.9)	(.6-2.0)	(6.5-7.8)	(5.7-5.9)	N/A	N/A	N/A
Wire rod							
Absolute change.....	950-1,031	6-19	2,340-2,748	16-18	649-2,214	36-138	535-1,553
(percentage change)...	(2.4-2.7)	(0.3-0.9)	(3.2-3.7)	(2.4-2.7)	N/A	N/A	N/A
<b>Alloy Tool steel:</b>							
Absolute change.....	3,895-4,026	29-97	21,147-25,356	111-115	5,888-21,383	51-193	5,766-16,024
(percentage change)...	(5.7-5.9)	(0.6-2.1)	(6.6-7.8)	(5.7-5.9)	N/A	N/A	N/A

1/ The methodology used to calculate these results is discussed in detail in the final staff report to the Commission in the section on "Probable economic effects".

2/ The percentage decline was less than 0.05 percent.

Table 2.--Stainless steel and alloy tool steel: Summary table showing range of estimated effects of termination of 201 import relief concurrent with an erosion of VRA-coverage of these products 1/

Product	Production decline	Decline in domestic price (unit revenue)	Decline in producers' domestic revenue	Employment decline	Consumer gain	Consumer gain	Net Welfare gain
	<u>Tons</u>	<u>Dollars per ton</u>	<u>Thousand dollars</u>	<u>Jobs</u>	<u>Thousand dollars</u>	<u>Thousand dollars per job currently protected</u>	<u>Thousand dollars</u>
<b>Stainless steel:</b>							
<b>Sheet and Strip</b>							
<b>Method 1</b>							
Absolute change.....	4,349-7,752	\$4-\$11	\$10,352-\$14,905	24-41	\$4,141-\$8,675	\$197-\$457	\$2,865-\$5,138
(percentage change)...	(0.6-1.1)	(0.2-0.6)	(0.9-1.2)	(0.6-1.0)	N/A	N/A	N/A
<b>Method 2</b>							
Absolute change.....	5,246-22,953	5-6	\$12,467-44,074	30-131	10,462-12,267	94-349	531-4,875
(percentage change)...	(0.7-3.3)	(0.3-0.3)	(1.0-3.7)	(0.7-3.3)	N/A	N/A	N/A
<b>Plate</b>							
<b>Method 1</b>							
Absolute change.....	971-1,397	2-6	2,751-3,216	9-13	894-2,306	69-256	708-1,541
(percentage change)...	(0.8-1.1)	(0.1-0.3)	(1.1-1.3)	(0.8-1.1)	N/A	N/A	N/A
<b>Method 2</b>							
Absolute change.....	525-2,282	3-4	1,484-5,246	5-21	1,244-1,459	69-249	63-575
(percentage change)...	(0.4-1.8)	(0.2-0.2)	(0.6-2.1)	(0.4-1.8)	N/A	N/A	N/A
<b>Bar</b>							
Absolute change.....	12,716-12,878	36-122	47,365-58,681	372-377	13,227-49,809	35-134	13,377-37,668
(percentage change).....	(10.0-10.1)	(1.1-3.7)	(11.2-13.5)	(10.0-10.1)	N/A	N/A	N/A
<b>Wire rod</b>							
Absolute change.....	8,132-8,239	53-181	18,920-23,600	138-140	5,239-19,375	37-140	4,294-13,909
(percentage change).....	(20.9-21.2)	(2.6-8.8)	(24.4-28.7)	(20.9-21.2)	N/A	N/A	N/A
<b>Alloy Tool steel:</b>							
Absolute change.....	11,667-11,684	90-312	61,702-77,821	333-334	17,199-65,339	52-196	16,750-48,835
(percentage change).....	(17.1)	(1.9-6.6)	(18.7-22.5)	(17.1)	N/A	N/A	N/A

1/ The methodology used to calculate these results is discussed in detail in the Office of Economics memorandum EC-K-176, dated May 6, 1987.



Appendix 2

May 1, 1987

EC-K-169

## MEMORANDUM

TO: The Commission

THRU: Director, Office of Economics

FROM: International Economist

SUBJECT: Review of economic analyses by petitioners and the FTC in Investigation No. TA-203-16, Stainless Steel and Alloy Tool Steel.

Dr. Clark Chandler of Economic Consulting Services Inc. (ECS), consultants to the petitioners, and Dr. David Tarr of the Bureau of Economics, Federal Trade Commission (FTC), submitted economic analyses in the above case.

## I. SUMMARY OF MAJOR RESULTS

Economic Consulting Services Inc.

ECS forecast the domestic industry's economic performance on the products at issue in this investigation. This forecast was used to support the petitioners' allegation that imports will cause injury if the current 201 remedies are not modified and extended for 3 years. ECS predicted that, over the next 3 years, lower shipment volume attributable to the termination of the current 201 relief would lead to a reduction in gross profits on sheet and strip of \$47-million (about 7.6 percent of annual profits on operations reported by 9 firms in 1986 1/ ), on plate steel of \$5.2-million (about 2.1 percent of annual profits on operations reported by 19 firms in 1986 2/ ), on bar and rod of \$38.5-million (about 23.1 percent of annual profits on operations reported by 8 producers

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1/ Report at A-41, table 14.

2/ Report at A-40, table 13.

of bar and 5 producers of wire rod in 1986 <sup>3/</sup> ), and on tool steel of \$29.2-million (about 5.5 percent of annual profits on operations reported by 7 firms in 1986 <sup>4/</sup> ). <sup>5/</sup>

To make the forecasts, ECS built an econometric model based on the level of U.S. industrial production, the price of the domestic product, and the unit value of imports. The two periods of 201 protection (1976-1979, and 1983-now) were represented by dummy variables. ECS then used the resulting regression equations with and without the appropriate dummy variable "turned on" to estimate foregone sales and profits, and increased import penetration, in the absence of continued protection. <sup>6/</sup>

#### Federal Trade Commission

The FTC estimated the social cost to the United States of extending the current 201 remedies for 3 years. They found that continued relief would result in an additional social burden of \$29.6 million (1986 dollars). Consumers would pay an additional \$44.3-million and the government would lose \$5.3-million in base tariff revenue on reduced imports. This would be partially offset, however, by \$9.7-million of additional industry profits, <sup>7/</sup> \$11.4-million in increased 201 tariff surcharge revenue on flat products, and \$1.9-million from improvement in the terms-of-trade. Higher import prices that benefit foreign exporters, because of quotas on bars and rods, and alloy tool steel, account for \$21.2-million of the net social burden. <sup>8/</sup> The FTC

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<sup>3/</sup> Report at A-46-A-47, tables 16 and 17.

<sup>4/</sup> Report at A-43, table 15.

<sup>5/</sup> Statement of Clark Chandler ("Chandler Statement"), April 2, 1987, table 5. If the domestic price of each product falls by 4 percent in the absence of extended relief, ECS estimates that profits would fall by an additional \$233 million over the 3 year period, on top of the \$199.9-million loss attributable to a decline in volume. No evidence is offered in support of the assumption of a 4 percent price effect. See Chandler Statement at 8.

<sup>6/</sup> Petitioners' Prehearing Brief, Appendix 2, especially tables 2-1 - 2-4. See also Chandler Statement, table 1.

<sup>7/</sup> This is about 0.5 percent of reported annual industry profits in 1986. Report at A-40-41, A-43, and A-46-47, tables 13-17.

<sup>8/</sup> FTC Prehearing Brief, Appendix ("Tarr Appendix") at 5, table 1.

also estimated the employment effects of extended relief. If the relief is granted, there would be 326 more jobs in the flat products industry and 174 more in the non-flat products industry than otherwise. These jobs would cost consumers an average \$82,600 each in foregone surplus, whereas they would cost society (consumers, producers, and government combined) an average \$49,700 each. 9/

The FTC reached their conclusions through use of a competitive model of the industry and standard applied welfare techniques. They did not independently estimate domestic demand or supply elasticities, but relied on estimates obtained by others for related product groups in the carbon-steel industry. 10/

Finally, the FTC brief argues that the Commission should evaluate the potential market power that the domestic industry could exercise under the revised import restrictions proposed by petitioners. Petitioners propose converting existing tariff remedies on flat products (sheet and strip, and plate) and the existing quota remedies on non-flat products (bar and rod, and alloy tool steel) into market-share quotas that they claim will result in the same projected volume of imports as under the current 201 relief. The FTC's concern is based on an analytical observation. A quota allows a domestic monopolist to raise prices by reducing production more than a tariff that results in the same volume of imports. This is because with the tariff the domestic price can go no higher than the sum of the world price and the tariff. 11/ Pursuant to the FTC's suggestion, Herfindahl indices of concentration are calculated, reported and interpreted in Section III of this memorandum.

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9/ FTC Prehearing Brief, Appendix at 6, table 2. In response to petitioners' complaints about the appropriateness of using carbon steel elasticities, rather than specialty steel elasticities, Commission staff requested the FTC to run their model with elasticities implied by the petitioners' own econometric work. The results of this exercise are presented in tables 1 and 2, pages 13 and 14. For a discussion, see page 12, point 2.

10/ Tarr Appendix at 7.

11/ Tarr Appendix at 11-13. Research not cited by the FTC shows that market-share quotas are even more restrictive, in this context, than are quantity quotas. Jose A. Mendez, "More on the Nonequivalence of Voluntary Export Restraints," Economics Letters (forthcoming).

### Forecasts Contrasted

The FTC and ECS methods of forecasting differ greatly. ECS estimated demand equations with periods of protection treated as an independent determinant of the observed quantities of imports and domestic product sales. The simulated effects of extended 201 relief were found through use of the dummy variable in the forecast period, whereas the effects of price changes attributable to the remedies were ignored. <sup>12/</sup> ECS's approach assumes that there is some channel other than price through which the 201 remedies affect demand. It is not clear from their submissions how that channel works. <sup>13/</sup> By contrast, the FTC simulated the effects of projected price changes attributable to the 201 remedies. <sup>14/</sup>

These two methods yield very different conclusions. The FTC, for instance, forecasts that, over the next 3 years, the industry would earn about \$29.1-million less profits over the 3-year period if the current relief is allowed to lapse. <sup>15/</sup> ECS, by contrast, forecast a total 3-year loss in profits caused by a reduced shipment volume of \$119.9-million if relief lapses. <sup>16/</sup>

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<sup>12/</sup> Statement of Clark Chandler, V.P. of ECS, before the ITC, April 2, 1987, at 6.

<sup>13/</sup> In response to a staff question, Dr. Chandler responded that the non-price channel through which import restraints operate might be related to allegedly unfairly traded (dumped or subsidized) merchandise. Telephone conversation with Dr. Chandler, April 24, 1987. I observe, however, that any such alleged acts of unfair trade result in lower domestic industry profits through their effects on prices.

<sup>14/</sup> Tarr Appendix at 13-21.

<sup>15/</sup> This was forecast using own-price and cross-price demand elasticities estimated by Robert Crandall in 1981 for carbon-steel products. Since ECS questioned the appropriateness of using carbon-steel elasticities for stainless-steel specialty products (see page 12, point 2), the Commission staff requested the FTC to generate new forecasts based on elasticities implied by ECS's econometric work. When this was done, the new estimate of foregone industry profits if relief lapses fell to \$9.3-million over the 3-year period.

<sup>16/</sup> The coefficient of the dummy variable for 201 relief was not statistically different from zero in any industry except bar and rod. Had these coefficients been treated as zero in all industries except bar and rod, rather than as the estimated values, loss in profits caused by reduced shipment volume would fall to a total of \$38.5-million over the 3-year period. This loss would occur entirely in the bar and rod industry.

## II. ASSESSMENT OF THE ECONOMIC MODELS

### Economic Consulting Service Inc.

The ECS model resembles a model of this industry developed by ITC staff in 1977 <sup>17/</sup> in that it estimates demand but not supply equations for total (domestic plus import) quantity consumed. This approach is motivated by a belief that the total market demand curves are almost vertical, and thus the shape of supply curves does not matter in determining the quantity produced and sold (diagram, attachment 1, illustrates this). Although overall demand is determined exclusively by the level of U.S. industrial production <sup>18/</sup> (since these steel products are inputs into many production processes) in the ECS model, the composition of that demand between domestic and foreign products is determined solely by the relationship between the prices of the two products. <sup>19/</sup> Consumers thus treat the foreign and imported products as imperfect substitutes. Whereas the total market demand curve for each product is vertical, their model implies that demands for the domestic and imported

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<sup>17/</sup> Stainless and Alloy Tool Steel: Report to the President on Investigation No. TA-203-3 under section 203(i)(2) of the Trade Act of 1974, USITC Publication 838, October, 1977, at B-114.

<sup>18/</sup> Slight price responsiveness was found for total market demand for alloy tool steel. Chandler Statement, table 1.

<sup>19/</sup> The two equations that ECS estimated for each product are:

$$(1) \ln(QD + QI) = a + b \ln Y + c \ln PD + d D75 + e D85 + u1$$

$$(2) \ln(QI/QD) = f + g \ln PD + h \ln PI + i DR70 + j DR80 + u2$$

Equation (1) is the "total market" demand and (2) is the composition equation. In these equations QD and QI are demand for the domestic and imported products; Y is U.S. industrial production; PD and PI are the domestic producer price index of the appropriate specialty steel product and the import unit value of the product; D75 and D85 are dummy variables for demand shifts that might have occurred in 1975 and 1985; DR70 and DR80 are dummy variables for each of the two periods of 201 relief (1976-79 and 1983-now); and u1 and u2 are unexplained errors. ECS estimated coefficients "a" through "j". In equation (1), c was zero in every case except for alloy tool steel. See Chandler Statement, table 1.

products are individually responsive to both the domestic and import price. The independent variables (prices or industrial production) are lagged one year, which suggests a short adjustment period. Some of the changes in total quantity demanded during 1975 and 1985 could not be explained by changes in industrial production, so a dummy variable was introduced for each of those years. The two periods of 201 protection (1976-79 and 1983-now) were also represented by separate dummy variables in the market composition equations. 20/

The structure of the model raises some important questions. Several of these are considered here:

1) ECS's market composition equation depends on prices alone, and not on the scale variable, industrial production. ECS acknowledges that this "forces domestic and import shipments to respond in the same way to changes in U.S. industrial production". 21/ But ECS argues that its approach is appropriate since the earlier ITC work found that imports contracted when industrial production increased. ECS believes the ITC's result was implausible, which suggested to them that the ITC model was misspecified. Nonetheless, there is no a priori reason to assume that the output elasticities of demand for domestic and foreign steel products are equal. In my opinion, any specification errors in the original ITC model should have been corrected without imposing this restriction. ECS responds further to this concern in point 1 of its letter of April 23, 1987 (attachment 2 to this memo). It appears, however, that ECS's response raises further doubt about the appropriateness of imposing this restriction, since it cites Crandall who found very different output elasticities for imported and domestic carbon steel products.

Moreover, the FTC believes the market-demand equation cannot be estimated properly without a price variable, which is true if the demand curve is not vertical. 22/ In an imperfect-substitutes model, it is doubtful that a "market-demand" equation comprising both goods at once can be properly specified, since units of the two distinct products (foreign and domestic) are not directly comparable in the eyes of consumers and so cannot be added up naturally.

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20/ Petitioners' Prehearing Brief, Appendix 2.

21/ Petitioners' Prehearing Brief, Appendix 2 at 3.

22/ FTC Posthearing Response at 13.

2) The use of dummy variables to capture unexplained movement in total shipments during specific years results in an artificially high R-squared "goodness-of-fit" measure. That is, the underlying theory of market demand (that it is determined solely by industrial production) would perform worse if tested without the dummy variables that are unmotivated by the theory. The reported R-squared statistics show that the market demand equations account for approximately 70 percent of the variation in total shipments. <sup>23/</sup> In its letter of April 23, ECS points out that the R-squared statistic is not reduced much when the questionable dummy variables are excluded. When this is done, the remaining theory-motivated variables explain at least 60 percent of the variation in the dependent variable in each case, which should be considered quite good.

3) T-statistics are used to evaluate the significance of coefficient estimates. T-values greater than 2 or less than -2 usually indicate that the null hypothesis that the true coefficient is zero can be rejected at a high confidence level. The results show that coefficients of industrial production are generally significant in the total demand equations. In the market composition equations, the coefficients of import unit value are significant, but with the exception of alloy tool steel, the coefficients of the domestic producer price are not significant. The coefficients of dummies for both periods of 201 protection were significant only in the case of stainless bar and rod. <sup>24/</sup> The proper critical t-value, however, might well exceed 2 (in absolute value) since ECS did an extensive specification search, which increases the probability of having higher t-values for purely random reasons. A specification search means testing many different combinations of possible dependent variables. ECS, in its attached letter, stresses that many of the t-values are "much greater than 2, thus suggesting that the coefficients are significantly different from zero, even if there is a small bias in the t-statistics." <sup>25/</sup> Nonetheless, t-values associated with coefficients of import unit value are sufficiently small (although greater than 2 in absolute value in all

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<sup>23/</sup> Chandler Statement, table 4.

<sup>24/</sup> Chandler Statement, table 4, and Petitioners' Prehearing Brief, Appendix 2, tables 2-1 - 2-4.

<sup>25/</sup> Letter from Dr. Chandler ("Chandler Letter"), April 23, at 2 (attached), Chandler Letter, point 3.

industries except alloy tool steel) that they raise questions about the statistical significance of those coefficients in every industry.

4) The FTC, in its post-hearing submission, suggested that the ECS model did not include many important variables, such as steelworker wages, the price of energy, and the price of iron ore. These are supply-side factors, and become important if the total market demand curve is not vertical as assumed by ECS. Past published models of the steel industry have found it useful to include such variables. 26/ ECS did test market demand equations that included such cost factors as the price of ferrochrome and nickel alloys, and found the coefficient on the cost variable to be statistically insignificant. ECS points out that these two alloys "explain most of the variation in specialty steel production costs." 27/ The failure to include such variables does not necessarily result in biased coefficients of the variables tested.

5) Respondent (Avesta) points out, in its post-hearing submission, that the ECS model fails to distinguish between VRAs on countries negotiated separately from 201 relief and covering many of the products subject to this investigation, and the quotas or tariffs provided by 201 relief, which affect primarily imports from Canada, Finland, Sweden, and Taiwan. This appears to be a valid and significant criticism. ECS used a single dummy variable for each of the 201 relief periods, and did not separately determine the effects of VRAs that cover approximately 80 percent of the flat products and have been in effect over much the same period. Therefore, forecasts based on use of this dummy variable implicitly suppose that the VRAs, as well as the 201 relief, will end if the ITC fails to grant the 203 extension. This, however, is not necessarily so. Respondent claims that this causes the forecasts to overstate the increase in import penetration that will result from termination of the 201 relief. To this extent, respondents argue, the forecasts should be seriously discounted. 28/ ECS responds that entry of new exporting countries, excess capacity among non-VRA countries, and "leakage" (trade diversion) of global excess supply through the non-VRA countries will

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26/ Gene Grossman, "Imports as a Cause of Injury: The Case of the U.S. Steel Industry," JIE, 1986, and Douglas Webbink, "Factors Affecting Steel Employment Besides Imports," Bureau of Economics Working Paper No. 128, FTC, 1985.

27/ Chandler Letter at 3, point 4.

28/ Respondents' Posthearing Brief at 6-8.

make the VRAs, in the absence of 201 relief, ineffective. Thus, the full effects of the VRAs and 201 protection combined should be attributed to the 201 relief alone. 29/ ECS's response makes sense, although the truth may well lie somewhere in between.

6) The FTC observed, in partial response to a question from Commissioner Eckes, that ECS did not consider the effect of the falling dollar on probable import prices over the next 3 years. 30/ Rather, ECS assumed import prices absent extended relief would remain at their 1986 levels during the forecast period. Since the effect of past dollar depreciation shows up in import prices with a lag, the FTC believes it might be more reasonable to assume somewhat higher import prices in the future. ECS responds that since alloys accounting for much of the value-added are traded globally and sold in dollar terms, any relative exchange rate effect on imported product prices is offset by lower input costs. 31/ More significantly, ECS did not use a price channel at all in making its forecasts, so even if import prices are higher than assumed, this seemingly would not alter ECS's forecasts (see discussion under section I, Forecasts Contrasted).

#### Federal Trade Commission

The FTC model, prepared by Dr. David Tarr, fully specifies both demand and supply equations for each of four markets: domestic and foreign flat products (sheet and strip, and plate), and domestic and foreign non-flat products (rod and bar, and alloy tool steel). Supply equations depend only on the product's own price, whereas demand equations depend on both the product's own price and the price of its imperfect substitute. The imperfect substitute of the domestic product, for example, is the same type of imported product. Like ECS, the FTC assumes the domestic market is competitive. They observe that if this is not the case, their conclusions will have understated the price effects of market-share quota relief and the associated consumer and

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29/ Chandler Letter at 3-4, point 5. Interestingly, the FTC makes the same assumption as ECS since the FTC model treats import supply as perfectly elastic in the absence of the 201 relief. See discussion, page 17.

30/ FTC Posthearing Response at 13.

31/ Chandler Letter at 6, point 6.

social welfare costs 32/ (see section III below for a discussion of the conditions of competition).

The FTC did not econometrically estimate the own-price or cross-price elasticities of demand, or the elasticities of supply. Rather, for demand elasticities, they relied on 1981 estimates by Robert Crandall for related products. Thus, estimates for cold-rolled carbon-steel sheet and plate were used for flat products (stainless steel sheet and strip, and plate), and estimates for carbon-steel rod were used for non-flat products (stainless steel bar and rod, and alloy tool steel). For domestic supply elasticities, capacity utilization was used to establish plausible short-run values. Specifically, a price increase of one percent was assumed to lead to a 5 percent increase in domestic quantity supplied of flat products, and to a 100 percent increase -- a doubling -- of quantity supplied of non-flat products. Import supply of flat products was treated as perfectly elastic (which implies a fixed import price), whereas import supply of non-flat products was treated as vertical due to the existing 201 quotas. 33/ In the absence of the 201 quotas, the import price of non-flat products was also treated as fixed. The import prices of non-flat products absent the 201 quotas were estimated using Japanese customs clearance data adjusted for U.S. base tariffs, and for apparent quality differences between Japanese exports to the United States and Japanese exports to the rest-of-the-world. 34/

The model has been subjected to considerable criticism by ECS. An assessment of the criticisms follows:

- 1) ECS argues that the FTC ought not to use an imperfect-substitutes model since "past experience suggests that [U.S. consumers] are unwilling to pay a premium for [their] preference [for the domestic product]." 35/ This criticism is odd in light of ECS's own choice of an imperfect-substitutes model, wherein consumers alter their relative consumption of imported and domestic product in response to a change in

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32/ Tarr Appendix at 7-10.

33/ Tarr Appendix at 10-13.

34/ Tarr Appendix at 14-16.

35/ Petitioners' Posthearing Brief, Appendix 1 at 4-5.

relative price. 36/ In fact, the cross-price elasticities implicit in ECS's econometric work are smaller than those used by the FTC. 37/ When staff pointed this out to Dr. Chandler, he observed that more narrowly defined domestic and imported items produced to identical specifications would be perfect substitutes, but that in the broader product classes (such as all sheet and strip) changes in product mix might account for some apparent price changes and lead to lower estimated cross-price elasticities. 38/

Nonetheless, ECS relied on its estimates (using low cross-price elasticities) to generate forecasts it asks the Commission to accept. If higher levels of product aggregation lead to lower cross-price elasticities, then the FTC would be similarly justified in using lower, not higher (as urged by ECS), cross-price elasticities than did ECS.

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36/ Based on a theoretical method of checking the consistency of cross-price elasticity estimates with those of own-price elasticity estimates, the cross-elasticity of import demand with respect to the domestic price for non-flat products used by the FTC appears doubtful. The FTC did, however, try a more realistic value of 1.8 and reported that the conclusions were not substantially affected. See FTC Prehearing Brief, Appendix at 11, n. 10. For an explanation of the theoretical technique, see Donald Rousslang and Stephen Parker, "Cross-Price Elasticities of U.S. Import Demand," The Review of Economics and Statistics, August 1984.

37/ For instance, the ECS estimates imply a cross-price elasticity of domestic demand with respect to import price of 0.22 for bar and rod, and 0.20 for tool steel, whereas the FTC assumed a value of 0.63 for non-flat products. The FTC's value should be compared to a weighted average of ECS's values (which must thus be between 0.20 and 0.22). See table 1, note 2, page 13 for volume weighted averages of all of ECS's implicit elasticities.

38/ Telephone conversation with Dr. Chandler, April 24, 1987. Dr. Chandler also arranged for Mr. Joseph Minton, Vice President of Al Tech Specialty Steel Co., to speak to Commission staff on April 29, 1987 by telephone. Mr. Minton offered a marketing perspective on the fungibility of domestic and imported specialty steel products. He asserted that 80 percent of the market is comprised of products for which imports are fully substitutable. In the remaining 20 percent of the market, comprising the most sophisticated products such as aircraft parts, domestic producers have an advantage because consumers strongly prefer to be located close to the mill so as to participate in quality control efforts and for other reasons.

This is because the FTC model aggregates all products under investigation into two markets (flat and non-flat), whereas the ECS model is less aggregated, estimating demand for four markets.

ECS also suggests that quotas (VRAs and 201 relief) make any econometrically estimated cross-price elasticities unreliable by restricting the quantity-response of imports. <sup>39/</sup> It is not obvious to me why this would be so. Import prices may still adjust so that both markets are in equilibrium. The resulting data points could be appropriately assessed using regression techniques.

2) ECS challenges the FTC's use of Dr. Crandall's demand elasticities, since these were estimated for carbon steel and not specialty steel products. Petitioners contend that

the differences between conditions facing the carbon and specialty steel industries are so substantial that estimates developed primarily for the carbon steel industry are likely to have very little relevance with respect to specialty steel. <sup>40/</sup>

Staff verified that Dr. Crandall agrees with the petitioners' contention. <sup>41/</sup>

Because of persuasive doubts raised about the appropriateness of the FTC's choice of elasticities, staff asked the FTC to run their model again using the demand elasticities implicit in ECS's econometric work. The results of this exercise are reported in tables 1 and 2, which correspond to tables 1 and 2 in the appendix of the FTC's Prehearing Brief. Because of the lower cross-price elasticities estimated implicitly by ECS, the increase in domestic demand associated with extended relief is less in the FTC's revised estimates than in their original estimates. This in turn causes the forecast employment effect of the relief to be smaller, and the consumer and social cost per job to be larger.

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<sup>39/</sup> Telephone conversations with Dr. Chandler, April 21 and 24, 1987.

<sup>40/</sup> Petitioners' Posthearing Brief, Appendix 1 at 5.

<sup>41/</sup> Telephone conversation with Dr. Crandall, April 19, 1987.

Table 1

REVISED FTC ESTIMATES OF ANNUAL GAINS TO CONSUMERS  
AND THE ECONOMY FROM REMOVAL OF THE TARIFFS AND QUOTAS  
(thousands of 1986 dollars)

	COMBINED	FLAT PRODUCTS	NON-FLAT PRODUCTS
1. Gains to Consumers	36,600	14,800	21,800
2. Losses of Domestic Producers	3,200	3,100	100
3. Recaptured Quota Rents from Foreigners	21,200	0	21,200
4. Reduction in Tariff Surcharge Revenue	11,400	11,400	0
5. Increase in Revenue from Base Tariffs	1,900	1,400	500
6. Terms of Trade Loss (Gain)	200	600	(400)
7. Gains to the Economy	23,700	1,100	22,600

Notes: 1) See footnote to table 1, FTC Prehearing Brief, Appendix, for discussion of this table.

2) In these calculations, the FTC used value weighted averages of the various demand elasticities estimated by ECS for the two flat products (sheet and strip, and plate) and the two non-flat products (bar and rod, and tool steel). Elasticities with the wrong sign, if statistically insignificant, were set equal to zero. Using the FTC's notation (see FTC Prehearing Brief, Appendix at 9), the elasticities used here were:

	<u>Flat</u>	<u>Non-flat</u>
e1	-0.156	-0.65
e2	0.234	0.211
e3	0.876	0
e4	-1.41	-0.476

Source: FTC calculations, using ECS's elasticity estimates, prepared at Commission staff request.

Table 2

REVISED FTC ESTIMATES OF THE ANNUAL COST  
TO CONSUMERS AND THE ECONOMY FOR EACH JOB PROTECTED  
(thousands of 1986 dollars)

	COMBINED	FLAT PRODUCTS	NON-FLAT PRODUCTS
Costs to Consumers per Job	202.7	102.1	697.8
Costs to the Economy per Job	128.6	10.4	717.5

- Notes:
- 1) See footnote to table 2, FTC Prehearing Brief, Appendix, for discussion of this table.
  - 2) See note 2 to table 1, previous page, for elasticity estimates used to generate these forecasts.
  - 3) The costs per job reported in this table are based on a projected loss of 118 jobs in the flat products industry and 60 jobs in the non-flat products industry if the current relief is not extended.

Source: FTC calculations, using ECS's elasticity estimates, prepared at Commission staff request.

3) The FTC concluded, in its original forecasts, that a \$266 reduction in the import price of non-flat products predicted if 201 relief lapses would lead to a \$2 reduction in the price of the domestic product. 42/ The domestic price is not much affected by even a drastic reduction in demand in the FTC model because the FTC assumes the domestic non-flat product supply price is almost fixed. Based on criticism (1), ECS asserts that a reduction in import price would in fact lead to an approximately proportional reduction in the domestic price. 43/ My calculations using ECS's model show that, in the absence of domestic market power, ECS's assertion implies a domestic supply elasticity for non-flat products of less than 0.35. This is an extremely steep supply curve given the amount of unutilized capacity. Such an inelastic domestic supply curve also contradicts ECS's own statement that

past experience suggests that the presence of substantial excess capacity ensures that both domestic producers and importers can increase their shipments in response to very small changes in prices, and that therefore both domestic producers and importers have a very high elasticity of supply. 44/

It is possible that the domestic supply curve is somewhat more inelastic with respect to price reductions than with respect to price increases. This might arise if a small price reduction led many firms to close down because the new price would fall short of variable average cost.

4) ECS charges that the FTC model gives implausible results since a reduction in import price leads to lower total consumption of specialty steel. 45/ The FTC result arises because an import price reduction causes such a large decline in quantity-demanded of the domestic product along the (essentially) horizontal domestic supply curve. That a reduction in one of the prices can induce a decline in "market demand" illustrates why the concept of "market demand" for a differentiated

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42/ Tarr Appendix at 14-16.

43/ Petitioners' Posthearing Brief, Appendix 1 at 7. See also Chandler Letter at 5.

44/ Petitioners' Posthearing Brief, Appendix 3, at 1.

45/ Petitioners' Posthearing Brief, Appendix 1 at 5-6.

product might be misleading. See page 6, point 1 in the previous sub-section on ECS's model.

5) ECS raises a significant question about the FTC's calculation of import price. The FTC used Japanese prices of non-flat products in 1982 as a pre-quota base year, and noted that exports to the United States were at a 19.7 percent premium over average export prices to all other countries. They interpreted the premium as evidence that exports to the United States were of higher quality than exports elsewhere. This means that the product mix exported to the United States favored higher unit value sub-products within the broader category of all non-flat products. The 19.7 percent premium was then applied to current Japanese export prices to estimate what the price to United States would be absent quotas. 46/ ECS argues that since one effect of quotas is to increase the average quality of imports, the current quality premium should be in excess of 19.7 percent. 47/ This suggests that the FTC has overestimated the social loss attributable to the quota because, at the higher post-quota prices, consumers were actually receiving higher quality product.

6) ECS has criticized the FTC's estimates of social cost as based on a static rather than a dynamic model. 48/ It would be marginally better to have a dynamic model, but immensely more complicated to construct. Use of static models in applied welfare economics is standard fare. A dynamic model takes into account the effects on consumer prices of investment and entry induced by continued relief. Over time, domestic supply becomes more elastic in response to an increase in demand, and the price falls somewhat. This is because the higher price encourages new entry and investment, so production increases. In the current case, dynamic price effects are probably negligible if relief is extended for only 3 years. This is because few entrepreneurs will find short-term import relief a sufficient incentive to acquire capital that must remain profitable over its entire useful life, which is far in excess of 3 years. ECS argues that production costs have fallen significantly during the current period of 201 relief, particularly for non-flat products, and that this suggests substantial dynamic price reductions attributable to

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46/ Tarr Appendix at 14-15.

47/ Petitioners' Posthearing Brief, Appendix 1 at 8.

48/ Petitioners' Posthearing Brief, Appendix 1 at 1-4.

investment and modernization. <sup>49/</sup> Although the reported cost reductions take into account reductions in the cost of raw materials, they do not adjust for lower wage costs as contracts have been renegotiated. More seriously, petitioners fail to show that the 201 relief caused higher rates of investment than otherwise would have occurred. Most of the investments over this period responsible for cost reductions may have taken place anyway as old, worn-out equipment was replaced and modernized.

One other important comment about the FTC's work should be added to the above list of ECS's criticisms. As with ECS's model, the FTC model does not attribute any effect to the separately negotiated VRAs (see page 8, point 5). The adjustments to world price reflected in the FTC's import supply equations do not include any premium for the effect of the VRAs. Thus, the FTC's concept of permitting the quotas on non-flat products to expire is to allow the U.S. price to fall to the world price (adjusted for base tariffs and quality premiums). <sup>50/</sup> Since 80 percent of flat products, and between 20 and 45 percent of non-flat products under investigation are covered by VRAs, the supply curve representing all U.S. imports might be upward sloping. On the other hand, the import supply curve would be horizontal, as in the FTC model, if supplies from non-VRA countries are extremely elastic. This might be reasonable in view of excess capacity in the non-VRA countries (as claimed by ECS). Alternatively, trade diversion caused by selective U.S. protection would also result in a highly elastic U.S. import supply. For instance, if a non-VRA country (say, Sweden) increased her imports from VRA countries (say, the European Community), Sweden could maintain her domestic consumption while simultaneously increasing her exports of Swedish steel to the United States. Import restrictions that apply to some but not all countries are of notoriously limited effectiveness because of such induced changes in the pattern of global trade. The FTC apparently has assumed implicitly some such reason. <sup>51/</sup>

### III. MARKET POWER AND MARKET-SHARE QUOTAS

As mentioned in the introduction, petitioners have proposed converting the tariffs on flat products and the quotas on non-flat products into

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<sup>49/</sup> Petitioners' Posthearing Brief, Appendix 1 at 1-4.

<sup>50/</sup> Tarr Appendix at 13-16.

<sup>51/</sup> Cf. to discussion of point 5 on page 8 under previous section on ECS's model.

market-share (MS) quotas selected so as to result in the same volume of imports as the current 201 relief. <sup>52/</sup> MS quotas, however, allow domestic firms to exploit any market power more than under either tariffs or straight quantity quotas. The exercise of market power will mean higher domestic prices to consumers, less domestic production, and a greater net social cost of the relief. Although the domestic market clearly would not be monopolized under MS quotas (in every case, there is more than one producer), barriers-to-entry and market concentration nonetheless might permit the exercise of some market power. The FTC has urged the ITC to use its internal information to assess potential market power and determine if the MS quotas proposed by petitioners are consequently more restrictive (from the consumer perspective) than the existing tariffs. <sup>53/</sup>

Capital costs alone do not constitute entry barriers, if any firm willing to pay the costs can enter production on equal terms. On the other hand, it is possible in heavily capitalized industries such as specialty steel that efficient new entry into the industry also takes considerable time. If so, temporary relief extended over the next 3 years would confer short-term market power on existing domestic producers until new entry could occur. Furthermore, prospective entrants must acquire capital anticipated to be profitable over its useful life, of which the relief period is only a small part. Thus, temporary relief is unlikely to make many new investments profitable that would be otherwise unprofitable. Since so much excess capacity currently exists, exit appears more probable than new entry.

A highly concentrated industry is necessary for the exercise of market power. Industry concentration is determined by the number and relative size of producers. The most common measure of concentration is the Herfindahl index. <sup>54/</sup> This index is widely used, for instance, by both the FTC and the Justice Department in enforcing antitrust laws. The Herfindahl score is the sum of the squares of the market share of each firm. Higher values of the index correspond to greater concentration. A perfectly competitive industry would score zero whereas a fully monopolized industry would score 10,000. The following table reports minimum values of this index using import market share

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<sup>52/</sup> Petitioners' Prehearing Brief at 34-36.

<sup>53/</sup> FTC Prehearing Brief at 10-13.

<sup>54/</sup> For a more detailed discussion of the Herfindahl index, see for instance, G. Stigler, The Organization of Industry, Chicago: Univ. of Chicago Press (1968), Chapter 4.

Table 3

HERFINDAHL INDICES  
(minimum values)

<u>Sheet and strip</u>	
Without import relief:	1700
With relief:	2000
<u>Plate</u>	
Without relief:	1140
With relief:	1250
<u>Bar</u>	
Actual, 1986:	1230
<u>Wire rod</u>	
Actual, 1986:	4820
<u>Alloy tool steel</u>	
Without relief:	430
With relief:	600

- Notes: 1) The Herfindahl index is the sum of the squares of the market shares of each producer.
- 2) The reported scores should be interpreted as minimum values, so the domestic industries are at least as concentrated as is indicated here. This is true for two reasons.
- First, to arrive at the reported scores, the import share of the market, and the share accounted for by producers not identified by the Commission staff, add zero to the index. This is equivalent to assuming that there are numerous foreign firms, and numerous domestic firms comprising the uninvestigated domestic producers' share (see Report at A-20 - 21). If, in fact, imports or unaccounted domestic shipments are from relatively few firms, then the reported index will understate the true level of concentration.
- Second, to the extent the domestic and imported products are not perfect substitutes, the reported scores will understate the degree of concentration in the market for the domestic product, since the size of the market is, in effect, smaller than assumed here.

Source: Calculated from data submitted in response to questionnaires of the U.S. International Trade Commission.

ratios projected by ECS (for the bar and rod industries, 1986 import penetration was used, since petitioners did not disaggregate their projections into two products).

The indices show that the sheet and strip, and wire rod industries are most highly concentrated, and thus most susceptible to exercise of market power.

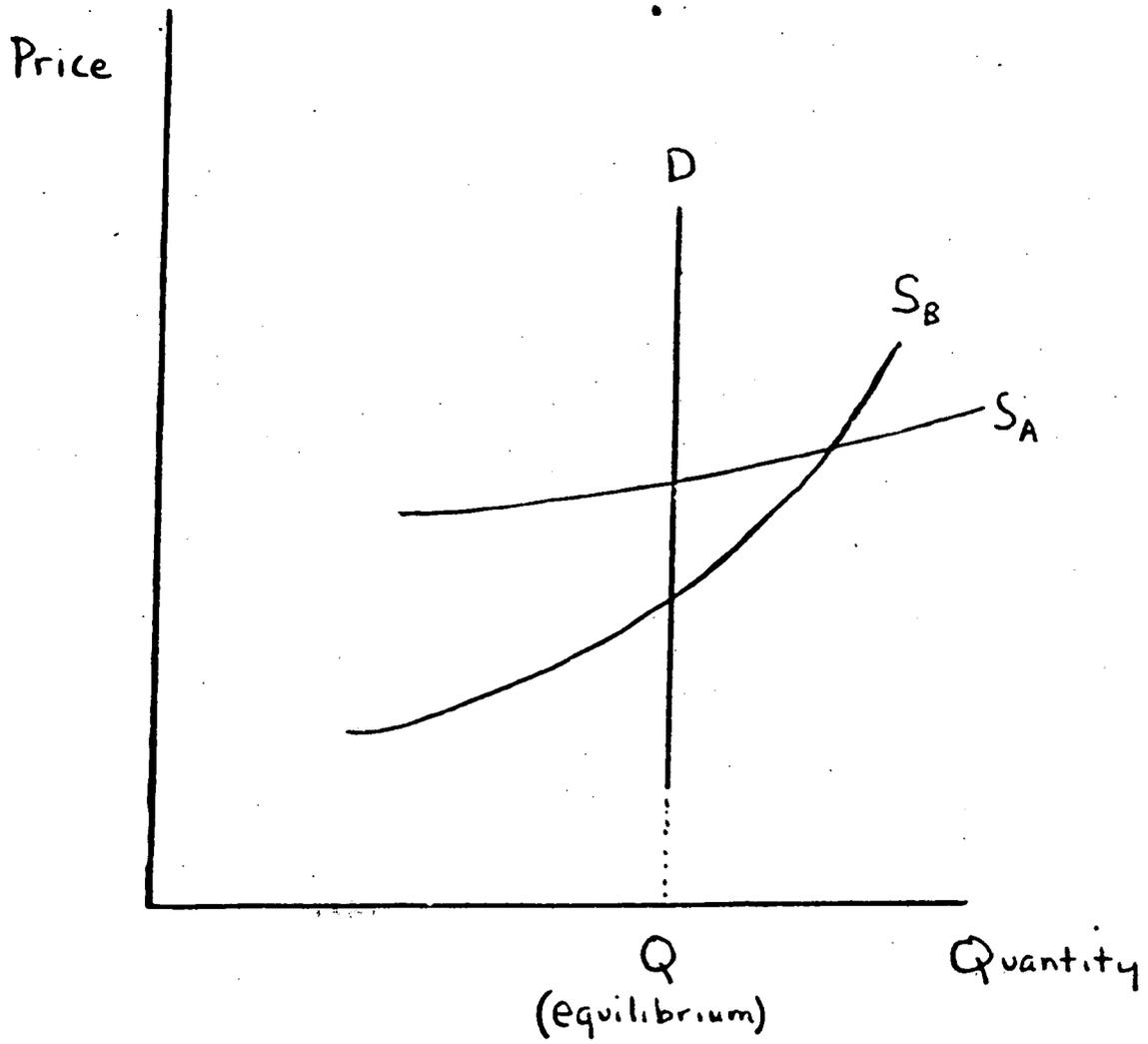
To better understand the significance of these numbers, consider the Justice Department's 1984 Merger Guidelines which reflect how the Justice Department views the relationship between industry concentration and market power. The Guidelines treat industries with Herfindahl scores of less than 1000 as sufficiently competitive that a suit to stop a merger would be extraordinary. From 1000 to 1800, the Guidelines assert that suits are likely if the merger increases the score in excess of 100 points, and above 1800, a suit is likely if the merger increases the score in excess of 50 points.

Richard Boltuck

cc: The Secretary  
Director of Operations  
Director of Investigations  
General Counsel

Attachment 1

THE SHAPE OF THE SUPPLY CURVE IS IRRELEVANT  
IN DETERMINING QUANTITY IF THE DEMAND CURVE IS VERTICAL



Attachment ~



## ECONOMIC CONSULTING SERVICES INC.

April 23, 1987

Mr. Richard Boltuck  
Economist  
Office of Economics,  
Research Division  
U.S. International Trade Commission  
Room 314  
701 E Street, N.W.  
Washington, D.C. 20436

Dear Mr. Boltuck:

As we discussed in our recent telephone conversation, I have prepared a brief written response to the most important issues that you raised. These points are as follows.

1. Aggregation of imports and domestic shipments in a single aggregate demand function: You noted that I aggregated imports and domestic shipments into a single aggregate demand function, with a single elasticity with respect to growth, rather than estimating separate import and domestic demand functions. As I noted in our telephone conversation and my testimony, while certain customers may have a slight preference for domestically produced products rather than imports, in practice U.S. consumers are unwilling to pay a premium for domestically produced products. Domestically produced and imported stainless steel products made to the same product specifications can be and are used interchangeably. Therefore, if a customer has certain volume requirements, that customer will ultimately have to secure those volume requirements from either imported or domestically produced material. Finally, the aggregation of domestic and import shipments, and the treatment of the products as fungible, is clearly consistent with prior Commission practice and prior Commission decisions in every case covering specialty steel products. (See p. A-11 of the May 1983 ITC 201 report.)

I would also like to note that allowing domestically produced and imported products to respond differently to economic growth implies that economic growth, per se, can lead to a shift in import market share. This can be illustrated using the elasticities of import demand with respect to production obtained by Robert Crandall, the source relied upon by the FTC. Crandall estimates that import elasticities of demand with respect to industrial production range from 2.01 for structural carbon steel to 7.16 for hot rolled carbon steel sheet, while the elasticity of domestic

demand with respect to industrial production ranges from 0.63 for carbon steel bars to 1.24 for hot rolled carbon steel sheet. I cannot endorse these estimates, since they apply to carbon steel products. But, if imports do respond more sharply to economic growth than do domestic shipments, import market share would tend to increase over time as the economy grows. This would imply even higher import market shares than those contained in our projections, thereby worsening the economic effects on the domestic industry of terminating import relief.

2. Impact of Dummy Variables on R-Square Values: We re-ran the regressions for industrial demand excluding the dummy variables for 1974/1975 and 1985 onward. The R-square values fell as follows:

	<u>R-Square Values</u>	
	<u>with dummy variables</u>	<u>without dummy variables</u>
sheet and strip	0.69	0.61
plate	0.64	0.61
bar and rod	0.65	0.62
alloy tool steel	0.74	0.71

I do not believe that these changes in R-square values are sufficient to cause concern. If you wish, we can provide alternative forecasts based on equations that exclude the two dummy variables in question.

3. The possibility that estimating several different model specifications could change the interpretation of the t-statistics: In addressing this point, I would like to stress that (1) the results are generally consistent across different model specifications and (2) many of the t-statistics are much greater than 2, thus suggesting that the coefficients are significantly different from zero, even if there is a small bias in the t-statistics. On balance, I would argue that exploring several different specifications as a consistency check is a sensible procedure for examining the robustness of the estimation results. By this measure, our results stand up quite well.

4. Treatment of Supply Side Effects: As I noted in our telephone conversation, we estimated two-stage least squares coefficients for each of the apparent consumption functions that incorporated the most important supply-side variables. These equations included domestic prices, and used the

average unit value of imports, the price of ferrochrome and the price of nickel as instruments. The response to changes in industrial production obtained using the two-stage least squares procedures were broadly consistent with those obtained excluding the price variable, and would have yielded similar forecasts of industrial demand.

Finally, I would like to note that the variables that we included as instruments explain most of the variation in specialty steel production costs. Labor, for example, while an important cost factor for carbon steel, accounts for less than 10 percent of the total cost of producing the most important specialty steel products, and labor costs per unit have been declining over time due to major improvements in productivity. Similarly, iron ore prices (which were used by Dr. Tarr in developing his projected impacts from exchange rate effects) play little if any role, since (1) no iron ore is used in the production of specialty steel and (2) the alloying metals are a much larger component of total production costs than iron.

5. Treatment of VRAs: There are two key issues with respect to VRAs: (1) their treatment in the estimation process and (2) their treatment in generating forecast import market shares. With respect to the first of these issues, you correctly pointed out that we did not differentiate between the effects of the 201 relief and the supplemental effects of the VRAs. This is largely due to the fact that the VRAs did not have a significant net impact during the period used to estimate the model: any reductions in imports due to the VRAs in the last part of 1986 were offset by the increase in imports in anticipation of the VRAs during late 1985 and early 1986. I would also like to note that the VRAs are a much less significant factor for the long products than the flat products.

With respect to the second issue, the treatment of VRAs during the forecast period, our forecasts are based explicitly upon our belief that the effectiveness of the VRAs will be largely neutralized by a failure to extend the 201 relief in the manner requested by the Petitioners. There are at least four reasons for this: (1) there are a number of key foreign suppliers that are not covered by VRAs; (2) the existence of global excess capacity, particularly on the part of countries that currently export specialty steel to the United States; (3) the likely entrance of countries that do not yet export to the United States, but which have the capability of producing more specialty steel than their domestic markets can absorb; and (4) the fact that certain of the restraint provisions included in the VRAs are susceptible to "leakage" (for example, imports in some cases have to exceed the VRA levels by 10 percent over an annual period

before triggering undefined action on the part of the United States). These four factors, coupled with past experience that clearly indicates that imports can surge rapidly in the absence of import restraints, imply that the failure to close the gaps in the country coverage of the existing VRAs would allow substantial and growing imports from uncovered countries, would encourage evasion of VRA restraint levels, and would therefore largely undermine the effects of the VRAs.

6. Exchange Rates: You indicated some concern that we used 1986 as the base year for the relationship between import and domestic prices, and that therefore we did not allow for the fact that the strengthening of the dollar may push up import prices. First, the value of the dollar had already fallen by a substantial amount by 1986. Second, we made the decision to use 1986 prices as the basis for our forecasts because of an explicit desire to avoid the uncertainties associated with forecasting either domestic or import prices into the future. Alternative approaches are not likely to have affected our results significantly for the following reasons:

- most of the inputs that go into the production of specialty steel (including ferrochrome, nickel, molybdenum, stainless steel scrap) are traded in world markets and in dollar-denominated terms, and are not affected to a significant degree by changes in the value of the dollar. Therefore, the depreciation in the value of the dollar is not likely to have a significant impact on relative production costs in the United States and other countries.
- many of the key foreign suppliers, particularly countries not covered by the VRAs, are countries whose currencies have not depreciated significantly with respect to the dollar. These countries include Canada and most of the Pacific Rim countries.
- despite the recent fall in the value of the dollar, the trade-weighted value of the dollar is at or about the same level that existed during the 1980-1982 period, a period in which the Commission found that increasing imports were seriously injuring the domestic specialty steel industry; and
- even if the depreciation of the dollar does have an effect on import prices, the key question is the difference between import levels with restraints and without restraints. Since the value of the dollar will be the same under both alternatives, the value of the dollar is not likely to affect the difference between import levels with and without restraints.

Finally, I have a couple of closing comments with respect to the competitiveness issue. First, I was not surprised that Dr. Tarr's model did not yield plausible results when the specialty steel industry is treated as a monopoly, and obviously agree with his conclusion that "...the industry does not act as a perfectly collusive oligopoly..." (FTC response to Chairman Leibeler's Questions, p. 1.) In fact, I would go further and state that the entire notion of the specialty steel industry acting in an oligopolistic fashion is a classic red herring.

On the other hand, I have to disagree strongly with another conclusion put forth by Dr. Tarr. In response to my statement that a \$260 decrease in import prices for long products would force a comparable decrease in domestic prices, rather than the \$2 decrease predicted by his model, Dr. Tarr contended "If... the industry is capable of lowering its prices by \$260 per ton, then there is some evidence of non-competitive pricing." (FTC Response to Chairman Leibeler's Questions, pp. 3-4). As the data collected by the Commission show, operating profit rates in the long products are marginal at best (averaging only 3.3% on sales in 1986 based on the ITC questionnaire responses of the Petitioners), providing no evidence of super-normal monopoly profits. Therefore, while the domestic industry would be forced to lower its prices sharply in response to a \$260 drop in import prices, the price decline would lead to persistent economic losses rather than to the mere reduction in the profits of collusive producers. The options of the domestic industry would be, quite simply, to either lower their prices by approximately the same amount as the decrease in import prices or to suffer substantial and growing losses in market share. Either option would lead to operating losses.

I hope that these comments are helpful. Please call me if you have any questions or if I can be of any further assistance.

Sincerely



Clark J. Oandler  
Vice President



## INFORMATION OBTAINED IN THE INVESTIGATION

## Introduction

On January 14, 1987, the Specialty Steel Industry of the United States (SSIUS) and the United Steelworkers of America (AFL-CIO) filed a petition with the Commission, pursuant to section 203(i)(3) of the Trade Act of 1974, requesting that the Commission institute an investigation in order that it might advise the President of its judgment as to the probable economic effect on the domestic specialty steel industry of the termination of the import relief program provided to the specialty steel industry by Presidential Proclamation 5074. 1/ The petitioners asked that the Commission recommend to the President that such relief be extended for 3 years for all products currently covered by the program at a level no less than the level currently in effect. The import relief presently in effect is scheduled to end on July 19, 1987.

This relief was proclaimed following an investigation completed by the Commission in May 1983 (investigation No. TA-201-48) 2/ under section 201 of the Trade Act of 1974. In that investigation, the Commission determined that bars; wire rods; and plates, sheets, and strips, not cut, not pressed and not stamped of stainless steel or certain alloy tool steel, provided for in items 606.90, 606.93, 606.94, 606.95, 607.26, 607.28, 607.34, 607.43, 607.46, 607.54, 607.72, 607.76, 607.88, 607.90, 608.26, 608.29, 608.34, 608.43, 608.49, 608.57, 608.64, and 609.45 of the Tariff Schedules of the United States (TSUS), were being imported into the United States in such increased quantities as to be a substantial cause of serious injury to the domestic industries producing articles like or directly competitive with the imported articles.

Public notice of the investigation and hearing was given by posting copies of the notice in the Office of the Secretary, U.S. International Trade Commission, Washington, DC, and by publishing the notice in the Federal Register of February 4, 1987 (52 F.R. 3501). 3/

The Commission's hearing was held in Washington, DC on April 2, 1987. 4/ The Commission held a public briefing on the investigation May 7, 1987, and reported its advice to the President on May 15, 1987.

## Description and Uses

The products

For tariff purposes stainless steel is an alloy steel containing, by weight, less than 1 percent of carbon and over 11.5 percent of chromium

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1/ A copy of Proclamation No. 5074 is presented in app. A.

2/ Stainless Steel and Alloy Tool Steel: Report to the President on Investigation No. TA-201-48 Under Section 201 of the Trade Act of 1974, USITC Publication 1377, May 1983.

3/ A copy of the Commission's notices are presented in app. B.

4/ A list of the witnesses appearing at the public hearing is presented in app. C.

(headnote 2(h)(iv), part 2B, schedule 6). Generally manufactured from scrap by means of electric furnaces, stainless steel may include such alloying elements as nickel, molybdenum, and manganese, all of which are either (1) added to the melt when the furnace is being charged, (2) added during melting, or (3) added after tapping but before pouring from ladle to ingot mold or continuous caster. The alloying ingredients can improve performance under chemical or temperature stress and impart corrosion resistance to the product.

Stainless steel can be readily fabricated or welded and can be tempered to exceed the strength of ordinary carbon steel. It can be produced in an attractive silvery color in dull, brushed, or polished finishes. It is used extensively in the food, chemical, textile, pollution control, and electric power industries in applications that require exceptional resistance to oxidation and/or corrosion.

The stainless steel and alloy tool steel products <sup>1/</sup> that are the subject of this investigation include the following: (1) stainless steel sheet and strip, and stainless steel plate; (2) stainless steel bar and stainless steel wire rod; and (3) tool steel products.

Stainless steel sheet and strip, and stainless steel plate.—Stainless steel sheets and strip are flat-rolled steel products produced by passing slabs or sheet bars through a series of reducing rolls on continuous or hand mills. They are generally considered to be finished products and are distinguished from other flat-rolled products by their dimensions. The TSUS defines sheets as "flat-rolled products whether or not corrugated or crimped, in coils or cut to length, under 0.1875 inch in thickness and over 12 inches in width" and strip as "a flat-rolled product whether or not corrugated or crimped, in coils or cut to length, under 0.1875 inch in thickness, and, if cold-rolled, over 0.50 inch but not over 12 inches in width, or if not cold-rolled, not over 12 inches in width" (headnote 3(g) and (h), part 2B, schedule 6).

Stainless steel sheets and strip are produced primarily on continuous mills. In this production process, slabs are conditioned and rolled into coil form on a continuous hot strip mill. The coil then is annealed, through either the continuous or the batch anneal process, descaled, and cold-reduced to a specified thickness. The product is subsequently further annealed, and descaled, and may be cut to length. To obtain improved surface and mechanical properties and lighter gages, the material is cold-rolled. Cut lengths then can be flattened by roller leveling or stretcher leveling.

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<sup>1/</sup> A sheet product for use in catalytic converters was developed in 1974 to provide a low-cost material which was heat- and corrosion-resistant. The material is classified as grade 409 stainless steel by the American Iron & Steel Institute. However, the product contains less than 11.5 percent chromium and, therefore, is within neither the TSUS definition of stainless steel, the products covered by the import relief, nor the scope of this investigation.

Stainless steel sheets and strip produced on hand mills are rolled from sheet bars. This process, although it has been almost totally replaced by the continuous method, is important in producing certain grades of stainless steel that are difficult to roll on the continuous mill and certain widths exceeding the limits of the continuous mills. In this process, the product is rolled in lengths, annealed, and descaled. It may then be subjected to further operations, including cold-reduction, annealing, descaling, and light cold-rolling.

The TSUS defines plates (headnote 3(g), part 2B, schedule 6) as "flat-rolled products whether or not corrugated or crimped, in coils or cut to length, 0.1875 inch or more in thickness and . . . over 12 inches in width." The manufacturing process for stainless steel plates is similar to that for stainless steel sheets and strip—hot-rolling from slabs—after which the plate is usually annealed and pickled. In contrast to stainless steel sheets and strip, which are usually cold-rolled, stainless steel plates are generally shipped in hot-rolled, pickled form.

Important applications for stainless steel sheets are in food-processing equipment, chemical fertilizer tanks, liquid gas storage tanks, hospital equipment, and defense material. Stainless steel strip is used in automobiles, appliances, industrial equipment, and defense applications. Stainless steel plates are sold in various grades and finishes, and are most often used in construction and in industrial equipment for the chemical, oil and gas, and rubber-producing and rubber-processing industries.

Stainless steel bar and stainless steel wire rod.—Stainless steel bars are stainless steel products of solid section, having cross sections in the shape of circles, segments of circles, ovals, triangles, rectangles, hexagons, or octagons, pursuant to headnote 3(d), part 2B, schedule 6 of the TSUS. Hot-rolled stainless steel bars are produced by passing stainless steel billets through a series of heating, annealing, and reducing operations, until the billets have been reduced to a specific diameter and shape. The product may be sold in the hot-rolled form or further worked to produce cold-formed stainless steel bar. Such operations as cold-turning, rolling, and grinding enhance the bars' performance and appearance. Most bars range in size from about 0.25 inch to 1.5 inches in diameter and are semifinished products used in such diverse applications as the production of fasteners, fittings, valves, welding electrodes, medical and dental instruments, automotive parts, and flatware.

Stainless steel wire rods are defined (relying on the general wire rod definition of headnote 3(f), part 2B, schedule 6 of the TSUS) as a stainless steel, coiled, semifinished, hot-rolled product of solid cross section, approximately round in cross section, not under 0.20 inch nor over 0.74 inch in diameter. The manufacturing process for stainless steel wire rods is very similar to that of stainless steel bars, except that the hot-rolled billets are coiled after they are reduced to the specific diameter required. The coil may then be dipped in a combination of acid baths and coated with a lubricant containing copper, lime, or oxalate. This coating facilitates further lubrication when the rod is later cold-drawn into wire, the largest end use for wire rod. Other major end uses of stainless steel wire rods include industrial fasteners, medical and dental instruments, and orthodontic devices.

Tool steel products.—The tool steel products 1/ which are subject to this investigation are in the form of sheets and strip, plate, bars, wire rods, and round wire (high-speed 2/ tool steel only). However, the large majority (75 percent) of all tool steel shipments for 1986, as reported by the American Iron and Steel Institute (AISI), were in the form of bars. Certain types of tool steel, including chipper knife steel, band saw steel, and bearing steel, are excluded from the scope of this investigation.

The production process for tool steel products is similar to that for other steel products once the product has reached the billet stage, except that the relatively small quantities of tool steel produced make continuous rolling operations uneconomical. Tool steel may therefore be rolled on hand mills, which requires that billets be light enough to be lifted manually. Tool steel is typically subjected to numerous grinding, turning, and straightening operations before it is shipped, to insure more exact specifications and performance.

All tool steels have three properties in common in varying degrees:

- (1) The ability to resist softening at elevated temperatures. This is referred to as hot hardness.
- (2) Resistance to wear of the tool area when it is in contact with the workpiece. This is referred to as wear resistance.
- (3) A combination of strength and ductility, often referred to as toughness.

The American Iron & Steel Institute divides tool steels into four principal groupings, which are determined by the properties of the steels:

High-speed tool steels  
Hot-work tool steels  
Cold-work tool steels  
Mold steels

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1/ Tool steel (defined in headnote 2(h)(v), PT. 2B, schedule 6 of the TSUS) refers to alloy steel that contains the following combinations of elements in the quantity, by weight, as indicated:

- (A) not less than 1.0 percent carbon and over 11.0 percent chromium; or
- (B) not less than 0.3 percent carbon and 1.25 percent to 11.0 percent inclusive chromium; or
- (C) not less than 0.85 percent carbon and 1.0 percent to 1.8 percent inclusive manganese; or
- (D) 0.9 percent to 1.2 percent inclusive chromium and 0.9 percent to 1.4 percent inclusive molybdenum; or
- (E) not less than 0.5 percent carbon and not less than 3.5 percent molybdenum; or
- (F) not less than 0.5 percent carbon and not less than 5.5 percent tungsten.

2/ High-speed tool steel (headnote 2(h)(vi), PT. 2B, schedule 6 of the TSUS) refers to all tool steel that contains, by weight, not less than 0.5 percent carbon and not less than 3.5 percent molybdenum, or not less than 0.5 percent carbon and not less than 5.5 percent tungsten.

High-speed tool steels are characterized by their ability to retain their hardness at elevated temperatures (hot hardness). For this reason, their principal use is in metal-cutting applications, such as broaches, drills, end mills, lathes, milling machines, reamers, routers, and saws. High-speed tool steels can be subdivided into two categories: (1) M-type (molybdenum and tungsten bearing) and (2) T-type (tungsten-bearing only). High-speed tool steels first used tungsten as the principal hardening alloy, but molybdenum grades were subsequently developed because of that material's greater availability in the United States. Each type provides varying degrees of hot hardness, wear resistance, and toughness; and some may be interchangeable for a specific application.

Hot-work tool steels have superior ductility and toughness. They are designed for use on hot metal; as a result, they are rarely used in metal-cutting applications, but frequently used in metal-forming applications.

Cold-work steels are designed for the forming of cold metal and, as such, require greater hardness than the hot-work steels. The higher levels of carbon in these steels account for the improved hardness. These steels do not have acceptable hot-hardness properties and are therefore inappropriate for metal-cutting applications. Typical cold-forming applications for these steels include use in blanking, drawing, and forming dies.

Mold steels are low-alloy tool steels, which are high in toughness, low in wear resistance, and moderate in hot hardness. Mold steels are used in plastic molds, zinc die-casting dies, and holder blocks.

Principal industries that use tool steel in their products include the automotive, aerospace, machine tool, and household appliance industries. However, because the applications for tool steel are so specialized, it is not possible to state the end uses for these products by any particular industry; furthermore, any one industry may use a number of different types and grades of tool steels.

Although quality differences between imported and domestically produced stainless steel and tool steel products are sometimes alleged, these products are usually considered fungible when produced in the same grades and to the same specifications.

#### The production process

The production processes for carbon and specialty steel (the latter term encompassing both stainless steel and alloy tool steel) products follow the same general scheme but differ in important details, dictated by the more exact chemistry and performance characteristics demanded from specialty steels. Specialty steel is generally produced from scrap by means of electric furnaces. After the liquid steel has reached the desired chemistry, it is cast into a relatively few semifinished shapes, after which it is forged, rolled, cut, extruded, and so forth, into a wide variety of forms and finishes.

Important production cost differences between making carbon steel and specialty steel occur in the first stage of the production process—the conversion of raw materials into liquid steel. In a typical process,

specialty steel production begins with the melting of the raw material (usually selected scrap) in an electric furnace. 1/ The resultant liquid steel is transferred to an argon-oxygen decarburization (AOD) vessel, where alloying elements such as chromium, nickel, and molybdenum are added. The liquid is refined by blowing it with argon or other inert gases, and alloying elements are added until the desired chemistry is reached. The molten liquid is then poured into preheated ladles, which transfer it to slab, bloom, or billet casters for solidification into semifinished shapes.

Depending on the desired chemistry of the finished product, additional refining techniques may be employed by specialty steel producers. One process used in the manufacture of tool steel involves the casting of an ingot in the first melt, which is then used as a consumable electrode in a second "remelt" furnace. The electrode is remelted, further impurities are removed, and the ingot is recast and ready for roughing down to the semifinished shape. Such techniques as electroslag remelting, vacuum arc remelting, and vacuum induction remelting are used to achieve higher purity and uniformity levels.

#### U.S. tariff treatment

Imports of stainless steel sheet and strip and stainless steel plates are reported for statistical purposes under items 607.7610, 607.9010, 607.9020, 608.2900, 608.4300, 608.5700, 607.7603, 607.7606, and 607.9005 of the Tariff Schedules of the United States Annotated (TSUSA). Imports of stainless steel bars are reported under items 606.9005, 606.9015, and 606.9020 of the TSUSA, and imports of stainless steel wire rods under items 607.2600 and 607.4300 of the TSUSA. The alloy tool steel products subject to investigation are reported under items 606.9505, 606.9512, 606.9514, 606.9535, 606.9542, 606.9544, 606.9546, 606.9548, 607.2800, 607.3420, 607.4600, 607.5420, 607.7210, 607.7220, 607.7225, 607.8820, 608.3420, 608.4920, 608.6420, 609.4520, and 609.4550 of the TSUSA.

The current most-favored-nation (MFN) (col. 1) rates of duty, 2/ which are identical to the final staged duty reductions negotiated in the Tokyo Round of the Multilateral Trade Negotiations (MTN), 3/ and the column 2 rates of duty 4/ applicable to imports from non-MFN countries under these tariff items are shown in appendix D. In general, column 1 duties for stainless steel flat-rolled products range from 8 percent to 11.5 percent ad valorem plus additional duties on alloy content. Stainless steel flat-rolled products are also subject to increased duties as a result of import relief granted on July 19, 1983. Imports of stainless steel bars, stainless steel wire rods, and alloy tool steel products are subject to quotas as a result of the import

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1/ Virtually all specialty steel in the United States is produced in electric furnaces, whereas about 30 percent of carbon steel is produced by this method.

2/ The col. 1 rate is applicable to imported products from all countries except those Communist countries and areas enumerated in general headnote 3(d) of the TSUS, unless preferential tariff treatment is sought and granted.

3/ Rate effective Jan. 1, 1987.

4/ The rate of duty in col. 2 applies to imported products from those Communist countries and areas enumerated in general headnote 3(d) of the TSUS.

relief, which is explained in greater detail in the section entitled "Import Relief Program."

No preferential tariff treatment is afforded to products of countries other than Israel (duty-free or reduced-duty entry under the U.S.-Israel Free Trade Area Implementation Act) and beneficiaries of the Caribbean Basin Economic Recovery Act (see TSUS general headnote 3(e)(vii)), whose products enter free of duty.

#### Previous Section 201 and 203 Investigations

The Commission has conducted five prior investigations on stainless steel and alloy tool steels (specialty steels) under sections 201 and 203 of the Trade Act of 1974. <sup>1/</sup>

In the first of these investigations, No. TA-201-5, the Commission determined in January 1976 that certain stainless steel and alloy tool steel products (bars, wire rods, plates, sheets and strip) were being imported into the United States in such increased quantities as to be a substantial cause of serious injury, or threat thereof, to the domestic industry producing articles like or directly competitive with the imported articles. The Commission also determined that certain stainless steel and alloy tool steel products (ingots, blooms, billets, slabs and sheet bars) were not being imported in such increased quantities as to be a substantial cause of serious injury to the domestic industry.

The President determined that import relief should be provided on the articles for which the Commission had made an affirmative determination and on June 11, 1976, issued Proclamation 4445, which set quotas on these articles for a 3-year period. The relief was to be phased down during the 3-year period (i.e., the quotas were to be increased by 3 percent annually). The quotas were on a trading-area or country-by-country basis with respect to the larger suppliers. <sup>2/</sup>

Prior to proclaiming such relief, the President sought to negotiate orderly marketing agreements with the leading sources of the products in question. Only Japan expressed a willingness to negotiate such an agreement.

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<sup>1/</sup> Stainless Steel and Alloy Tool Steel: Report to the President on Investigation No. TA-201-5 . . . ., USITC Publication 756, January 1976; Certain Alloy Tool Steel: Report to the President on Investigation No. TA-203-2 . . . ., USITC Publication 805, February 1977; Stainless Steel and Alloy Tool Steel: Report to the President on Investigation No. TA-203-3 . . . ., USITC Publication 538, October 1977; Stainless Steel and Alloy Tool Steel: Report to the President on Investigation No. TA-203-5 . . . ., USITC Publication 968, April 1979; Stainless Steel and Alloy Tool Steel: Report to the President on Investigation No. TA-201-48 . . . ., USITC Publication 1377, May 1983.

<sup>2/</sup> There were six basic source categories: (1) Japan, (2) the European Community, (3) Canada, (4) Sweden, (5) all other countries entitled to col. 1 rates of duty, and (6) all other countries.

The quantitative restrictions proclaimed with respect to imports from Japan reflected the terms of an agreement signed with the Government of Japan on June 11, 1976, 1/ providing for the limitation of imports from Japan for a 3-year period beginning June 14, 1976.

On October 14, 1976, the Commission received a request from the Special Representative for Trade Negotiations (STR) (now the United States Trade Representative) that an investigation be conducted for the purpose of advising the President as to the probable economic effect on the domestic industry of terminating in part the relief imposed by Proclamation 4445 (as modified by Proclamation 4477) by excluding bearing steel, covered by item 923.25 of the appendix to the TSUS, from the quantitative restrictions. On February 14, 1977, the Commission advised the President, following completion of investigation No. TA-203-2, Certain Alloy Tool Steel, that the effect of such termination would be negligible. The President, on June 15, 1977, issued Proclamation 4509, terminating the quantitative restrictions on certain alloy tool steel (bearing steel).

On May 25, 1977, the STR requested advice from the Commission under section 203(i)(2) concerning the probable economic effect on the industry concerned if the relief provided by Proclamation 4445, as modified by Proclamations 4477 and 4509, were to be terminated or reduced. In response to this request, the Commission instituted investigation No. TA-203-3, Stainless Steel and Alloy Tool Steel, on June 19, 1977. As a result of the investigation, Commissioners Moore and Bedell advised the President on October 14, 1977, that termination or reduction of the relief could have a serious adverse economic effect. Chairman Minchew advised that chipper knife or band saw steel could be removed from the quota on alloy tool steel without an adverse economic impact and that the quotas on the remaining articles should be increased by 6.7 percent but should not be further increased or terminated. Commissioner Ablondi advised that the termination or reduction of the relief would have no substantial adverse impact. Following receipt of this advice, the President issued Proclamation 4559 on April 5, 1978, modifying the import relief so as to exclude so-called chipper knife steel and band saw steel from the quota on alloy tool steel under item 923.26 of the appendix to the TSUS. The quotas applicable to the remaining articles under TSUS item 923.26 for the European Community (EC) and Sweden, the primary sources of such alloy tool steel, were reduced to take into account this change in quota coverage. This modification became effective April 8, 1978.

On December 11, 1978, following receipt of a petition on November 30, 1978, filed by the Tool and Stainless Steel Industry Committee and the United Steelworkers of America, AFL-CIO, the Commission instituted investigation No. TA-203-5 under sections 203(i)(2) and (i)(3) of the Trade Act of 1974 for the purpose of gathering information in order that it might advise the President of its judgment as to the probable economic effect on the domestic industry of the termination of the import relief still in effect as a result of the 1976 action and Proclamation 4445. Such import relief was scheduled to terminate on July 13, 1979.

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1/ See agreement on specialty steel imports, June 1976, United States-Japan, TIAS No. 8442.

On April 24, 1979, Commissioners Alberger and Stern advised the President that the termination of the quantitative restrictions imposed on imports of stainless steel and alloy tool steel would have little, if any, adverse impact on the domestic industry. Commissioners Moore and Bedell advised the President that termination of the quantitative import restrictions would have a serious adverse economic effect on the domestic industry. Commissioner Parker did not participate in the investigation.

On June 12, 1979, the President issued Proclamation 4665, which extended the temporary quantitative limitations imposed by Proclamation 4445, as amended, for the period of June 14, 1979, through February 13, 1980. Import relief was terminated on February 14, 1980.

On November 23, 1982, the Commission received a request from the United States Trade Representative (USTR) that an expedited investigation be conducted under section 201 concerning certain stainless steel and alloy tool steel products. The USTR's request was in accordance with a determination of the President on November 17, 1982, under section 301(a)(2)(A) of the Trade Act of 1974. The President's action followed the completion of investigations under section 301 of the act initiated by the USTR on February 26, 1982, and on August 9, 1982. These investigations were instituted on the basis of petitions, filed by the Tool and Stainless Steel Industry Committee and the United Steelworkers of America, alleging that the European Community, Belgium, France, Italy, the United Kingdom, Austria, and Sweden had subsidized the production of stainless and alloy tool steel (specialty steel) in a manner inconsistent with their obligations under articles 8 and 11 of the Agreement on the Interpretation and Application of Articles VI, XVI, and XXIII of the General Agreement on Tariffs and Trade (Subsidies Code).

On December 9, 1982, the Commission instituted investigation No. TA-201-48, and in May of 1983 determined that certain bars; wire rods; and plates, sheets and strips, not cut, not pressed, and not stamped to nonrectangular shape; all the forgoing of stainless steel or certain alloy tool steel; and round wire of high speed tool steel, were being imported into the United States in such increased quantities as to be a substantial cause of serious injury to the domestic industries producing articles like or directly competitive with the imported article.

The President determined that import relief should be provided on certain stainless steel and alloy tool steel products (sheets, strips, plates, bars, and wire rods) with exemptions for certain articles that are not produced in the United States or are produced in such small quantities that their exemption would not have an adverse impact on the domestic industry. This relief is discussed in the following section.

#### Import Relief Program

On July 19, 1983, the President by Proclamation 5074, imposed temporary duty increases on stainless steel sheet and strip and stainless steel plate, and quantitative restrictions on stainless steel bar and wire rod, and alloy tool steel. The imposition of these measures followed an affirmative finding

by the Commission in investigation No. TA-201-48. The section 201 relief is scheduled to remain in effect until July 19, 1987. Currently, the additional duty assessed on stainless steel flat-rolled products is 4 percent ad valorem. The duty has been reduced annually since relief was instituted in 1983 from 10 percent ad valorem for stainless steel plates and 8 percent ad valorem for stainless steel sheets and strip. The quota levels currently in effect for stainless steel bars, wire rods, and alloy tool steel are presented in appendix D. These levels have been increased by 3 percent each year since their institution in mid-1983.

On September 18, 1984, the President established a national policy for the steel industry and directed the United States Trade Representative to coordinate and direct the implementation of that policy, including the negotiation of new arrangements and the reaffirmation of existing measures limiting steel exports into the United States, such as those applicable to specialty steel. Pursuant to this, the United States Trade Representative concluded agreements (Voluntary Restraint Agreements, VRAs) with 18 countries and the European Community (EC) (excluding Portugal and Spain, which negotiated separate agreements). <sup>1/</sup> Designed primarily to limit foreign countries' exports of carbon steel to the United States, all but the Finnish VRA (which was one of the first ones negotiated) cover stainless steel flat-rolled products (sheets, strip, and plates) as well. In addition, alloy tool steel is currently included in the VRAs for the EC and Austria. Only the EC arrangement covers stainless steel bars and stainless steel wire rods.

The existence of VRAs primarily affects the analysis of imports of stainless steel flat-rolled products because 83 percent, by volume, of total 1986 imports of stainless steel sheet, strip, and plate were imported from countries that have negotiated steel agreements with the United States. VRA coverage is the next highest for alloy tool steel; in 1986, imports of alloy tool steel from VRA countries accounted for 39 percent of imports. VRA coverage for stainless steel wire rod and stainless steel bars under the EC agreement was 25 and 20 percent, respectively, of imports in 1986.

The 19 VRAs share many common features. First, they were all conditional upon the termination of existing countervailing and antidumping duty orders, and withdrawal of pending import relief petitions. As a result, the domestic steel industry was consulted on the final agreements, although at a final stage of negotiations. It is stated in the VRAs that subsequent petitions for import relief can jeopardize the agreements. Second, all of the VRAs negotiated for steel products are scheduled to remain in effect through

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<sup>1/</sup> Countries that have negotiated voluntary restraint agreements (VRAs) are Australia, Austria, Brazil, Czechoslovakia, the European Communities (Belgium, Denmark, Federal Republic of Germany, France, Greece, Ireland, Italy, Luxembourg, the Netherlands, and the United Kingdom of Great Britain and Northern Ireland), German Democratic Republic, Finland, Hungary, Japan, Mexico, the People's Republic of China, Poland, Portugal, the Republic of Korea, Romania, South Africa, Spain, Venezuela, and Yugoslavia. When Spain and Portugal joined the EC, they elected to maintain their separate steel agreements.

September 30, 1989. 1/ As discussed in detail below, the VRAs share the same basic operating methods and provisions.

VRAs are different from quotas and tariffs unilaterally administered by the U.S. Customs Service (Customs) in that they are jointly administered by the United States and the exporting country. Under the VRAs, none of the covered products from a signatory country can enter the United States without an export certificate. To get an export certificate, an exporter must have an export license issued by the foreign government. The export certificates are good for shipment within 3 months of being issued. Customs then collects the export certificates to be used by the Department of Commerce (Commerce) to monitor the program. Commerce can instruct Customs to stop entries of the subject products if an agreement is being violated. 2/

Export restraint levels are generally expressed in the steel agreements as a percentage of annual U.S. consumption of a particular product category—stainless flat-rolled, for example, as projected by an independent forecaster. 3/ Thus, they operate similar to a market share quota. VRAs using a market share method do not vary the percentage of allotted import share during the period of the agreement. Accordingly, unlike the import relief implemented in July 1983, most VRAs do not become less restrictive over time, except to the extent that absolute volumes increase as a result of an expanding market. In steel agreements for smaller sources of U.S. steel imports, particularly those for nonmarket economies, export restraint levels are expressed as fixed tonnages for particular product categories for simplicity. Some of these VRAs vary the allowable fixed tonnages over time; others do not.

All the steel agreements contain a similar degree of flexibility, including flexibility with respect to product categories and export periods, short supply provisions, and provisions to prevent product shifting which is inconsistent with the purposes of the agreement. For example, the agreements commonly include provisions and limitations for applying unused quantity in one product category to another category, and for applying unused quantity in one period to another. The agreements include short supply provisions designed to prevent or mitigate the development of a shortage of a particular product not produced or not produced in large enough volume in the United States. Finally, the VRAs include provisions to prevent shifting to higher valued products within an agreement product category that could impair the objectives of the agreement. These provisions define product shifting as a significant increase in the U.S. market share of a product within an agreement category from a base period level. If, after consultations with the relevant country, it is determined that this has indeed occurred, new product categories may be developed.

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1/ Export restraint periods were generally defined as the initial period Oct. 1, 1984–Dec. 31, 1985, calendar years 1986–88, and an end period Jan. 1, 1989–Sept. 30, 1989.

2/ The emphasis on restraining another country's exports to the United States within a period, rather than restraining entry of imports, combined with a certain lag in the reporting of Census import data, complicates the analysis of VRAs using Census import data on an annual, or even on a quarterly, basis.

3/ Currently, the independent forecaster is Data Resources, Inc. (DRI).

The various countries' agreements are differentiated chiefly by degree of specificity of product categories in which stainless steel and alloy tool steel products are included. For example, the EC agreement has over 30 product categories, including separate categories for stainless sheet and strip, stainless plate, stainless wire rod, stainless bar, and alloy tool steel. In contrast, the agreement with Japan has just nine major product categories; it includes stainless steel flat-rolled products in categories called "Sheet and Strip" and "Plate" that also include carbon and other steels. While there are certain subcategories for sheet and strip in the agreement with Japan, there are none as specific as stainless steel sheet and strip. With only two product categories, "Nails" and "All other", the agreement with the People's Republic of China is an example of extremely broad product coverage. 1/

While it is true that the majority of steel VRAs cover stainless steel flat-rolled products under broad product categories, it is also true currently that the majority of stainless flat-rolled imports originate in countries whose VRAs do not have broad categories. As shown in table E-1, the EC, Spain, Mexico, and the Republic of Korea (Korea) have stainless steel specific product categories for flat-rolled products. In 1986, imports of stainless sheet, strip, and plate from these countries accounted for 68 percent of all stainless steel flat-rolled imports.

The other major difference between the various countries' agreements is the date of actual implementation. Most of the agreements, including those with such major exporting countries as Brazil, Spain, and Mexico, were implemented immediately following both countries' signatures and effective retroactively to October 1, 1984. 2/ However, for the two largest sources of stainless steel flat-rolled products, the EC and Japan, and also for Korea, the VRA programs were not actually implemented until March 1, 1986, after USTR formally exempted VRA signatories from the original import relief for the stainless flat-rolled products covered in the VRAs. 3/

#### Potential for product shifting.

Petitioners have argued that the effectiveness of the VRA regime is limited because certain agreements do not have separate restraint levels for specialty steel products. This argument applies only to stainless steel sheet, strip, and plate because, in the few agreements covering stainless steel bar and wire rod and alloy tool steel, the product categories are specialty-steel specific. The domestic industry has expressed the fear that inclusion of stainless steel sheet, strip, and plate in broad product categories induces foreign countries to shift their exports to the higher-valued stainless steel products, thereby maximizing revenue per

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1/ Imports from the People's Republic of China of stainless steel flat-rolled products during 1983-86 were 1 ton (imported in 1985).

2/ The period covered by these VRAs is generally October 1, 1984 through September 30, 1989. In all but one of the 19 written agreements, exports are restrained retroactively to October 1, 1984. Thus, if a VRA country which signed an agreement in 1985 was found to have exceeded its negotiated export restraint level prior to the actual implementation of the program, an appropriate reduction would be made to export restraint levels in the following period. The most recent agreement, signed in February 1987 with the PRC, covers exports to the United States retroactively from January 1, 1986.

3/ Federal Register Notice, Feb. 27, 1986.

tonnage exported. The domestic industry believes that it is therefore vulnerable to increased import quantities under the VRA regime.

Japan, which accounted for 14 percent of total U.S imports of stainless steel sheet, strip, and plate in 1986, is the only current major exporting country that might be able to engage in shifting from exports of carbon steel to stainless steel products. Japanese exports of stainless steel sheet, strip, and plate to the United States appear to account for a small share of total tonnage allowed in the appropriate VRA product categories. <sup>1/</sup> Thus, while it appears that the agreement provides Japan with an opportunity to increase exports of higher valued stainless steel flat-rolled products to the United States, an examination of trends in Japanese import share and market share for flat-rolled products suggests that product shifting did not occur in the recent period of import relief. The following tabulation presents Japanese imports of stainless steel sheet, strip, and plate, and shares of total imports and apparent U.S. consumption in 1983-86:

<u>Product</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>
<u>Stainless steel</u>				
<u>sheet and strip:</u>				
Imports (net tons).....	22,392	31,177	27,933	21,690
Ratios:				
market share (percent)...	2.8	3.6	3.1	2.6
import share.....do...	26.9	22.8	20.7	14.4
<u>Stainless steel</u>				
<u>plate:</u>				
Imports (net tons).....	1,491	2,672	2,339	860
Ratios:				
market share (percent)...	1.4	2.1	1.5	0.6
import share.....do...	28.4	35.6	19.9	5.2

As shown above, U.S. imports of stainless flat-rolled products from Japan declined during the period of import relief. Moreover, in 1986, the first year in which Japanese stainless steel flat-rolled products were covered under the VRA regime, imports from Japan of stainless steel sheet and strip declined by 22 percent, and imports of stainless steel plate declined by 63 percent. The share of total U.S. apparent consumption accounted for by imports from Japan was fairly steady during 1983-86 at 3-4 percent for sheet and strip and at 1-2 percent for plate. Japanese market share for flat-rolled products was highest in 1984, an increase of 0.8 percentage points from 1983 levels for sheet and strip and 0.7 percentage points for plate. In 1986, Japanese market

<sup>1/</sup> For sheet and strip and for plate separately, the ratio of 1986 imports from Japan was compared with the 1987 forecasted export ceiling for the Japanese VRA product categories "sheet and strip" and "plate." For stainless sheet and strip, the ratio was less than 1 percent; for stainless plate the ratio was 3 percent.

share declined to its lowest levels during the period of import relief, or by 0.5 percentage points for sheet and strip and 0.9 percentage points for plate from 1985 levels. The low 1986 market share suggests that Japan did not engage in product shifting in the first year of its VRA.

#### U.S. Market

Demand for stainless steel and alloy tool steel is derived from the demand for the end product in which it is used, such as automobiles, machinery, industrial equipment, appliances, electrical equipment, food processing equipment, utensils, cutlery, liquid nitrogen gas tankers, tools, dies, and other durable goods. The durability of many articles made from stainless steel is a factor that permits discretion in the timing of purchases of replacement articles; consequently fluctuations in the overall U.S. economy usually result in changes in demand for specialty steel articles which are much sharper than the changes that are applicable to nondurable goods and to most other types of durable goods.

#### Channels of distribution

In the U.S. market, sales of specialty steel products which are the subject of this investigation are made directly to end users or to steel service center/distributors, which in turn sell to end users. Service center/distributors are essentially middlemen that buy large quantities of steel from producers, warehouse the steel, and sell smaller quantities to end users. The service center may also have some simple finishing equipment, such as equipment to slit strip from sheet, or cut bars from plate, to satisfy customer specifications. Some products, notably sheet and strip, rod, and tool steel, are mainly sold directly to end users by producers. In 1986, approximately 48.4 percent of the stainless steel products and 24.2 percent of alloy tool steel products were sold through distributors. A breakdown of channels of distribution, as reported in questionnaire responses, by product, in 1986 is shown in the following tabulation (in percent):

<u>Item</u>	<u>Share of shipments made to:</u>	
	<u>End-users</u>	<u>Distributors</u>
Stainless steel:		
Sheet and strip.....	51.0	49.0
Plate.....	35.8	64.2
Bar.....	57.2	42.8
Wire rod.....	93.3	6.7
Average.....	51.6	48.4
Alloy tool steel, all forms.....	75.8	24.2
Total.....	53.1	46.9

### Apparent consumption

Consumption of the stainless steel and alloy tool steel products covered by this investigation increased from 1.2 million short tons in 1983 to 1.4 million short tons in 1985, an increase of 16 percent, then dropped by 7 percent to 1.3 million short tons in 1986 (table 1).

Consumption of all stainless steel products increased from 1.1 million short tons in 1983 to 1.3 million short tons in 1985, then declined by 8 percent to 1.2 million short tons in 1986. Consumption of alloy tool steel products increased from 80,566 short tons in 1983 to 99,110 short tons in 1984, an increase of 23 percent, then declined by 4 percent to 94,747 short tons in 1985 before increasing by 3 percent to 97,558 short tons in 1986.

Consumption of stainless steel sheet and strip and plate products followed the same trend as consumption of all stainless steel, increasing from 1983 to 1985 then declining in 1986. Consumption of stainless steel bar and wire rod increased from 1983 to 1984, then began declining in 1985.

Information on consumption based on value is shown in table 2.

### Condition of the U.S. Industry

The information in this section of the report was compiled from Commission questionnaires as part of its ongoing monitoring of the stainless steel and alloy tool steel industries in investigation No. 332-167 and from questionnaires sent out in connection with this investigation. Data on production, capacity, capacity utilization, shipments, and employment were received from all of the known U.S. producers during the time period. <sup>1/</sup>

#### U.S. producers

Producers of stainless steel and alloy tool steel products are often referred to as specialty steel producers. The bulk of their production is represented by stainless and alloy tool steel products; however, they frequently are capable of producing and do produce other specialty steel products, such as silicon electric steels, magnetic materials, high-temperature and high-strength alloy steels, and bearing steels as well as carbon steel. Some firms produce stainless steel products not subject to this investigation, such as stainless steel pipe and tube, and stainless steel wire products.

Currently, about 23 firms produce the stainless steel and/or alloy tool steel products subject to investigation; 8 of the firms produce only stainless steel, 10 produce only alloy tool steel, and 5 produce both. Among these firms, there are two companies that also produce substantial quantities of carbon steel products. Producers are located primarily in the northeast and north-central regions of the United States, with a large concentration of producers in western Pennsylvania.

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<sup>1/</sup> Additional tables on the condition of the U.S. industry are presented in app. E.

Table 1  
Stainless steel and alloy tool steel: U.S. shipments, imports, and apparent consumption, by quantity, 1983-86

(In short tons)

Item	1983	1984	1985	1986
Stainless steel:				
Sheet and strip—				
U.S. shipments.....	711,121	738,986	776,547	688,452
Imports.....	83,358	136,891	134,931	150,937
Consumption.....	794,480	875,877	911,478	839,389
Plate—				
U.S. shipments.....	101,074	116,380	146,738	118,271
Imports.....	5,251	7,502	11,766	16,528
Consumption.....	106,325	123,882	158,504	134,799
Bar—				
U.S. shipments.....	111,478	144,220	138,379	127,196
Imports.....	39,209	25,888	28,198	27,233
Consumption.....	150,687	170,108	166,577	154,429
Wire rod—				
U.S. shipments.....	31,548	48,737	30,323	36,931
Imports.....	26,504	18,835	20,067	18,496
Consumption.....	58,052	67,572	50,390	55,427
Subtotal—				
U.S. shipments.....	955,221	1,048,323	1,091,987	970,850
Imports.....	154,322	189,116	194,962	213,194
Consumption.....	1,109,543	1,237,439	1,286,949	1,184,044
Alloy tool steel, all forms:				
U.S. shipments.....	53,253	74,146	68,399	68,459
Imports.....	27,313	24,964	26,348	29,099
Consumption.....	80,566	99,110	94,747	97,558
Total:				
U.S. shipments.....	1,008,474	1,122,469	1,160,386	1,039,309
Imports.....	181,635	214,080	221,309	242,294
Consumption.....	1,190,109	1,336,549	1,381,696	1,281,603

Source: Producers' shipments compiled from questionnaires of the U.S. International Trade Commission; imports compiled from official statistics of the U.S. Department of Commerce.

Table 2  
Stainless steel and alloy tool steel: U.S. shipments, imports, and apparent consumption, by value, 1/ 1983-86

(In thousand dollars)

Item	1983	1984	1985	1986
<b>Stainless steel:</b>				
Sheet and strip—				
U.S. shipments.....	1,233,535	1,409,580	1,340,966	1,193,236
Imports.....	139,646	218,306	205,779	238,001
Consumption.....	1,373,181	1,627,886	1,556,745	1,431,237
Plate—				
U.S. shipments.....	205,692	250,988	308,319	245,973
Imports.....	10,826	14,804	21,866	28,280
Consumption.....	216,518	265,793	330,185	274,253
Bar—				
U.S. shipments.....	357,561	508,565	476,263	418,948
Imports.....	73,766	56,127	65,050	61,229
Consumption.....	431,327	564,692	541,313	480,177
Wire rod—				
U.S. shipments.....	59,850	101,594	66,355	75,702
Imports.....	45,739	33,593	37,734	33,360
Consumption.....	105,589	135,187	104,089	109,062
Subtotal—				
U.S. shipments.....	1,856,638	2,270,727	2,191,903	1,933,859
Imports.....	269,977	322,831	330,429	360,870
Consumption.....	2,126,615	2,593,558	2,522,332	2,294,729
Alloy tool steel, all forms:				
U.S. shipments.....	253,154	360,825	329,475	323,774
Imports.....	68,949	72,766	74,420	74,967
Consumption.....	322,103	433,591	403,895	398,741
Total:				
U.S. shipments.....	2,109,792	2,631,552	2,521,338	2,257,633
Imports.....	338,925	395,597	404,848	435,837
Consumption.....	2,448,717	3,027,149	2,926,186	2,693,470

1/ Import values are c.i.f. plus calculated duties paid.

Source: Producers' shipments compiled from questionnaires of the U.S. International Trade Commission; imports compiled from official statistics of the U.S. Department of Commerce.

The specialty steel industry is highly concentrated, with a few producers accounting for the bulk of shipments in each product line. The major producers of the products subject to the investigation and their share of U.S. producers' shipments in 1986 are presented in the following tabulation:

<u>Item and producers</u>	<u>Share of U.S. producer's shipments (Percent)</u>
Stainless steel sheet and strip:	
Allegheny Ludlum.....	***
Armco <u>1/</u> .....	***
J&L Specialty Products Corp.....	***
Washington Steel.....	***
Total.....	***
Stainless steel plate:	
Allegheny Ludlum.....	***
Eastern Stainless.....	***
Jessop.....	***
Washington.....	***
Total.....	***
Stainless steel bar:	
Al Tech Specialty Steel.....	***
Armco <u>1/</u> .....	***
Carpenter Technology Corp.....	***
Crucible.....	***
Slater Steels.....	***
Total.....	***
Stainless steel wire rod:	
Al Tech Specialty Steel.....	***
Armco <u>1/</u> .....	***
Carpenter Technology Corp.....	***
Total.....	***
Alloy tool steel:	
Carpenter Technology Corp.....	***
Crucible.....	***
A. Finkl.....	***
Jessop.....	***
Latrobe.....	***
Total.....	***

1/ Carbon steel producer.

In recent years, a number of efforts to restructure the domestic specialty steel industry have been implemented. These efforts have included company divestitures, management buyouts, and curtailed operations. Other companies (USX and Bethlehem Steel) have left the specialty steel business to concentrate on carbon and other alloy steel products. Significant changes

that have occurred in the structure of the specialty steel industry since 1983 are as follows:

(1) Jones and Laughlin Steel Corp. and Republic Steel Corp. merged in December 1984 and formed LTV Steel. A condition for the merger, imposed by the U.S. Department of Justice, required LTV to dispose of Republic's Massillon, OH, stainless steel flat-rolled division, which was sold to a private investor and became Enduro Stainless.

(2) Enduro Stainless ceased its stainless re-rolling operations at the end of 1985 as a result of a dispute with its former owner over supplies of stainless hot band for the works. The company entered bankruptcy proceedings in February 1986 and was subsequently sold to Mercury Stainless, a Wheeling, IL, stainless processor and distributor, which resumed re-rolling operations in 1987.

(3) LTV Specialty Steel was sold by LTV Corp. to a management group led by the division president in mid-1986 and was renamed J&L Specialty Products Corp.

(4) Al Tech Specialty Steel Corp. was sold in mid-1986 by its parent company, GATX Corp., to Rio Algom, Ltd., a Toronto, Canada-based company with interests in mining, specialty and stainless steel manufacture and sales.

(5) Allegheny Ludlum Steel Corp. acquired the melting facilities of specialty producer Guterl Steel in 1984. In March 1987, Allegheny Ludlum announced its decision to go public by offering to sell initially almost 6.3 million shares of common stock. The company's filing with the Securities and Exchange Commission stated the planned stock offering is to be mainly for U.S. investors, but 1.1 million shares will be offered outside the U.S. <sup>1/</sup>

(6) Crucible Specialty Metals was sold in 1985 by its parent company, Colt Industries, which left the metals industry. The sale was a leveraged buyout by a management-employee group led by two Colt executives.

(7) Universal Cyclops Specialty Steel Division of Cyclops Corp. was reorganized into two divisions effective September 1, 1984: the Coshocton Stainless Division, which produces and markets stainless steel sheets and strip; and the Cytemp Specialty Steel Division, which produces and markets Cyclops' other specialty steels, principally in bar and billet forms.

(8) Eastern Stainless filed for protection from creditors under Chapter 11 of the U.S. bankruptcy code in January 1986. The action occurred shortly after the company suspended production of stainless sheet and strip to concentrate on stainless plate.

(9) USX (formerly U.S. Steel Corp.) left the specialty steel business in 1984. The company had been marketing stainless plate, sheet and strip.

(10) Bethlehem Steel Corp. left the specialty steel business, specifically alloy tool steel, in 1984.

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<sup>1/</sup> American Metal Market, Mar. 30, 1987.

As a result of restructuring, the specialty steel industry is increasingly privately held. Nine of the twenty-three companies, which together accounted for approximately 27 percent of melt capacity in 1986 <sup>1/</sup> and 27 percent of finishing capacity in 1986, <sup>2/</sup> are currently owned by private concerns.

Three U.S. specialty steel producers are owned by foreign concerns, Avesta Inc., Al Tech Specialty Steel Corp., and Fort Wayne Specialty Alloys. Avesta, which is owned by Avesta AB, a Swedish group, is a plate roller that imports slabs from Sweden. The company does not operate any domestic steel melting operations. Al Tech was recently acquired by Rio Algom, a Canadian firm whose intent in acquiring the company is to complement and enhance the operation of its Atlas Specialty Steels Division by lowering manufacturing costs through the consolidation of all primary steelmaking for both plants at the Atlas plant in Ontario. <sup>3/</sup> Rio Algom also owns Atlas Alloys Inc., a U.S. service center that distributes the parent company's products in Ohio, Michigan, Illinois, and New York. Fort Wayne Specialty Alloys, which produces stainless steel bar, is owned by Slater Steels, a Canadian company.

#### U.S. production

Total U.S. production of all stainless steel and alloy tool steel increased from 1.0 million short tons in 1983 to 1.2 million short tons in 1984, an increase of 12.6 percent, before declining by 1.1 percent in 1985 and 8.9 percent in 1986, to a level slightly above that in 1983 (table 3).

Stainless steel.—During 1983–86 the stainless steel products covered by this investigation accounted for between 92 percent and 95 percent of the total of all stainless and alloy tool steel products covered by this investigation. Production of the stainless steel products increased by 11.2 percent from 1983 to 1985, then declined by 9.6 percent in 1986.

Sheet and strip.—The largest product group covered by this investigation is stainless steel sheet and strip, accounting for 66 percent of production of all products covered in 1986. Production of sheet and strip dropped by less than 1 percent from 1983 to 1984, then increased by 4.3 percent in 1985 before declining by 8.1 percent in 1986.

Plate.—In 1986, stainless steel plate accounted for 12 percent of the stainless steel and alloy tool steel products covered by this investigation. Production increased steadily by 42.5 percent from 1983 to 1985, then declined by 14.6 percent in 1986.

Bar.—Stainless steel bar accounted for 12 percent of production of all the stainless and alloy tool steel products covered by this investigation in 1986. Production of stainless steel bar increased by 52.7 percent from 1983 to 1984, then declined steadily by 28.7 percent from 1984 to 1986.

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<sup>1/</sup> Melt capacity is for all operations producing stainless steel and/or alloy tool steel products.

<sup>2/</sup> Finishing capacity is for products subject to investigation.

<sup>3/</sup> 33 Metal Producing, Aug. 1986, p. 11.

Table 3

Stainless steel and alloy tool steel: U.S. production, by types, 1983-86

Item	1983	1984	1985	1986
In short tons				
Stainless steel:				
Sheet and strip.....	736,386	734,736	766,247	704,283
Plate.....	101,375	128,294	144,504	123,458
Bar.....	116,529	177,948	157,481	126,952
Rod.....	33,751	47,121	30,770	38,841
Subtotal.....	988,041	1,088,099	1,099,002	993,534
Alloy tool steel, all forms..	57,707	89,902	66,110	68,264
Total.....	1,045,748	1,178,001	1,165,112	1,061,798
In percent				
Stainless steel:				
Sheet and strip.....	70.4	62.4	65.8	66.3
Plate.....	9.7	10.9	12.4	11.6
Bar.....	11.1	15.1	13.5	12.0
Rod.....	3.2	4.0	2.6	3.7
Subtotal.....	94.5	92.4	94.3	93.6
Alloy tool steel, all forms..	5.5	7.6	5.7	6.4
Total.....	100.0	100.0	100.0	100.0

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Rod.—Production of stainless steel wire rod increased by 39.6 percent from 1983 to 1984, declined by 34.7 percent in 1985, then increased by 26.2 percent in 1986. Production of stainless steel wire rod accounted for 4 percent of all the stainless and alloy tool steel products covered by this investigation in 1986.

Alloy tool steel.—Alloy tool steel production accounted for 6 percent of 1986 production of stainless and alloy tool steel products covered by this investigation. Production of this product increased by 55.8 percent from 1983 to 1984, then decreased by 26.5 percent from 1984 to 1985 before increasing by 3.3 percent from 1985 to 1986.

#### U.S. capacity and capacity utilization

U.S. producers' capacity to produce stainless steel and alloy tool steel and the utilization of that capacity during 1983-86 are shown in table 4.

Capacity to produce the stainless steel and alloy tool steel products subject to this investigation declined from 1.6 million short tons in 1983 to 1.5 million short tons in 1984, a drop of 7 percent, then increased slightly by less than 1 percent in 1985. Capacity then increased by 6 percent in 1986. Production increased irregularly from 1983 to 1985; therefore, capacity utilization increased from 63.6 percent in 1983 to 77.4 percent in 1984, then dropped to 65.1 percent in 1986.

Table 4  
Stainless steel and alloy tool steel: U.S. producers' practical capacity and capacity utilization, 1983-86

Item	1983	1984	1985	1986
<u>Capacity (short tons)</u>				
Stainless steel:				
Sheet and strip.....	974,700	879,100	897,600	986,400
Plate.....	225,139	185,900	182,900	188,000
Bar.....	234,600	201,500	205,600	219,600
Wire rod.....	46,600	63,800	59,200	59,400
Subtotal.....	1,481,039	1,330,300	1,345,300	1,453,400
Alloy tool steel, all forms..	162,413	192,207	191,988	177,762
Total.....	1,643,452	1,522,507	1,537,288	1,631,162
<u>Capacity utilization (percent)</u>				
Stainless steel:				
Sheet and strip.....	75.6	83.6	85.4	71.4
Plate.....	45.0	69.0	79.0	65.7
Bar.....	49.7	88.3	76.6	57.8
Wire rod.....	72.4	73.9	52.0	65.4
Subtotal.....	66.7	81.8	81.7	68.4
Alloy tool steel, all forms..	35.5	46.8	34.4	38.4
Total.....	63.6	77.4	75.8	65.1

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

The capacity utilization rates for stainless steel sheet and strip and wire rod were lower in 1986 than they had been in 1983, whereas the utilization rates for plate and bar were higher than they had been in 1983 but lower than they had been in 1984 and 1985. The average utilization rate for the stainless steel products increased from 66.7 percent in 1983 to 81.8 percent in 1984 and 81.7 percent in 1985, then dropped to 68.4 percent in 1986.

The utilization rate for alloy tool steel in all forms was higher in 1986 than it had been in 1983. The utilization rates for the alloy tool steel products covered by this investigation increased from 35.5 percent in 1983 to 46.8 percent in 1984, then dropped to 34.4 percent in 1985 before rising to 38.4 percent in 1986.

#### U.S. producers' domestic shipments

Total domestic shipments of stainless steel and alloy tool steel increased from 1.0 million short tons in 1983 to 1.2 million short tons in 1985, an increase of 15 percent (table 5). These shipments then declined by 10 percent to 1.0 million short tons in 1986.

Table 5  
Stainless steel and alloy tool steel: U.S. producer's domestic shipments, by types, 1983-86

Item	1983	1984	1985	1986
	Quantity (short tons)			
Stainless steel:				
Sheet and strip.....	711,121	738,986	776,547	688,452
Plate.....	101,074	116,380	146,738	118,271
Bar.....	111,478	144,220	138,379	127,196
Wire rod.....	31,548	48,737	30,323	36,931
Subtotal.....	955,221	1,048,323	1,091,987	970,850
Alloy tool steel, all forms..	53,253	74,146	68,399	68,459
Total.....	1,008,474	1,122,469	1,160,386	1,039,309
	Value (thousand dollars)			
Stainless steel:				
Sheet and strip.....	1,233,535	1,409,580	1,340,966	1,193,236
Plate.....	205,692	250,988	308,319	245,973
Bar.....	357,561	508,565	476,263	418,948
Wire rod.....	59,850	101,594	66,355	75,702
Subtotal.....	1,856,638	2,270,727	2,191,903	1,933,859
Alloy tool steel, all forms..	253,154	360,825	329,475	323,774
Total.....	2,109,792	2,631,552	2,521,378	2,257,633
	Unit value (per ton)			
Stainless steel:				
Sheet and strip.....	\$1,735	\$1,907	\$1,727	\$1,733
Plate.....	2,035	2,157	2,101	2,080
Bar.....	3,207	3,526	3,442	3,294
Wire rod.....	1,897	2,085	2,188	2,050
Subtotal.....	1,944	2,166	2,007	1,992
Alloy tool steel, all forms..	4,754	4,866	4,816	4,729
Total.....	2,092	2,344	2,173	2,172

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Stainless steel.—Domestic shipments of all the stainless steel products covered by this investigation increased by 14 percent from 1983 to 1985, then declined by 11 percent from 1985 to 1986.

Sheet and strip.—Domestic shipments of sheet and strip increased steadily from 711,121 short tons in 1983 to 776,547 short tons in 1985, an increase of 9 percent, before declining by 11 percent to 688,452 short tons in 1986.

Plate.—Domestic shipments of stainless steel plate increased from 101,074 short tons in 1983 to 146,738 short tons in 1985, an increase of 45 percent. Domestic shipments of this product then declined by 19 percent to 118,271 short tons in 1986.

Bar.—Stainless steel bar shipments increased from 1983 to 1984, from 111,478 short tons to 144,220 short tons, respectively, an increase of 29 percent. These shipments then declined by 4 percent in 1985 and by 8 percent in 1986.

Wire rod.—Domestic shipments of wire rod increased from 31,548 short tons in 1983 to 48,737 short tons in 1984, an increase of 54 percent, then dropped by 38 percent in 1985 before increasing by 22 percent to 36,931 short tons in 1986.

Alloy tool steel, all forms.—Domestic shipments of alloy tool steel, all forms, increased from 53,253 short tons in 1983 to 74,146 short tons in 1984, an increase of 39 percent. Shipments of these products then declined by 8 percent in 1985 before increasing by less than 1 percent in 1986 to 68,459 short tons.

#### U.S. exports

U.S. producers' exports (table 6) of stainless steel and alloy tool steel products dropped from 37,262 short tons in 1983 to 30,996 short tons in 1984, a decline of 17 percent, increased by 43 percent to 44,381 short tons in 1985, then declined by 6 percent in 1986 to 41,832 short tons. Principal export markets are Mexico, Taiwan, Canada and Israel.

Table 6  
Stainless steel and alloy tool steel: U.S. exports, by types, 1983-86

(In short tons)				
Item	1983	1984	1985	1986
Stainless steel:				
Sheet and strip.....	23,818	20,081	25,776	29,617
Plate.....	4,393	3,370	8,031	3,523
Bar.....	4,787	4,490	7,456	5,720
Rod.....	698	728	1,024	828
Subtotal.....	33,696	28,669	42,287	39,688
Alloy tool steel, all forms..	3,566	2,326	2,094	2,144
Total.....	37,262	30,996	44,381	41,832

Source: Compiled from official statistics of the U.S. Department of Commerce.

#### U.S. producers' inventories

End users and service center/distributors perform much of the inventory function in the domestic market for stainless steel and alloy tool steel products. However, end-of-period inventories were large, particularly for alloy tool steel products, because the economies of scale found in the melting operations require the melting of a significant amount of steel, even though tool steel is ordered in small lots (table 7).

Table 7  
Stainless steel and alloy tool steel: U.S. producers' end-of-period inventories, and as a share of shipments, 1983-86

Item	1983	1984	1985	1986
In short tons				
Stainless steel:				
Sheet and strip.....	139,813	134,878	140,852	141,260
Plate.....	20,118	23,429	20,052	27,148
Bar.....	42,931	47,141	51,498	44,039
Wire rod.....	4,892	7,334	4,628	6,871
Subtotal.....	207,754	212,782	217,030	219,318
Alloy tool steel, all forms..	37,107	41,206	39,073	36,417
Total.....	244,861	253,988	256,103	255,735
In percent				
Stainless steel:				
Sheet and strip.....	19.6	18.0	17.9	19.8
Plate.....	19.7	20.1	13.5	22.2
Bar.....	38.2	32.4	36.8	34.2
Wire rod.....	15.2	14.9	14.9	18.2
Subtotal.....	22.3	20.0	19.6	21.9
Alloy tool steel, all forms..	70.8	49.4	58.7	48.3
Total.....	24.8	22.2	21.9	23.8

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Average inventories of stainless steel products in this investigation were between 19 and 23 percent of shipments with the highest inventories being of stainless steel bar, which were between 32 and 39 percent of shipments. Inventories of alloy tool steel as a percent of shipments were much higher, ranging from 71 percent in 1983 to 48 percent in 1986.

#### U.S. producers' unfilled orders

Unfilled orders of stainless steel held by U.S. producers declined by 31 percent from 1983 to 1984, then increased by 14 percent from 1984 to 1986. Unfilled orders of alloy tool steel increased by 16 percent from 1983 to 1984, then declined by 10 percent from 1984 to 1986 (table 8).

Table 8  
Stainless steel and alloy tool steel: U.S. producers' end-of-period unfilled orders, 1983-86

(In short tons)

Item	1983	1984	1985	1986
Stainless steel:				
Sheet and strip.....	189,249	120,157	142,093	140,290
Plate.....	10,008	17,987	8,257	13,820
Bar.....	20,730	15,495	15,180	17,136
Wire rod.....	16,262	10,022	12,830	15,658
Subtotal.....	236,249	163,661	178,360	186,904
Alloy tool steel, all forms..	5,827	6,746	6,338	6,404
Total.....	242,076	170,407	184,698	193,308

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

#### U.S. employment

The average number of production and related workers employed in establishments producing stainless steel and alloy tool steel, and the hours worked by these workers, are shown in tables 9 and 10. The total number of production and related workers producing stainless steel and alloy tool steel increased from 12,897 in 1983 to 13,624 in 1984, an increase of 6 percent. The number of production and related workers in these industries then declined steadily to 10,967 workers in 1986, representing a drop of 20 percent. The largest declines in employment occurred in the stainless steel sheet and strip sector, where employment fell by 30 percent.

Table 9  
Stainless steel and alloy tool steel: Average number of production and related workers, 1983-86

Item	1983	1984	1985	1986
Stainless steel:				
Sheet and strip.....	5,580	5,405	4,654	4,012
Plate.....	1,208	1,196	1,230	1,139
Bar.....	4,180	4,497	4,205	3,717
Rod.....	623	805	542	660
Subtotal.....	11,591	11,906	10,631	9,528
Alloy tool steel, all forms..	1,829	2,250	2,065	1,951
Total.....	13,420	14,156	12,696	11,479

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table 10

Stainless steel and alloy tool steel: Number of hours worked by production and related workers in U.S. establishments in which products are produced, 1983-86

(1,000 hours)				
Item	1983	1984	1985	1986
Stainless steel:				
Sheet and strip.....	11,535	10,886	9,615	8,447
Plate.....	2,423	2,504	2,623	2,174
Bar.....	7,024	9,067	8,025	6,946
Rod.....	1,253	1,681	1,084	1,287
Subtotal.....	22,235	24,138	21,347	18,854
Alloy tool steel, all forms..	3,243	4,235	4,134	3,830
Total.....	25,477	28,373	25,481	22,684

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Employees of most specialty steel producers are represented by the United Steelworkers of America, AFL-CIO, a copetitioner in this investigation. Data on the average hourly wage and hours worked per ton produced by the production and related workers in this industry are presented in tables 11 and 12.

The number of hours worked by production and related workers in the stainless steel and alloy tool steel industries increased by 11 percent from 1983 to 1984, then declined steadily by 20 percent from 1984 to 1986.

Table 11

Stainless steel and alloy tool steel: Average hourly wage of production and related workers, 1983-86

Item	1983	1984	1985	1986
Stainless steel:				
Sheet and strip.....	\$15.75	\$16.15	\$16.29	\$16.99
Plate.....	15.29	16.14	15.34	15.78
Bar.....	13.61	14.64	14.82	15.50
Rod.....	16.41	15.64	16.23	16.36
Subtotal.....	15.06	15.58	15.88	16.29
Alloy tool steel, all forms..	15.25	14.82	14.34	14.71
Total.....	15.08	15.46	15.44	16.04

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table 12

Stainless steel and alloy tool steel: Hours worked per ton of output of production and related workers in U.S. establishments in which products are produced, 1983-86

(hours per ton)				
Item	1983	1984	1985	1986
Stainless steel:				
Sheet and strip.....	15.7	14.8	12.5	12.0
Plate.....	23.9	19.5	18.2	17.6
Bar.....	60.3	50.6	51.6	54.2
Rod.....	37.1	35.7	35.2	33.1
Subtotal.....	22.5	22.2	19.4	19.0
Alloy tool steel, all forms..	56.2	47.1	62.5	56.1
Total.....	24.4	24.1	21.6	21.4

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

#### Financial experience of U.S. producers

Overall stainless steel and/or alloy tool steel.—Income and loss data were received from 19 U.S. producers on their operations producing all stainless steel and alloy tool steel. These data are presented in table 13. The reporting 19 producers together accounted for 98 percent of U.S. producers' shipments in 1986. Total net sales of all stainless steel and alloy tool steel increased by 24 percent from \$2.3 billion in 1983 to \$2.9 billion in 1984 and then declined by 8 percent to \$2.6 billion in 1986.

The responding firms' aggregate operating income peaked at \$262 million, or 9.1 percent of net sales, in 1984 from \$98 million, or 4.2 percent of net sales, in 1983. Aggregate operating income declined to \$92 million, or 3.3 percent of net sales in 1985, below the level of that of 1983 but rose to \$221 million, or 8.3 percent of net sales in 1986. The pretax net income margin followed the same trend as the operating income margin.

\* \* \* \* \*

Cash flow from operations rose from \$126 million in 1983 to \$282 million in 1984, declined to \$104 million in 1985 and then increased to \$227 million in 1986. Operating losses were sustained by 9 of the 19 reporting firms in 1983 and 1985 whereas such losses were reported by 5 firms in 1984 and 7 firms in 1986.

Stainless steel sheet and strip.—Income and loss data were received from 10 U.S. producers on their stainless steel sheet and strip operations. These data are presented in table 14. The reporting producers together accounted for 100 percent of U.S. producers' shipments in 1986. Total net sales of

Table 13  
Stainless steel and alloy tool steel: Income and loss data of 19 U.S.  
producers on their operations, 1/ 1983-86

Item	1983	1984	1985	1986
Net sales:				
Trade.....million dollars..	2,306	2,854	2,710	2,617
Intra-Intercompany transfers.....do.....	19	25	38	52
Total net sales.....do.....	2,325	2,879	2,748	2,669
Cost of goods sold.....do.....	2,050	2,420	2,453	2,252
Gross profit or (loss).....do.....	275	459	295	417
General, selling, and administrative expenses.....do.....	177	197	203	196
Operating income or (loss).....do.....	98	262	92	221
Interest expense 2/.....do.....	30	41	40	43
Other income or (expense), net 2/do.....	(2)	(6)	(18)	(22)
Net income or (loss) before income taxes.....do.....	66	215	34	156
Depreciation and amortization expense included above 2/ ..do.....	60	67	70	71
Cash flow or (deficit) from operations 3/.....do.....	126	282	104	227
As a share of net sales:				
Gross profit or (loss).....percent..	11.8	15.9	10.7	15.6
Operating income or (loss).....do.....	4.2	9.1	3.3	8.3
Net income or (loss) before income taxes.....do.....	2.8	7.5	1.5	6.0
Cost of goods sold.....do.....	88.2	84.1	89.3	84.4
General, selling, and administrative expenses.....do.....	7.6	6.8	7.4	7.3
Number of firms reporting:				
Operating losses.....	9	5	9	7
Net losses.....	8	5	10	9

1/ The reporting firms accounted for 100 percent of U.S. shipments in 1986.

2/ \* \* \*

3/ Defined as pretax net income or loss plus depreciation and amortization expense.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table 14  
Stainless steel sheet and strip: Income and loss data of 10 U.S. producers on their operations, 1/ 1983-86

Item	1983	1984	1985	1986
<b>Net sales:</b>				
Trade.....million dollars..	1,224	1,403	1,328	1,204
Intra-Intercompany transfers.....do....	10	13	19	13
Total net sales.....do....	1,234	1,416	1,347	1,217
Cost of goods sold.....do....	1,088	1,190	1,201	1,017
Gross profit or (loss).....do....	146	226	146	200
General, selling, and administrative expenses.....do....	42	47	57	45
Operating income or (loss).....do....	104	179	89	155
Interest expense.....do....	16	15	16	15
Other income or (expense), net...do....	-	(5)	(9)	(8)
Net income or (loss) before income taxes.....do....	88	159	64	132
Depreciation and amortization expense included above.....do....	21	21	24	22
Cash flow or (deficit) from operations <u>2/</u> .....do....	109	180	88	154
<b>As a share of net sales:</b>				
Gross profit or (loss).....percent..	11.8	16.0	10.8	16.4
Operating income or (loss).....do....	8.4	12.6	6.6	12.7
Net income or (loss) before income taxes.....do....	7.1	11.2	4.8	10.8
Cost of goods sold.....do....	88.2	84.0	89.2	83.6
General, selling, and administrative expenses.....do....	3.4	3.3	4.2	3.7
<b>Number of firms reporting:</b>				
Operating losses.....	2	1	2	1
Net losses.....	3	1	2	0

1/ Reporting firms accounted for 100 percent of U.S. shipments in 1986.

2/ Defined as pretax net income or loss plus depreciation and amortization expense.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

stainless steel sheet and strip increased by 15 percent from \$1.2 billion in 1983 to \$1.4 billion in 1984 and then declined steadily to \$1.3 billion in 1985 and \$1.2 billion in 1986, a drop of 14 percent from the 1984 level of sales.

U.S. producers' operations on stainless steel sheet and strip were profitable throughout the period of investigation. Aggregate operating income increased by 72 percent, from \$104 million in 1983 to \$179 million in 1984, and then declined by 50 percent to \$89 million in 1985. In 1986, such income rose to \$155 million despite decreasing sales. The ratio of operating income to net sales rose from 8.4 percent in 1983 to 12.6 percent in 1984, dropped to 6.6 percent in 1985 and then increased to 12.7 percent in 1986. The pretax net income margin followed a trend similar to that of the operating income margin.

\* \* \* \* \*

Cash flow from operations increased from \$109 million in 1983 to \$180 million in 1984 and then declined to \$88 million in 1985. Such cash flow rose to \$154 million in 1986. Two of the ten reporting firms sustained operating losses in 1983 and 1985 whereas only one firm reported such losses in 1984 and 1986.

Stainless steel plate.—Income—and—loss data were received from 7 U.S. producers on their stainless steel plate operations. These data are presented in table 15. These reporting producers accounted for virtually all of U.S. producers' shipments in 1986. Total net sales of stainless steel plate rose by 44 percent from \$213.0 million in 1983 to \$306.3 million in 1985 and then fell by 20 percent to \$244.6 million in 1986.

An aggregate operating loss of \$6.7 million, or 3.2 percent of net sales, in 1983 turned into an operating income of \$12.7 million, or 4.8 percent of net sales, in 1984. Operating income then declined to \$4.6 million, or 1.5 percent of net sales, in 1985, despite increasing sales. \* \* \*

\* \* \* \* \*

Cash—flow from operations improved from a negative \$7.3 million in 1983 to a positive \$9.2 million in 1984 and then declined to \$1.5 million in 1985. In 1986, such cash—flow jumped to \$15.6 million. Operating and net losses were sustained by four and three of the seven reporting firms, respectively, in 1983 and 1985, whereas only one firm reported such losses in 1984 and 1986.

Stainless steel bar.—Income—and—loss data were received from eight U.S. producers on their stainless steel bar operations. These data are presented in table 16. These producers together accounted for all of U.S. producers' shipments in 1986. Total net sales of stainless steel bar increased by 41 percent from \$363.4 million in 1983 to \$511.3 million in 1984 and then declined steadily to \$423.8 million in 1986.

The reporting firms suffered an aggregate operating loss of \$9.9 million in 1983 but earned an operating income of \$18.9 million in 1984. Such income declined to \$5.7 million in 1985 and \$4.5 million in 1986. The operating loss

Table 15  
Stainless steel plate: Income-and-loss data of 7 U.S. producers on their operations, 1/ 1983-86

Item	1983	1984	1985	1986 <u>2/</u>
Net sales:				
Trade.....1,000 dollars..	213,025	265,520	298,818	223,120
Intra-Intercompany transfers.....do....	-	-	7,450	21,491
Total.....do....	213,025	265,520	306,268	244,611
Cost of goods sold.....do....	205,716	239,664	286,036	213,678
Gross profit or (loss).....do....	7,309	25,856	20,232	30,933
General, selling, and administrative expenses.....do....	14,042	13,167	15,666	14,198
Operating income or (loss).....do....	(6,733)	12,689	4,566	16,735
Interest expense.....do....	4,046	5,772	7,891	3,899
Other income or (expense), net.....do....	(2,360)	(2,679)	(1,290)	(2,586)
Net income or (loss) before income taxes.....do....	(13,139)	4,238	(4,615)	10,250
Depreciation and amortization expense included above.....do....	5,808	4,976	6,115	5,306
Cash flow or (deficit) from operations <u>3/</u> .....do....	(7,331)	9,214	1,500	15,556
As a share of net sales:				
Gross profit or (loss).....percent..	3.4	9.7	6.6	12.6
Operating income or (loss).....do....	(3.2)	4.8	1.5	6.8
Net income or (loss) before income taxes.....do....	(6.2)	1.6	(1.5)	4.2
Cost of goods sold.....do....	96.6	90.3	93.4	87.4
General, selling, and administrative expenses.....do....	6.6	4.9	5.1	5.8
Number of firms reporting:				
Operating and net losses.....	4	1	3	1

1/ The reporting firms accounted for 100 percent of U.S. shipments in 1986.

2/ \* \* \*.

3/ Defined as pretax net income or loss plus depreciation and amortization expense.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table 16  
Stainless steel bar: Income-and-loss data of 8 U.S. producers on their  
operations, 1/ 1983-86

Item	1983	1984	1985	1986
Net sales:				
Trade.....1,000 dollars..	363,291	507,464	478,932	423,755
Intra-Intercompany transfers.....do....	59	3,808	296	4
Total net sales.....do....	363,350	511,272	479,228	423,759
Cost of goods sold.....do....	329,766	440,035	421,864	374,933
Gross profit or (loss).....do....	33,584	71,237	57,364	48,826
General, selling, and administrative expenses.....do....	43,526	52,303	51,623	44,372
Operating income or (loss).....do....	(9,942)	18,934	5,741	4,454
Interest expense 2/.....do....	6,352	9,482	10,958	11,748
Other income or (expense), net 2/do....	1,385	1,651	(2,036)	(1,768)
Net income or (loss) before income taxes.....do....	(14,909)	11,103	(7,253)	(9,062)
Depreciation and amortization expense included above.....do....	13,556	15,885	16,594	15,057
Cash flow or (deficit) from operations 3/.....do....	(1,353)	26,988	9,341	5,995
As a share of net sales:				
Gross profit or (loss).....percent..	9.2	13.9	12.0	11.5
Operating income or (loss).....do....	(2.7)	3.7	1.2	1.1
Net income or (loss) before income taxes.....do....	(4.1)	2.2	(1.5)	(2.1)
Cost of goods sold.....do....	90.8	86.1	88.0	88.5
General, selling, and administrative expenses.....do....	12.0	10.2	10.8	10.5
Number of firms reporting:				
Operating losses.....	5	5	6	5
Net losses.....	5	5	6	6

1/ The reporting 8 firms accounted for 100 percent of U.S. shipments in 1986.

2/ \* \* \*.

3/ Defined as pretax net income or loss plus depreciation and amortization expense.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

margin of 2.7 percent in 1985 turned into an operating income margin of 3.7 percent in 1984, the highest level during the period of investigation. The operating income margin dropped to 1.2 percent in 1985 and 1.1 percent in 1986. The reporting firms sustained net losses before income taxes in each period except 1984, but pretax income or loss margins showed a trend similar to that of the operating income or loss margin.

\* \* \* \* \*

Cash flow from operations rose to a positive \$27.0 million in 1984 compared with a negative \$1.4 million in 1983. Such cash-flow then declined to \$9.3 million in 1985 and \$6.0 million in 1986. Five of the eight responding firms sustained operating losses during 1983-86, except in 1985 when six firms reported such losses.

Stainless steel wire rod.—Income-and-loss data were received from five U.S. producers on their stainless steel wire rod operations. These data are presented in table 17. The reporting producers together accounted for 100 percent of U.S. shipments in 1986. Total net sales of stainless steel wire rod rose by 79 percent, from \$61.5 million in 1983 to \$109.9 million in 1984, declined by 37 percent to \$69.0 million in 1985, and then increased by 14 percent to \$78.7 million in 1986.

U.S. producers' operations on stainless steel wire rod were unprofitable for each year covered by the investigation. However, aggregate operating losses declined in each period, from \$11.1 million in 1983 to \$3.1 million in 1986. The operating loss margin dropped steeply, from 18.1 percent in 1983 to 6.6 percent in 1984, increased slightly to 6.9 percent in 1985, and then fell to 4.0 percent in 1986. Pretax net loss margins followed a trend similar to the operating loss margins.

\* \* \* \* \*

Cash flow from operations dropped from a negative \$10.5 million in 1983 to a negative \$1.6 million in 1986. Three of the responding five firms sustained operating losses during 1984-86, whereas four firms sustained such losses in 1983.

Alloy tool steel products.—Income-and-loss data were received from 12 U.S. producers on their operations producing alloy tool steel products. These data are presented in table 18. The reporting producers together accounted for 96 percent of U.S. producers shipments in 1986. Total net sales of alloy tool steel products increased by 36 percent, from \$244.7 million in 1983 to \$333.3 million in 1984 and then declined by 14 percent to \$286.5 million in 1986.

Aggregate operating income was reported for all years covered by the investigation. Such income jumped from \$4.5 million, or 1.8 percent of net sales, in 1983 to \$34.8 million, or 10.4 percent of net sales, in 1984 and then dropped to \$16.3 million, or 5.3 percent of net sales, in 1985 and \$15.4 million, or 5.4 percent of net sales, in 1986. Pretax net income margins generally followed a trend similar to those of the operating income margins.

Table 17

Stainless steel wire rod: Income-and-loss data of 5 U.S. producers on their operations, 1/ 1983-86

Item	1983	1984	1985	1986
<b>Net sales:</b>				
Trade.....1,000 dollars..	61,454	109,896	69,019	78,654
Intra-Intercompany transfers.....do....	-	-	-	-
Total net sales.....do....	61,454	109,896	69,019	78,654
Cost of goods sold.....do....	64,968	107,369	66,692	74,154
Gross profit or (loss).....do....	(3,514)	2,527	2,327	4,500
General, selling, and administrative expenses.....do....	7,594	9,741	7,078	7,635
Operating income or (loss).....do....	(11,108)	(7,214)	(4,751)	(3,135)
Interest expense 2/.....do....	1,967	2,958	1,718	1,865
Other income or (expense), net 2/do....	49	1,416	(216)	(146)
Net income or (loss) before income taxes.....do....	(13,026)	(8,756)	(6,685)	(5,146)
Depreciation and amortization expense included above.....do....	2,509	3,310	3,229	3,546
Cash flow or (deficit) from operations 3/.....do....	(10,517)	(5,446)	(3,456)	(1,600)
<b>As a share of net sales:</b>				
Gross profit or (loss).....percent..	(5.7)	2.3	3.4	5.7
Operating income or (loss).....do....	(18.1)	(6.6)	(6.9)	(4.0)
Net income or (loss) before income taxes.....do....	(21.2)	(8.0)	(9.7)	(6.5)
Cost of goods sold.....do....	105.7	97.7	96.6	94.3
General, selling, and administrative expenses.....do....	12.4	8.9	10.3	9.7
<b>Number of firms reporting:</b>				
Operating losses.....	4	3	3	3
Net losses.....	4	3	3	4

1/ The reporting 5 firms accounted for 100 percent of U.S. shipments in 1986.

2/ \* \* \*

3/ Defined as pretax net income or loss plus depreciation and amortization expense.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table 18  
Alloy tool steel: Income-and-loss data of 12 U.S. producers on their  
operations, 1/ 1983-86

Item	1983	1984	1985	1986 <u>2/</u>
<b>Net sales:</b>				
Trade.....1,000 dollars..	242,429	330,866	305,785	282,756
Intra-Intercompany transfers.....do....	2,237	2,391	2,034	3,703
Total net sales.....do....	244,666	333,257	307,819	286,459
Cost of goods sold.....do....	202,115	255,534	247,671	230,526
Gross profit or (loss).....do....	42,551	77,723	60,148	55,933
General, selling, and administrative expenses.....do....	38,060	42,948	43,846	40,529
Operating income or (loss).....do....	4,491	34,775	16,302	15,404
Interest expense <u>2/</u> .....do....	1,762	2,355	1,297	4,021
Other income or (expense), net <u>2/</u> do....	(798)	(1,080)	(1,731)	(4,211)
Net income or (loss) before income taxes.....do....	1,931	31,340	13,274	7,172
Depreciation and amortization expense included above <u>2/</u> .....do....	9,377	9,285	10,085	8,955
Cash flow or (deficit) from operations <u>3/</u> .....do....	11,308	40,625	23,359	16,127
<b>As a share of net sales:</b>				
Gross profit or (loss).....percent..	17.4	23.3	19.5	19.5
Operating income or (loss).....do....	1.8	10.4	5.3	5.4
Net income or (loss) before income taxes.....do....	0.8	9.4	4.3	2.5
Cost of goods sold.....do....	82.6	76.7	80.5	80.5
General, selling, and administrative expenses.....do....	15.6	12.9	14.2	14.1
<b>Number of firms reporting:</b>				
Operating losses.....	8	4	6	5
Net losses.....	7	4	7	5

1/ The reporting 12 firms accounted for 96 percent of U.S. shipments in 1986.

2/ \* \* \*.

3/ Defined as pretax net income or loss plus depreciation and amortization expense.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

\* \* \* \* \*

Cash-flow from operations rose from \$11.3 million in 1983 to \$40.6 million in 1984 and then declined steadily to \$23.4 million in 1985 and \$16.1 million in 1986. Operating losses were sustained by 8 of the 12 reporting firms in 1983. Such losses were reported by four firms in 1984, six firms in 1985, and five firms in 1986.

Overall operations.—Seventeen U.S. producers of stainless steel and/or alloy tool steel products supplied financial data on their companies' overall or divisional operations. These data are presented in table 19. Net sales increased by 22 percent, from \$2.6 billion in 1983 to \$3.2 billion in 1984 and then declined to \$2.9 billion in 1985 and \$2.8 billion in 1986.

Aggregate operating income, which increased faster than net sales, rose by 90 percent, from \$161 million in 1983 (6.2 percent of net sales) to \$306 million in 1984 (9.7 percent of net sales); operating income declined to \$132 million (4.5 percent of net sales) in 1985 and then increased to \$222 million (7.8 percent of net sales) in 1986. Aggregate pretax net income margins followed a trend similar to that of the operating income margins.

Cash-flow from operations increased from \$209 million in 1983 to \$344 million in 1984, fell to \$156 million in 1985, and then rose to \$246 million in 1986. Operating losses were sustained by 6 of the 17 reporting firms in 1983. Such losses were reported by three firms in 1984, four firms in 1985, and five firms in 1986.

Financial condition of U.S. producers.—Key balance-sheet information and selected financial ratios of the 17 U.S. producers of stainless steel and/or alloy tool steel products that provided income-and-loss data on their overall or divisional operations are presented in table 20.

The current ratio for the reporting producers increased from 2.32 in 1983 to 2.54 in 1985 and then declined to 2.21 in 1986. A current ratio of more than 2.0 is normally considered to be strong. Aggregate working capital rose by 9 percent, from \$619 million in 1983 to \$672 million in 1984, and then fell to \$544 million in 1986, a drop of 19 percent.

The net value of property, plant, and equipment increased from \$890 million in 1983 to \$986 million in 1985 and then declined to \$966 million in 1986. \* \* \*

The minority shareholders of Allegheny Ludlum bought the shares of majority shareholders in a leveraged buyout 2 days before the end of the year in 1986. \* \* \*

Total assets increased by 6 percent, from \$2.1 billion in 1983 to \$2.2 billion in 1984, and then declined to \$2.0 billion in 1986. Long-term debt and total liabilities increased by 25 percent and 13 percent, respectively, during 1983-85 but declined by 18 percent and 6 percent, respectively, in 1986. The ratio of debt to equity for the 17 firms rose from 80.8 percent in 1983 to 99.4 percent in 1986.

Table 19  
Stainless steel and alloy tool steel: Income and loss data of 17 U.S.  
producers on their overall or divisional operations, 1/ 1983-86

Item	1983	1984	1985	1986
Net Sales.....million dollars..	2,595	3,163	2,923	2,830
Cost of goods sold.....do....	2,231	2,632	2,560	2,383
Gross profit or (loss).....do....	364	531	363	447
General, selling, and administrative expenses.....do....	203	225	231	225
Operating income or (loss).....do....	161	306	132	222
Interest expense <u>2/</u> .....do....	22	33	31	34
Other income or (expense), net...do....	(1)	(7)	(24)	(23)
Net income or (loss) before income taxes.....do....	138	266	77	165
Depreciation and amortization expense included above.....do....	71	78	79	81
Cash flow or (deficit) from operations <u>3/</u> .....do....	209	344	156	246
As a share of net sales:				
Gross profit or (loss).....percent..	14.0	16.8	12.4	15.8
Operating income or (loss).....do....	6.2	9.7	4.5	7.8
Net income or (loss) before income taxes.....do....	5.3	8.4	2.6	5.8
Cost of goods sold.....do....	86.0	83.2	87.6	84.2
General, selling, and administrative expenses.....do....	7.8	7.1	7.9	8.0
Number of firms reporting:				
Operating losses.....	6	3	4	5
Net losses.....	6	3	5	7

1/ The 17 reporting firms accounted for 95 percent of U.S. shipments in 1986.

2/ \* \* \*.

3/ Defined as pretax net income or loss plus depreciation and amortization expense.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table 20

Stainless steel and alloy tool steel: Selected balance sheet data and financial ratios of 17 U.S. producers on their overall or divisional operations, as of the end of accounting years 1983-86

Item	1983	1984	1985	1986
Total current assets..million dollars..	1,086	1,161	1,093	995
Property, plant and equipment, net.....million dollars..	890	948	986	966
Total assets.....do....	2,075	2,194	2,146	1,988
Total current liabilities.....do....	467	489	430	451
Long-term debt due after 1 year.....do....	281	320	352	288
Total liabilities.....do....	927	1,013	1,049	991
Equity.....do....	1,147	1,181	1,097	997
Working capital.....do....	619	672	663	544
Current ratio.....times..	2.32	2.37	2.54	2.21
Total debt to equity.....percent..	80.8	85.8	95.6	99.4
Return on investment ratios:				
Pretax income or (loss) to—				
Equity.....percent..	12.0	22.5	7.0	16.5
Total assets.....do....	6.7	12.1	3.6	8.3
Invested capital <sup>1/</sup> .....do....	9.1	16.4	4.7	10.9

<sup>1/</sup> Invested capital is defined as working capital plus net property, plant, and equipment.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

All of the different measures of return on investment showed a generally similar trend, peaking in 1984, declining in 1985 below the level of 1983, and then rising in 1986.

Summary of operating income-and-loss data.—The ratios of operating income or loss to net sales reported by U.S. producers on their overall or divisional operations, all stainless steel and alloy tool steel operations, and operations specifically on the stainless steel products and alloy tool steel products subject to this investigation are summarized in table 21. Data are also presented for the comparable profitability ratios compiled by the Bureau of the Census for all manufacturing companies and for all durable goods producers.

Profitability in the overall operations as well as all stainless steel and/or alloy tool steel operations was higher in 1984 and 1986 and lower in 1985 compared with the operating income margins in all manufacturing firms or all durable goods producers; the profitability trend was the same during 1983-85 but the stainless steel and alloy tool steel industry showed rising operating income margins in 1986. Operations for all stainless steel products and alloy tool steel products covered by this investigation followed generally a similar trend in profitability except for stainless steel bar operations, which reflected a decrease in operating income margins in 1986.

Table 21

Ratios of operating income or (loss) to net sales for all manufacturing firms, all producers of durable goods, and producers of the stainless steel and alloy tool steel products subject to this investigation, 1983-86

Item	1983	1984	1985	1986
All manufacturing firms <u>1/</u> .....	5.9	6.8	5.9	5.6
Manufacturers of durable goods <u>1/</u> .....	5.0	6.6	5.3	4.8
Overall or divisional operations	6.2	9.7	4.5	7.8
All stainless steel and/or alloy tool steel operations.....	4.2	9.1	3.3	8.3
Stainless steel sheet and strip..	8.4	12.6	6.6	12.7
Stainless steel plate.....	(3.2)	4.8	1.5	6.8
Stainless steel bar.....	(2.7)	3.7	1.2	1.1
Stainless steel wire rod.....	(18.1)	(6.6)	(6.9)	(4.0)
Alloy tool steel, all forms.....	1.8	10.4	5.3	5.4

1/ Derived from data published in the U.S. Department of Commerce, Bureau of the Census's Quarterly Financial Report.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission, except as noted.

Impact of volume, price, and costs of production on gross profit.—An analysis of the increase in the gross profit of the stainless steel and alloy tool steel industry between 1983 and 1986 is presented in table 22. An increase or decrease in U.S. producers' key items between 1983 and 1986 is also shown in table 22. The data presented in this table represent an analysis of the variation in gross profit. Each factor affecting gross profit, changes in volume, price, and cost of production, was viewed in isolation from the other factors and its impact on the change in gross profit calculated. Volume variance was computed by measuring the change in volume of shipments between 1983 and 1986 while assuming that average gross profit remained at the 1983 level. Price and cost of production variances were calculated by measuring the change between 1983 and 1986 in those factors while assuming that the volume remained at the 1983 level. 1/ The assumptions

1/ Producers' unit values were used to measure changes in prices between 1983 and 1986.

Table 22  
Stainless steel and alloy tool steel: Effect of volume of shipments, price, and cost of production increases or (decreases) on gross profit between 1983 and 1986

Item	Stainless steel					Alloy tool steel, all forms	Total stainless steel and alloy tool steel 1/
	Sheet and strip	Plate	Bar	Wire rod	Total		
Increase or (decrease) in U.S. producer's—							
Net sales							
million dollars..	(17.0)	31.6	60.4	17.2	92.2	41.8	134.0
Costs of goods sold							
do....	(71.0)	8.0	45.2	9.2	(8.6)	28.4	19.8
Gross profit.....do....	54.0	23.6	15.2	8.0	100.8	13.4	114.2
Shipments							
1,000 short tons..	(5.0)	17.0	16.0	6.0	34.0	14.0	48.0
Average unit revenue per short ton.....							
do.....	(11.8)	(21.0)	69.5	149.4	—	(340.8)	—
Average cost per short ton.....							
do.....	(88.8)	(203.5)	(11.8)	(78.8)	—	(372.8)	—
Average gross profit per short ton.....							
do.....	77.1	182.5	81.3	228.2	—	32.0	—
Increase or (decrease) in gross profit attributable to—							
Volume...million dollars..	(1.0)	1.2	4.8	(0.7)	4.3	11.2	15.5
Price.....do....	(8.5)	(2.2)	7.8	4.8	1.9	(18.1)	(16.2)
Cost of production..do....	63.9	21.5	1.3	2.5	89.2	19.8	109.0
Combined.....do....	(0.4)	3.1	1.3	1.4	5.4	0.5	5.9
Total increase or (decrease) in gross profit.....do....							
do....	54.0	23.6	15.2	8.0	100.8	13.4	114.2

1/ Data do not equal those presented in table 13. That table included stainless steel products other than those subject to this investigation.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

used to compute these variances were necessary to single out causes for change. To complete the computation, the combined variance caused by the interaction of all three factors was calculated by measuring the change in volume times the change in gross profit. Generally, the combined variance is allocated to the three pure variances—volume, price, and cost of production—in proportion to their relationship to each other. Data on the three pure variances computed after the combined variances had been allocated as mentioned above, are presented in table 23.

Table 23

Stainless steel and alloy tool steel: Increases or (decreases) in gross profit between 1983 and 1986 due to volume, price, and cost of production changes

Item	Volume		Price		Cost of Production		Total	
	Gross profit	Per-	Gross profit	Per-	Gross profit	Per-	Gross profit	Per-
		centage		centage		centage		centage
	relation	ship	relation	ship	relation	ship	relation	ship
	Million	Per-	Million	Per-	Million	Per-	Million	Per-
	dollars	centage	dollars	centage	dollars	centage	dollars	centage
		cent		cent		cent		cent
		rela-		rela-		rela-		rela-
		tion		tion		tion		tion
		ship		ship		ship		ship
Stainless steel:								
Sheet and strip.....	(1.0)	(1.8)	(8.4)	(15.6)	63.4	117.4	54.0	100.0
Plate.....	1.3	5.5	(2.5)	(10.6)	24.8	105.1	23.6	100.0
Bar.....	5.2	34.2	8.6	56.6	1.4	9.2	15.2	100.0
Wire rod.....	(0.8)	(10.0)	5.8	72.5	3.0	37.5	8.0	100.0
Subtotal	4.7	4.6	3.5	3.5	92.6	91.9	100.8	100.0
Alloy tool steel, all forms.....	11.6	86.6	(18.6)	(138.8)	20.4	152.2	13.4	100.0
Total	16.3	14.3	(15.1)	(13.2)	113.0	98.9	114.2	100.0

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

The major factor contributing to the total increase of \$114.2 million in the gross profit of the stainless steel and alloy tool steel industry is the reduction in the cost of production. Out of the total increase of \$100.8 million in the gross profit for total stainless steel, \$92.6 million (91.9 percent of the total increase) can be attributed to the reduction in the cost of production and \$4.7 million (4.6 percent of the total increase) can be accounted for by the rise in sales volume of about 34,000 short tons for the stainless steel products subject to this investigation; the fluctuation in unit values of these products accounted for the remaining \$3.5 million (3.5 percent of the total increase). For alloy tool steel, all forms, the decrease in the cost of production was also the major factor, contributing \$20.4 million (152.2 percent of the total increase) to the total increase of \$13.4 million in gross profit, whereas the increase in sales volume of about 14,000 short tons accounted for \$11.6 million (86.6 percent of the total increase) of the total increase in gross profit. The declining unit value accounted for a decline of \$18.6 million ((138.8) percent of this total increase) in gross profit.

The impact of declining costs of production was the major factor in the increase in gross profit for stainless steel sheet and strip and plate. For these products, average declining prices reduced the gross profit. The increase in average selling unit values was the major contributor to the increase in gross profit of stainless steel bar and wire rod. The increase in shipments in terms of short tons was the second major factor causing the increase in gross profit of stainless steel bars. For stainless steel wire rod, the second major contributor was the decrease in the cost of production. Even though there was an increase in sales volume of stainless steel wire rod, the volume

variance indicates a decrease in the gross profit, because in 1983, U.S. producers sustained aggregate gross losses on their stainless steel wire rod operations.

Capital expenditures.—Data relative to domestic producers' capital expenditures to comply with Government regulations for land and land improvements, building or leasehold improvements, and machinery, equipment, and fixtures used in the production of all stainless steel and alloy tool steel products in the producing establishments, and for the four stainless steel products and all forms of alloy tool steel products subject to investigation are presented in table 24.

All stainless steel and alloy tool steel products.—Eighteen U.S. producers provided data for capital expenditures for all stainless steel and alloy tool steel products. Total capital expenditures declined irregularly from \$150.2 million in 1983 to \$92.0 million in 1986. The majority of capital expenditures were for machinery, equipment, and fixtures.

Stainless steel sheet and strip.— Six domestic producers reported data for capital expenditures for stainless steel sheet and strip. These expenditures dropped by almost two-thirds, from \$71.1 million in 1983 to \$23.7 million in 1984 and rose by 30 percent to \$30.8 million in 1986.

Stainless steel plate.—Four U.S. producers supplied data for capital expenditures for stainless steel plate. Total expenditures declined from \$4.8 million in 1983 to \$2.5 million in 1984, rose to \$5.5 million in 1985, and then fell to \$1.7 million in 1986.

Stainless steel bar.— Four domestic producers provided data for capital expenditures for stainless steel bar. Capital expenditures for this product increased from \$\* \* \* million in 1983 to \$\* \* \* million in 1985 and then declined to \$\* \* \* million in 1986.

Stainless steel wire rod.— Only two producers supplied data relative to capital expenditures for stainless steel wire rod. \* \* \*

Alloy tool steel products.—Eight U.S. producers provided capital expenditures for the alloy tool steel products subject to investigation. Total expenditures almost doubled, from \$6.4 million in 1983 to \$12.7 million in 1985 and then fell to \$6.8 million in 1986.

Research and development expenses.—U.S. producers' research and development expenses for stainless steel and alloy tool steel products of their establishments subject to investigation, the four stainless steel products and all forms of alloy tool steel, are presented in table 25.

Thirteen U.S. producers provided research and development expenses in connection with all stainless steel and alloy tool steel products of their establishments. These expenses totaled approximately \$37.0 million in each period during 1983-86. Such expenses for stainless steel sheet and strip, as supplied by six domestic producers, rose in each year, from \$19.8 million in 1983 to \$22.7 million in 1986. Research and development expenses for stainless steel plate provided by five U.S. producers increased irregularly, from \$2.0 million in 1983 to \$2.5 million in 1986. Such expenses for stainless steel bar supplied by six domestic producers rose from \$7.8 million in 1983 to \$8.4 million in 1985 and then declined to \$7.2 million in 1986.

Table 24  
Stainless steel and alloy tool steel: Capital expenditures by U.S. producers,  
by products, 1983-86

(In thousands of dollars)

Item	1983	1984	1985	1986
All stainless steel and alloy tool steel products of establishments: <u>1/</u>				
Government regulation.....	3,257	4,606	4,744	815
Land and land improvements.....	2,469	1,105	1,145	753
Building or leasehold improvements.....	12,072	15,406	16,797	5,440
Machinery, equipment, and fixtures.....	132,429	111,163	115,534	84,966
Total.....	150,227	132,280	138,220	91,974
Stainless steel sheet and strip <u>2/</u>				
Government regulation.....	101	735	2,426	296
Land and land improvements.....	1,113	9	12	52
Building or leasehold improvements.....	2,152	608	969	2,529
Machinery, equipment, and fixtures.....	67,718	22,330	25,271	27,965
Total.....	71,084	23,682	28,678	30,842
Stainless steel plate: <u>3/</u>				
Government regulation.....	1	45	132	6
Land and land improvements.....	-	-	-	-
Building or leasehold improvements.....	171	211	172	-
Machinery, equipment, and fixtures.....	4,632	2,198	5,158	1,704
Total.....	4,804	2,454	5,462	1,710
Stainless steel bar: <u>4/</u>				
Government regulation.....	***	***	***	***
Land and land improvements.....	***	***	***	***
Building or leasehold improvements.....	***	***	***	***
Machinery, equipment, and fixtures.....	***	***	***	***
Total.....	***	***	***	***
Stainless steel wire rod: <u>5/</u>				
Government regulation.....	***	***	***	***
Land and land improvement.....	***	***	***	***
Building or leasehold improvement.....	***	***	***	***
Machinery, equipment, and fixtures.....	***	***	***	***
Total.....	***	***	***	***
Alloy tool steel, all forms: <u>6/</u>				
Government regulation.....	170	170	153	20
Land and land improvements.....	81	53	85	28
Building or leasehold improvements.....	668	1,000	1,636	232
Machinery, equipment, and fixtures.....	5,530	6,071	10,850	6,498
Total.....	6,449	7,294	12,724	6,778

1/ Data provided by 18 U.S. producers.

2/ Data provided by 6 U.S. producers.

3/ Data provided by 4 U.S. producers.

4/ Data provided by 4 U.S. producers.

5/ Data provided by 2 U.S. producers.

6/ Data provided by 8 U.S. producers.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table 25  
Stainless steel and alloy tool steel: Research and development expenses by  
U.S. producers, by products, 1983-86

(In thousands of dollars)

Item	1983	1984	1985	1986
All stainless steel and alloy tool steel products of establishments: <u>1/</u>	36,580	37,101	36,988	36,639
Stainless steel sheet and strip <u>2/</u> .....	19,832	20,744	21,583	22,719
Stainless steel plate <u>3/</u> .....	1,991	2,458	2,157	2,533
Stainless steel bar <u>4/</u> .....	7,770	7,937	8,371	7,162
Stainless steel wire rod <u>5/</u> .....	2,844	3,878	2,031	2,251
Alloy tool steel, all forms <u>6/</u> .....	2,935	3,214	3,747	3,988

1/ Data provided by 13 U.S. producers.

2/ Data provided by 6 U.S. producers.

3/ Data provided by 5 U.S. producers.

4/ Data provided by 6 U.S. producers.

5/ Data provided by 5 U.S. producers.

6/ Data provided by 10 U.S. producers.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Research and development expenses in relation to stainless steel wire rod were provided by five U.S. producers, and increased from \$2.8 million in 1983 to \$3.9 million in 1984 and then declined to \$2.0 million in 1985 and \$2.3 million in 1986. For alloy tool steel, all forms, such expenses, supplied by 10 domestic producers, rose in each period, from \$2.9 million in 1983 to \$4.0 million in 1986.

Investment in productive facilities.—Sixteen U.S. producers supplied data in connection with their investment in productive facilities employed in the production of all stainless and/or alloy tool steel products of their establishments. Some of the producers also provided such data on the product lines subject to investigation. These data are presented in table 26.

Aggregate investment in property, plant, and equipment, valued at original cost, increased from \$1.3 billion in 1983 to \$1.5 billion in 1985 and then declined to \$1.4 billion in 1986. The decline in 1986 represents the revaluation, resulting from changes in ownership, of some companies' fixed assets. The book value of such facilities generally followed the same trend as the original cost of investment, but the decline in 1986 was not as great as that in the original cost.

Investment in productive facilities for stainless steel sheet and strip, in terms of its book value, showed an increasing trend during 1983-86. Such investment for stainless steel plate, in terms of its net value, fluctuated between \$21.0 million and \$25.0 million during 1983-86. Investment in fixed assets used for stainless steel bar increased from 1983 to 1985 and then went down in 1986. \* \* \*

Table 26  
Stainless steel and alloy tool steel: Investment in productive facilities by  
U.S. producers, by products, 1983-86

(In thousands of dollars)

Item	1983	1984	1985	1986
All stainless steel and/or alloy tool steel products of establishments: <u>1/</u>				
Original cost.....	1,268,273	1,374,765	1,458,904	1,380,744
Book value.....	745,465	806,943	854,129	851,856
Stainless steel sheet and strip: <u>2/</u>				
Original cost.....	360,331	390,903	411,963	409,698
Book value.....	207,633	223,900	230,302	255,755
Stainless steel plate: <u>3/</u>				
Original cost.....	42,220	40,818	46,666	43,640
Book value.....	23,765	21,181	24,530	22,496
Stainless steel bar: <u>4/</u>				
Original cost.....	***	***	***	***
Book value.....	***	***	***	***
Stainless steel wire rod: <u>5/</u>				
Original cost.....	***	***	***	***
Book value.....	***	***	***	***
Alloy tool steel, all forms: <u>6/</u>				
Original cost.....	83,436	90,544	106,294	109,064
Book value.....	40,830	43,596	53,095	51,866

1/ Data provided by 16 U.S. producers.

2/ Data provided by 5 U.S. producers.

3/ Data provided by 3 U.S. producers.

4/ Data provided by 3 U.S. producers.

5/ Data provided by 2 U.S. producers.

6/ Data provided by 7 U.S. producers.

Source: Compiled from data submitted in response to questionnaires of the  
U.S. International Trade Commission.

#### U.S. producers' efforts to compete

U. S. producers of stainless steel and alloy tool steel reported a number of capital expenditures, research and development expenditures, and other actions that were intended to enable these companies to compete more effectively with both domestic and foreign competition. Producers also provided information on what adjustments they planned to undertake over the next few years, if the relief period were to be extended, to make them more competitive with imports. Details on how each type of expenditure or action will allow each reporting firm to compete more effectively with imports are addressed below, where specified by individual firms as requested in the Commission questionnaire.

\* \* \* \* \*

## U.S. Importers

The specialty steel products that are subject to this investigation are imported into the United States by four types of importers: trading companies affiliated with a foreign producer, which handle that producer's exports and may sometimes handle those of other foreign producers; trading companies which are not affiliated with a foreign producer but import from a number of sources; distributors; and end-users which import directly from foreign sources. The majority of imports of specialty steel products enter the United States through the first two types of companies. The Commission sent questionnaires to 26 companies known to have imported the subject products during the time period and received responses from 23 importers accounting for 40 percent of imports in 1986.

Importers' end-of-period inventories

U.S. importers of stainless steel and alloy tool steel products reported end-of-period inventories as shown in table 27.

Table 27

Stainless steel and alloy tool steel: U.S. importers' end-of-period inventories, 1983-86

(In short tons)

Item	1983	1984	1985	1986
Stainless steel:				
Sheet and strip.....	2,283	5,395	3,980	4,004
Plate.....	***	***	***	***
Bar.....	2,469	6,252	6,344	6,153
Wire rod.....	***	***	***	***
Subtotal.....	9,649	15,136	13,532	12,000
Alloy tool steel, all forms..	9,130	8,413	8,478	9,263
Total.....	18,779	23,549	22,010	21,263

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Importers' unfilled orders

U.S. importers of stainless steel and alloy tool steel products reported end-of-period unfilled orders as shown in table 28.

Table 28  
Stainless steel and alloy tool steel: U.S. importers' end-of-period unfilled orders, 1983-86

(In short tons)

Item	1983	1984	1985	1986
Stainless steel:				
Sheet and strip.....	21,925	13,975	16,672	17,361
Plate.....	***	***	***	***
Bar.....	3,710	7,307	5,710	4,643
Wire rod.....	***	***	***	***
Subtotal.....	31,800	26,593	27,285	26,894
Alloy tool steel, all forms..	8,744	13,603	10,247	7,364
Total.....	40,504	40,196	37,532	34,258

1/ Not available.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

#### Volume of imports

Imports of stainless steel and alloy tool steel increased steadily from 181,635 short tons in 1983 to 242,294 short tons in 1986, an increase of 33 percent (table 29). Imports of the stainless steel products increased steadily, from 154,322 short tons in 1983 to 213,194 short tons in 1986, an increase of 38 percent (tables 30-33). The increase in 1986 was predominantly in the stainless steel sheet and strip and plate categories and may have been due in part to the scheduled implementation of the VRA with the EC, Japan, and the Republic of Korea (Korea) in March of 1986.

Imports of alloy tool steel declined from 27,313 short tons in 1983 to 24,964 short tons in 1984, a drop of 9 percent, then increased by 6 percent to 26,348 short tons in 1985. These imports then increased by 10 percent to 29,099 short tons in 1986 (table 34).

Table 29  
Stainless steel and alloy tool steel: U.S. imports for consumption, by  
principal sources, 1983-86

Country	1983	1984	1985	1986
	<u>Quantity (short tons)</u>			
Japan.....	49,141	55,120	54,324	45,197
France.....	31,466	40,434	32,867	32,446
West Germany.....	11,407	15,678	16,248	24,899
Sweden.....	16,964	22,815	22,385	23,546
Spain.....	24,821	16,241	16,863	16,841
Italy.....	10,047	11,358	17,971	15,644
Belgium and Luxembourg.....	3,348	4,951	8,048	15,041
Republic of Korea.....	10,010	15,782	14,934	13,820
Mexico <sup>1/</sup> .....	586	3,021	3,377	11,514
United Kingdom.....	6,248	4,246	13,077	10,380
All other.....	17,597	24,433	21,215	32,966
Total.....	181,635	214,080	221,309	242,294
	<u>C.I.F. value (1,000 dollars)</u>			
Japan.....	81,147	94,927	96,808	82,940
France.....	53,178	64,223	54,152	51,991
West Germany.....	20,225	25,034	27,111	38,172
Sweden.....	40,598	61,255	55,914	56,798
Spain.....	36,647	25,423	25,302	25,762
Italy.....	15,522	16,564	25,763	23,355
Belgium and Luxembourg.....	5,554	8,489	11,371	19,708
Republic of Korea.....	14,314	23,434	20,641	19,957
Mexico <sup>1/</sup> .....	351	4,135	5,116	16,476
United Kingdom.....	13,210	10,056	23,617	19,848
All other.....	30,980	40,840	37,769	53,686
Total.....	311,726	374,380	383,565	408,694
	<u>Unit value (per ton)</u>			
Japan.....	\$1,651	\$1,722	\$1,782	\$1,835
France.....	1,690	1,588	1,647	1,602
West Germany.....	1,772	1,596	1,668	1,533
Sweden.....	2,393	2,684	2,497	2,412
Spain.....	1,476	1,565	1,500	1,529
Italy.....	1,544	1,458	1,433	1,492
Belgium and Luxembourg.....	1,658	1,714	1,413	1,310
Republic of Korea.....	1,429	1,484	1,382	1,444
Mexico <sup>1/</sup> .....	599	1,368	1,515	1,430
United Kingdom.....	2,114	2,368	1,805	1,912
All other.....	1,760	1,672	1,780	1,629
Average.....	1,716	1,748	1,733	1,686

<sup>1/</sup> Much of the imports from Mexico are of stainless steel sheet and strip and enter under tariff classification 806.30. These imports are cold-finished in Mexico from hot bands produced in the United States. In January 1987, Mexico entered into an agreement with the United States to cap its exports of U.S. origin stainless sheet and strip at 16,000 tons a year. Mexico has a separate quota under its VRA allowing it to ship 1,200 tons a year of stainless sheet and strip to the United States of product that is fully Mexican in origin.

Source: Compiled from official statistics of the U.S. Department of Commerce.

Table 30  
Stainless steel sheet and strip: U.S. imports for consumption, by principal sources, 1983-86

Country	1983	1984	1985	1986
	Quantity (short tons)			
France.....	19,629	35,496	26,235	27,234
Japan.....	22,392	31,177	27,933	21,690
West Germany.....	3,128	10,682	10,329	15,096
Spain.....	14,522	10,438	11,026	11,887
Italy.....	1,450	7,869	13,655	11,554
Mexico.....	508	2,738	3,370	11,240
Republic of Korea.....	6,901	13,372	11,726	10,065
Finland.....	2,259	5,806	5,702	9,272
Sweden.....	3,600	7,943	7,080	8,054
Belgium and Luxembourg.....	1,519	2,716	3,406	7,318
United Kingdom.....	3,062	2,382	10,687	5,731
All other.....	4,388	6,272	3,780	11,794
Total.....	83,358	136,891	134,931	150,937
	C.I.F. value (1,000 dollars)			
France.....	31,239	54,224	40,325	40,312
Japan.....	32,690	45,784	38,742	35,290
West Germany.....	5,327	15,839	16,016	19,323
Spain.....	19,476	14,741	13,892	16,814
Italy.....	2,033	11,282	19,146	16,559
Mexico.....	274	3,687	5,106	15,853
Republic of Korea.....	9,569	19,671	15,302	13,827
Finland.....	3,090	10,096	9,163	14,765
Sweden.....	9,343	17,832	16,490	18,276
Belgium and Luxembourg.....	1,713	4,543	4,449	9,650
United Kingdom.....	5,175	4,795	16,998	9,036
All other.....	5,763	8,261	4,488	15,820
Total.....	125,692	210,755	200,116	225,525
	Unit value (per ton)			
France.....	\$1,591	\$1,527	\$1,537	\$1,480
Japan.....	1,459	1,468	1,386	1,627
West Germany.....	1,702	1,482	1,550	1,279
Spain.....	1,341	1,412	1,259	1,414
Italy.....	1,402	1,433	1,402	1,433
Mexico.....	540	1,346	1,514	1,410
Republic of Korea.....	1,386	1,471	1,304	1,373
Finland.....	1,367	1,738	1,606	1,592
Sweden.....	2,595	2,245	2,329	2,269
Belgium and Luxembourg.....	1,127	1,672	1,306	1,318
United Kingdom.....	1,689	2,012	1,590	1,576
All other.....	1,313	1,317	1,186	1,341
Average.....	1,507	1,539	1,483	1,494

Source: Compiled from official statistics of the U.S. Department of Commerce.

Table 31  
Stainless steel plate: U.S. imports for consumption, by principal sources,  
1983-86

Country	1983	1984	1985	1986
	Quantity (short tons)			
Belgium and Luxembourg.....	213	1,344	4,254	7,610
West Germany.....	1,515	720	1,330	2,508
Sweden.....	316	1,553	949	1,783
United Kingdom.....	818	19	56	1,464
Finland.....	31	409	65	1,004
Japan.....	1,491	2,672	2,339	860
France.....	131	323	1,559	614
Italy.....	25	99	744	309
All other.....	711	363	470	375
Total.....	5,251	7,502	11,766	16,528
	C.I.F. value (1,000 dollars)			
Belgium and Luxembourg.....	310	1,870	6,160	9,825
West Germany.....	2,923	1,141	2,296	4,376
Sweden.....	1,006	3,811	2,687	4,566
United Kingdom.....	1,366	41	105	2,538
Finland.....	51	697	140	1,557
Japan.....	2,383	4,166	3,719	1,434
France.....	244	557	2,572	1,010
Italy.....	37	198	715	372
All other.....	1,482	540	1,017	694
Total.....	9,801	13,020	19,412	26,371
	Unit value (per ton)			
Belgium and Luxembourg.....	\$1,453	\$1,391	\$1,447	\$1,291
West Germany.....	1,929	1,584	1,726	1,745
Sweden.....	3,185	2,454	2,831	2,559
United Kingdom.....	1,669	2,117	1,881	1,733
Finland.....	1,636	1,702	2,166	1,551
Japan.....	1,597	1,559	1,589	1,666
France.....	1,858	1,724	1,649	1,643
Italy.....	1,498	1,994	961	1,204
All other.....	2,085	1,485	2,165	1,848
Average.....	1,866	1,735	1,649	1,595

Source: Compiled from official statistics of the U.S. Department of Commerce.

Table 22  
Stainless steel bar: U.S. imports for consumption, by principal sources,  
1983-86

Country	1983	1984	1985	1986
	Quantity (short tons)			
Japan.....	15,334	11,591	13,610	12,396
Spain.....	7,113	4,098	4,036	3,221
Brazil.....	1,943	2,152	2,275	2,100
Republic of Korea.....	2,446	1,221	1,921	1,607
United Kingdom.....	1,112	820	1,013	1,472
West Germany.....	1,563	1,070	833	1,444
France.....	4,812	1,332	1,010	1,250
Sweden.....	1,316	1,257	1,187	1,226
Italy.....	3,061	1,072	1,074	1,182
Canada.....	450	1,125	1,035	1,044
All other.....	59	149	204	289
Total.....	39,209	25,888	28,198	27,233
	C.I.F. value (1,000 dollars)			
Japan.....	26,284	23,757	29,759	25,059
Spain.....	11,502	7,678	8,163	6,052
Brazil.....	3,075	3,263	4,258	4,013
Republic of Korea.....	3,708	1,934	3,296	3,000
United Kingdom.....	2,643	2,023	2,079	3,208
West Germany.....	3,090	2,176	1,719	3,348
France.....	7,335	2,424	1,837	2,378
Sweden.....	3,235	3,231	3,243	3,091
Italy.....	6,057	1,962	2,199	2,576
Canada.....	973	2,327	2,241	2,411
All other.....	139	346	437	567
Total.....	68,041	51,120	59,231	55,702
	Unit value (per ton)			
Japan.....	\$1,714	\$2,049	\$2,186	\$2,021
Spain.....	1,617	1,873	2,022	1,878
Brazil.....	1,583	1,515	1,871	1,910
Republic of Korea.....	1,516	1,583	1,715	1,866
United Kingdom.....	2,376	2,467	2,052	2,178
West Germany.....	1,977	2,033	2,062	2,318
France.....	1,524	1,820	1,819	1,901
Sweden.....	2,457	2,570	2,732	2,520
Italy.....	1,978	1,829	2,047	2,180
Canada.....	2,159	2,068	2,165	2,310
All other.....	2,359	2,319	2,143	1,959
Average.....	1,735	1,974	2,100	2,045

Source: Compiled from official statistics of the U.S. Department of Commerce.

Table 33  
Stainless steel wire rod: U.S. imports for consumption, by principal sources,  
1983-86

Country	1983	1984	1985	1986
	<u>Quantity (short tons)</u>			
Japan.....	5,888	5,307	5,727	6,101
Sweden.....	4,232	3,445	3,892	3,864
France.....	5,778	2,799	3,681	2,918
Spain.....	2,852	1,541	1,693	1,682
Italy.....	3,525	1,696	1,761	1,469
Brazil.....	1,383	1,563	1,588	1,348
Republic of Korea.....	23	419	451	863
West Germany.....	1,227	1,145	850	201
Belgium and Luxembourg.....	1,530	881	366	51
All other.....	66	40	59	0
Total.....	26,504	18,835	20,067	18,496
	<u>C.I.F. value (1,000 dollars)</u>			
Japan.....	9,565	8,789	9,961	10,182
Sweden.....	7,208	6,606	7,598	7,158
France.....	10,327	5,222	8,064	6,572
Spain.....	4,987	2,817	3,062	2,813
Italy.....	4,755	2,295	2,539	1,974
Brazil.....	2,024	2,221	2,328	1,720
Republic of Korea.....	33	581	624	1,190
West Germany.....	1,696	1,587	1,186	290
Belgium and Luxembourg.....	3,326	2,007	718	86
All other.....	225	96	101	-
Total.....	44,146	32,223	36,182	31,985
	<u>Unit value (per ton)</u>			
Japan.....	\$1,624	\$1,655	\$1,739	\$1,668
Sweden.....	1,703	1,917	1,952	1,852
France.....	1,787	1,865	2,191	2,252
Spain.....	1,748	1,827	1,808	1,672
Italy.....	1,348	1,353	1,442	1,343
Brazil.....	1,463	1,421	1,466	1,276
Republic of Korea.....	1,410	1,388	1,385	1,379
West Germany.....	1,381	1,386	1,396	1,447
Belgium and Luxembourg.....	2,174	2,279	1,961	1,687
All other.....	3,418	2,389	1,709	-
Average.....	1,665	1,710	1,803	1,729

Source: Compiled from official statistics of the U.S. Department of Commerce.

Table 34  
Alloy tool steel: U.S. imports for consumption, by principal sources, 1983-86

Country	1983	1984	1985	1986
	<u>Quantity (short tons)</u>			
West Germany.....	3,973	2,061	2,907	5,651
Sweden.....	7,500	8,618	9,276	8,618
Japan.....	4,036	4,373	4,714	4,149
Austria.....	3,925	2,635	2,557	2,634
United Kingdom.....	1,222	1,025	1,321	1,712
Canada.....	795	2,704	1,580	1,590
Republic of Korea.....	641	769	828	1,285
Italy.....	1,986	622	738	1,129
Brazil.....	1,342	785	1,510	1,162
France.....	1,115	485	383	430
All other.....	778	887	534	739
Total.....	<u>27,313</u>	<u>24,964</u>	<u>26,348</u>	<u>29,099</u>
	<u>C.I.F. value (1,000 dollars)</u>			
West Germany.....	7,188	4,291	5,894	10,834
Sweden.....	19,806	29,774	25,896	23,708
Japan.....	10,225	12,431	14,628	10,974
Austria.....	10,168	7,233	7,669	6,468
United Kingdom.....	3,894	3,196	4,435	5,066
Canada.....	1,393	3,800	2,781	2,649
Republic of Korea.....	1,005	1,248	1,405	1,940
Italy.....	2,640	828	1,164	1,874
Brazil.....	2,550	1,426	2,520	2,492
France.....	4,032	1,797	1,354	1,720
All other.....	1,142	1,238	879	1,386
Total.....	<u>64,046</u>	<u>67,262</u>	<u>68,625</u>	<u>69,111</u>
	<u>Unit value (per ton)</u>			
West Germany.....	\$1,809	\$2,082	\$2,027	\$1,917
Sweden.....	2,640	3,454	2,791	2,751
Japan.....	2,533	2,842	3,102	2,644
Austria.....	2,590	2,745	2,999	2,455
United Kingdom.....	3,185	3,118	3,356	2,959
Canada.....	1,753	1,405	1,760	1,666
Republic of Korea.....	1,568	1,621	1,696	1,509
Italy.....	1,329	1,330	1,576	1,659
Brazil.....	1,901	1,815	1,669	2,144
France.....	3,617	3,705	3,537	3,998
All other.....	1,471	1,395	1,646	1,875
Average.....	<u>2,344</u>	<u>2,694</u>	<u>2,604</u>	<u>2,374</u>

Source: Compiled from official statistics of the U.S. Department of Commerce.

### Market penetration

Imports of stainless and alloy tool steel had a relatively stable share of the U.S. market, increasing slightly from 15.7 percent in 1983 to 15.9 percent in 1985 (table 35) <sup>1/</sup>. This share increased to 18.6 percent, however, in 1986.

This same pattern prevailed for the stainless steel products under investigation. Imports of stainless steel increased their share of the market from 14.2 percent in 1983 to 15.0 percent in 1985. This share increased to 17.6 percent in 1986.

The pattern for the alloy tool steel products was somewhat different, with imports' share of the market declining from 34.3 percent in 1983 to 23.0 percent in 1984, then increasing to 28.4 percent in 1985 and 31.9 percent in 1986.

### The effect of the VRAs on import data

The fact that the VRAs covering imports of specialty steel products from the EC, Japan, and Korea, which together accounted for 67 percent of 1986 stainless flat-rolled imports, were not implemented until March 1986 has important implications for the Commission's analysis of the effectiveness of the VRA programs for the flat-rolled products (see earlier discussion in the section entitled "Import Relief Program"). Quarterly import data from these VRA-signatories suggest that the impending implementation of the VRAs itself encouraged a one-time increase in stainless steel sheet, strip, and plate imports in the first quarter of 1986, particularly from the EC and Korea, which together accounted for 54 percent of 1986 stainless flat-rolled imports. The following tabulation presents January-March imports of stainless steel sheet, strip, and plate as a percentage of annual imports for the EC and Korea, by country, during 1983-86:

<u>Item</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>
European Communities	29.4	16.7	15.7	50.0
Korea	7.5	24.7	11.1	48.1
Japan	21.1	21.2	25.7	28.6

Imports of stainless flat-rolled products from the EC and Korea during January-March 1986 appear to be much higher than during the first quarter of other recent years, and first quarter 1986 imports from Japan are slightly higher. This sudden increase was possible because existing import relief under section 201 for the stainless steel flat-rolled products was in the form of a tariff. As long as importers were willing to pay the additional tariff of 6 percent for sheet and strip and 5 percent for plate, they could store some product in the United States prior to the implementation of the VRAs' quantitative restrictions.

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<sup>1/</sup> Market penetration based on value is presented in table 36.

Table 35

Stainless steel and alloy tool steel: Market penetration of imports, by quantity and by product, 1983-86

(In percent)				
Item	1983	1984	1985	1986
Stainless steel:				
Sheet and strip.....	10.5	15.6	14.8	18.0
Plate.....	4.9	6.1	7.4	12.3
Bar.....	26.0	15.2	16.9	17.6
Wire rod.....	45.7	27.9	39.8	33.4
Subtotal.....	13.9	15.3	15.1	18.0
Alloy tool steel, all forms.....	33.9	25.2	27.8	29.8
Total.....	15.3	16.0	16.0	18.9

Source: Producers' shipments compiled from questionnaires of the U.S. International Trade Commission; imports compiled from official statistics of the U.S. Department of Commerce.

Table 36

Stainless steel and alloy tool steel: Market penetration of imports, by value and by product, 1983-86

(In percent)				
Item	1983	1984	1985	1986
Stainless steel:				
Sheet and strip.....	10.2	13.4	13.6	16.6
Plate.....	5.0	5.6	6.6	10.3
Bar.....	17.1	9.9	12.0	12.8
Wire rod.....	43.3	24.8	36.3	30.6
Subtotal.....	12.7	12.4	13.1	15.7
Alloy tool steel, all forms.....	21.4	16.8	18.4	18.8
Total.....	13.8	13.1	13.8	16.2

Source: Producers' shipments compiled from questionnaires of the U.S. International Trade Commission; imports compiled from official statistics of the U.S. Department of Commerce.

As a result of the import surge immediately preceding the implementation of the agreements with the EC, Japan, and Korea, imports from VRA countries represented a higher share of apparent 1986 U.S. consumption than will be allowed in 1987, 1988, and January-September 1989. As of February 1987, projected 1987 U.S. consumption figures for stainless flat-rolled products used by Commerce to monitor the VRA program were 911,000 tons for sheet and strip and 111,000 tons for plate, or 1.022 million tons total. On the basis of the February estimate of 1987 annual consumption, total 1987 imports of stainless sheet, strip, and plate from Brazil, the EC, Korea, Spain, and Mexico will be 79,843 tons (including 806.30 imports from Mexico) or 7.8

percent of 1987 consumption. 1/ In 1986, imports from these VRA signatories were 101,981 tons or 10.5 percent of 1986 consumption. Thus, the 1986 market share of 14.0 percent for all VRA countries is markedly higher than the market share these countries will be allowed during the remainder of the VRA programs. For this reason, trends in imports and import penetration for VRA countries during 1983-86 should be used with caution for stainless steel sheet, strip, and plate. The total VRA market share for those countries that exported stainless steel sheet, strip, and plate to the United States in 1986 will be approximately 10.6 percent of consumption during the remainder of the program. 2/ Had imports of stainless steel sheet, strip, and plate from VRA countries been limited to 10.6 percent of consumption in 1986, and had consumption still been 974,188 tons, VRA imports would have been approximately 103,264 tons, or almost 35,000 tons lower than actual VRA imports of stainless flat-rolled products (138,648 tons). Alternatively, if the majority of the import surge were held in inventory rather than shipped to customers, apparent consumption data for stainless flat-rolled products might overstate actual consumption in 1986.

For the specialty steel products for which quotas were implemented in 1983—stainless steel bar, stainless steel wire rod, and alloy tool steel—the implementation of the EC steel agreement covering those products did not appear to cause an abnormal quantity of total imports in 1986.

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1/ Table F-1 presents the product categories that cover stainless flat-rolled products in the VRAs for each of the major exporting countries, the type and level of restraint, and the percentage of total 1986 imports accounted for by each country and the effective 1987 export ceiling given the February 1987 consumption forecast.

2/ As estimated by the Commission staff, not including imports from countries not covered by VRAs, the countries included in this estimate are Austria, Brazil, the EC countries, Mexico, Japan, South Africa, Korea, and Spain. The estimate assumes that the market share of stainless steel flat-rolled imports from Japan will remain at 2.8 percent of U.S. consumption, the average for 1983-86. Given the recent appreciation of the yen vis-a-vis the dollar, this estimate seems reasonable. Staff also assumed that imports from Austria, which accounted for 0.02 percent of U.S. consumption in 1986 would not change appreciably. Finally, the estimate assumes that the Comprehensive Anti-Apartheid Act of 1986 will remain in effect, thereby not permitting entry to the U.S. of imports of stainless steel flat-rolled product from South Africa. In 1983-85, South African imports accounted for an average of 0.03 percent of consumption. Imports from South Africa in 1986 (preceding the ban) increased to 0.2 percent of consumption.

## Prices

U.S. producers of specialty steel publish list prices on an f.o.b. basis, with base prices determined largely by the alloy content of the steel. Extra charges are added to the base price for orders below a minimum weight, for special packaging, and for the type of surface finish. For stainless steel flat products (sheet, strip, and plate), there are extra charges for nonstandard widths and for special edging. \* \* \*. 1/ As a result of the relatively high value of specialty steel products, transportation costs are reportedly not a major factor in purchasers' decisions between suppliers.

Commission staff examined average f.o.b. price data collected for the quarterly surveys on the specialty steel industry. These price data consist of producers' and importers' sales of 17 common specialty steel products to the major customer type for each product, i.e., service center/distributors or end users. Price trends of specialty steel varied in 1983-86 by product lines and by whether U.S.-produced or imported. For the stainless steel products, a common trend was a general price increase that began in the second half of 1983 and continued to at least the second half of 1984. For many stainless steel products, average producers' prices were higher in 1986 than they were in 1983. The trend for alloy tool steel products differed considerably from these patterns. Prices of alloy tool steel products did not increase during 1983-84. Despite a wide variation in the prices of alloy tool steel, there has been a clear downward trend for prices of alloy tool steel products during 1983-86. Following are summaries of recent price trends and domestic/import price comparisons by product groupings.

Stainless steel sheet and strip.—The import relief program established 4 years of declining tariffs for stainless steel sheet and strip, starting at 10 percent ad valorem on July 20, 1983, and declining each year thereafter to 8 percent, 6 percent, and 4 percent, respectively. Countries accounting for 17 percent of stainless steel sheet and strip imports in 1986 are currently subject to the 4 percent additional tariff. The remaining countries are subject to export restraints under the Voluntary Restraint Agreements (VRAs).

The average price of U.S.-produced stainless steel sheet and strip sold to service center/distributors was higher in each quarter of 1986 than it was during the same quarters of 1983 (table 37). 2/ Producers' average prices increased from January-March 1983 to October-December 1986 by 4 percent, largely as a result of a 5-percent price increase in the highest volume product, grade 304 cold-rolled sheet. 3/ \* \* \*.

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1/ Stainless steel flat product prices are for sales to service center/distributors. Stainless steel wire rod and alloy tool steel prices are for sales to end users.

2/ Producers' and importers' weighted-average prices by product specification are shown in tables F-2 through F-6.

3/ Two smaller-volume products showed 5-6 percent price decreases over the same period.

Trends in importers' average prices for sheet and strip (app. F) were similar to those of U.S. producers, rising to their highest levels in 1984, falling irregularly during April-December 1985, and recovering somewhat in 1986 to price levels generally above those during 1983 and 1984. Importers' average prices during October-December 1986 were 3 percent higher than those during April-June 1983.

Table 37.  
Stainless steel and alloy tool steel: Average prices of U.S.-produced products, by product groupings, and by quarters, 1983-86

Period	(Per ton)				
	Stainless steel			Wire rod 2/	Alloy tool steel bar 2/
	Sheet and strip 1/	Plate 1/	Bar 1/		
1983:					
Jan.-Mar.....	\$1,605	\$1,904	\$2,297	\$1,553	\$5,935
Apr.-June.....	1,604	1,886	2,222	1,547	5,507
July-Sept.....	1,593	1,951	2,318	1,579	5,189
Oct.-Dec.....	1,664	1,971	2,331	1,613	5,213
1984:					
Jan.-Mar.....	1,865	1,988	2,476	1,710	4,993
Apr.-June.....	1,883	1,968	2,445	1,849	4,813
July-Sept.....	1,880	2,058	2,596	1,862	2,737
Oct.-Dec.....	1,666	2,010	2,604	1,926	4,619
1985:					
Jan.-Mar.....	1,560	1,994	2,592	1,941	4,202
Apr.-June.....	1,619	2,044	2,503	1,915	3,516
July-Sept.....	1,625	2,063	2,091	1,834	4,805
Oct.-Dec.....	1,622	2,130	2,504	1,776	4,869
1986					
Jan.-Mar.....	1,606	2,075	2,396	1,736	4,449
Apr.-June.....	1,668	2,072	2,345	1,747	4,766
July-Sept.....	1,688	2,009	2,231	1,748	4,262
Oct.-Dec.....	1,669	1,927	2,259	1,772	3,994

1/ Sales to service center/distributors.

2/ Sales to end users.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Comparing quarterly prices of U.S.-produced and imported specialty steel products separately by product specification shows that imported stainless steel sheet was generally lower priced than the U.S.-produced products for three of four specifications, by from less than 1 percent to 34 percent during 1983-86. For U.S. producers' highest volume product (grade 304), however, imported sheet and strip was generally higher priced than U.S.-produced material by as much as 9 percent.

Stainless steel plate.—With respect to stainless steel plate, the import relief program established 4 years of declining tariffs, starting at 8 percent ad valorem on July 20, 1983, and declining each year thereafter to 6 percent, 5 percent, and 4 percent, respectively. Countries accounting for 17 percent of stainless steel plate imports in 1986 are currently subject to the 4 percent additional tariff. The remaining countries are subject to export restraints under the Voluntary Restraint Agreements (VRAs).

The average quarterly price of U.S. producers' stainless steel plate sold to service center/distributors was higher in three of four quarters of 1986 than it was during the same quarters of 1983, and the lowest quarterly prices were higher in each quarter. Producers' average prices for plate increased from January-March 1983 to October-December 1986 by 1 percent. Except for two plate specifications (grade 316L and 316), producers' prices increased during this period, and increased by 7 to 12 percent for the two high-volume grade 304 plate specifications. In contrast to prices of stainless steel sheet and strip, average prices of stainless steel plate rose gradually during 1983-84 and maintained the upward trend through late 1985. The relative strength of plate prices in 1985 may be explained in part by the fact that annual apparent consumption of plate increased by more than 25 percent from 1984 to 1985, whereas apparent consumption of sheet and strip increased by only 4 percent in this period. \* \* \*

Importers' quarterly prices for stainless steel plate sold to service center/distributors are available for 1984-86 but are not necessarily available for each product in every quarter. Similar to U.S. producers' prices, importers' average prices for plate were higher in 1986 than those in 1984, or by 7 percent on average. Unlike producers' prices, importers' prices in 1985 were generally lower than those in 1984.

Quarterly service center/distributor price comparisons for stainless steel plate by product specification show that imported plate in each category is generally lower priced than U.S.-produced material, by from less than 1 percent to 23 percent.

Stainless steel bar.—With respect to stainless steel bar, the import relief program established 4 years of fixed quarterly global quotas, starting at 6,750 short tons on July 20, 1983, and expanding each year thereafter by 3 percent.

The average quarterly price of U.S. producers' stainless steel bar sold to service center/distributors was higher in two of four quarters of 1986 than it was during the same quarters of 1983, but the lowest quarterly prices were lower in 1986. Producers' average prices for stainless steel bar decreased from January-March 1983 to October-December 1986 by 2 percent. \* \* \*

Importers' prices for stainless steel bar sold to service center/distributors are primarily available from April-June 1983 through 1986. These price data suggest that, similar to U.S. producers' prices, average importers' prices for bar generally increased from April-June 1983 to October-December 1984. Unlike producers' prices, average importers' prices remained at this higher level through October-December 1985. Importers' average stainless steel bar prices have fallen somewhat in 1986, but were still generally above those during 1983. For the cold-formed products, importers' prices were at their highest levels in 1984; for the hot-rolled products, importers' prices were at their highest levels in 1985.

Quarterly service center/distributor price comparisons for stainless steel bar specifications show that imported bar in each category is generally lower priced than U.S.-produced material, by from 3 to 40 percent. The price advantage of imports during 1983-86 was greatest for the Grade 410, hot-rolled stainless steel bars.

Stainless steel wire rod.—The import relief program imposed for stainless steel wire rod established 4 years of fixed quarterly global quotas, starting at 4,775 short tons on July 20, 1983, and expanding each year thereafter by 3 percent.

Price data for wire rod are available for one product, grade 302 and/or 304 stainless steel wire rod in sizes .217-inch to .25-inch, round. Producers' average wire rod prices for sales to end users show a clear upward trend in 1983-86, punctuated by a period of rapidly increasing and then decreasing prices in the middle of this 4-year period. Quarterly prices in 1986 were at least 10 percent stronger than prices in 1983, despite a modest decline (4 percent) in apparent consumption of all stainless steel wire rod from 1983 to 1986. From January-March 1983 to October-December 1986, producers' prices for stainless steel wire rod increased 14 percent. \* \* \*

The price trend for imported wire rod sold to end users is remarkably similar to that for U.S. producers. Importers' average prices increased 21 percent from July-September 1983 to January-March 1985, the peak quarter for U.S. producers. During April 1985-June 1986, importers' prices fell irregularly by 13 percent. Similar to U.S. producers, importers' prices increased slightly during the second half of 1986.

As a result of similar price trends, the domestic/import price relationship was relatively stable during 1983-86 for stainless steel wire rod. Whereas importers did not have a substantial price advantage in this product category, their prices were generally lower than U.S. producers by less than 4 percent.

Alloy tool steel.—The import relief program imposed for alloy tool steel established 4 years of fixed quarterly global quotas, starting at 5,600 short tons on July 20, 1983, and expanding each year thereafter by 3 percent.

As previously stated, the trend for alloy tool steel products differed considerably from trends for stainless steel products. As a result of substantial product differentiation for tool steel products, the majority of these products are sold directly to end users, and there is a wide range in observed transaction prices within product categories. Regardless of this price variation, there is a clear downward trend for prices of alloy tool steel products in 1983-86. Producers' average prices for tool steel fluctuated downward by 32 percent from January-March 1983 to October-December 1986. In each of the four tool steel product categories, prices in 1986 were generally lower than prices in 1983. For the hot-work tool steel bar (grade H-13) and the high-speed tool steel bar (grade M-2), producers' weighted-average prices were 28 percent and 17 percent lower in October-December 1986 than in January-March 1983, respectively. For the round and flat cold-work tool steel bars, respectively, producers' prices fell 38 and 29 percent from October-December 1983 to October-December 1986.

In stark contrast to the other specialty steel products, average prices for tool steel bar did not increase in the periods immediately following the imposition of import relief. \* \* \*

From 1983 to 1986, importers' weighted-average prices for tool steel bar sold to end users experienced overall price declines similar to those of U.S. producers. However, importers' prices did not fall as rapidly as producers' prices during 1984-early 1985. From April-June 1983 to January-March 1985, importers' average prices for tool steel edged downward by 12 percent, compared with a 24 percent decline for producers. Importers' average prices for tool steel then declined 16 percent during April-June 1985, as did producers' prices, and thereafter followed price trends more similar to those of U.S. producers.

For sales of tool steel to end users, importers' prices were generally higher than those of U.S. producers in 1983-86 for three of four product categories by margins generally ranging from 5 to 30 percent. Only for the high-speed tool steel bar specification were importers' prices generally lower than those of U.S. producers.

Probable Economic Effect of Terminating or Extending  
Import Relief 1/ 2/

Major foreign suppliers of stainless and alloy tool steel to the United States

The effect on the U.S. stainless steel and alloy tool steel industries of terminating import relief is dependent in part on the foreign industry's present and potential level of output of the subject products. Stainless steel and alloy tool steel are produced in at least 20 countries (although not all of the countries produce both kinds of steel). Table 38 presents production (on a raw steel basis) and capacity data on the major foreign suppliers of such specialty steel to the United States. The industries in these countries are discussed in the remainder of this section.

Table 38  
Stainless steel and alloy tool steel production, capacity, and capacity utilization for certain foreign producing countries, 1984-86

Country	Production			Capacity			Capacity utilization		
	1984	1985	1986	1984	1985	1986	1984	1985	1986
	—Thousand short tons—						—Percent—		
Belgium <u>1/</u> .....	120	121	127	166	154	154	72.3	78.6	82.5
France.....	712	617	661	<u>2/</u>	<u>2/</u>	<u>2/</u>	<u>2/</u>	<u>2/</u>	<u>2/</u>
Japan.....	2,547	2,551	2,482	<u>2/</u>	<u>2/</u>	<u>2/</u>	<u>2/</u>	<u>2/</u>	<u>2/</u>
Republic of Korea <u>1/</u> .....	159	163	228	312	312	348	51.0	52.0	65.5
Spain.....	268	257	274	<u>2/</u>	<u>2/</u>	<u>2/</u>	<u>2/</u>	<u>2/</u>	<u>2/</u>
Sweden.....	<u>4/</u> ***	***	<u>4/</u> ***	***	***	***	***	***	***
United Kingdom..	282	287	239	<u>2/</u>	<u>2/</u>	<u>2/</u>	<u>2/</u>	<u>2/</u>	<u>2/</u>
West Germany....	968	959	981	1,130	1,130	1,130	85.7	86.4	86.8

1/ Includes stainless steel sheet, strip, plates, and wire rod.

2/ Not available.

3/ Includes stainless steel sheet, strip, bar, and wire rod.

4/ Includes significant tonnage consumed internally in producing products outside the scope of this investigation.

Source: Data compiled from Alloy Metals and Steel Market Research, as published in Metal Bulletin, February 8, 1985, U.S. Department of State telegrams, and counsel for certain specialty steel producers.

1/ Economic analyses based on two alternative assumptions concerning the volume of imports in the event of termination are presented in app. G.

2/ A summary of information received on exempted products and requests to exempt products is presented in app. H.

Belgium

There were two producers of stainless steel products in Belgium in 1986; ALZ NV and S.A. Fabrique de Fer de Charleroi. Both made stainless steel sheet, strip, and (in trial volumes) plate. The sole producer of stainless bar and wire rod, Henricot, ceased production at the end of 1984. There were no producers of alloy tool steel. 1/

ALZ has placed an order with a West German company for a new melting shop, which will include a 90-metric ton electric furnace in addition to other refining equipment. The installation is being made to increase the company's production of continuously cast slabs, and operation is expected to begin in early 1988. ALZ also recently placed an order for a new reversing cold mill, due on stream in June 1989, which will replace its existing mill. 2/

According to industry sources, Fabrique de Fer is attempting to diversify its product range and is heavily involved in high-grade material. The company is making investments designed to improve its financial results and to secure its market position. 3/

Belgium's production of stainless steel sheet, strip, and wire rod remained relatively stable from 1984 to 1985, at about 120,000 short tons, rising to 127,000 short tons in 1986. Capacity fell from 166,000 short tons in 1984 to 154,000 short tons in 1985 and 1986, reflecting the termination of wire rod production at the end of 1984. Capacity utilization rose from 72.3 percent in 1984 to 82.5 percent in 1986. Exports to the United States of stainless steel sheet, strip, and wire rod totaled 11,000 short tons in 1986 as shown in the following tabulation:

<u>Item 1/</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>
Production.....1,000 short tons..	<u>2/</u> 120	121	127
Capacity.....do.....	166	154	154
Capacity utilization.....percent..	72.3	78.6	82.5
Exports to the U.S....1,000 short tons..	<u>3/</u>	<u>3/</u>	11

1/ Production, capacity, and export data are estimated on the basis of U.S. Department of State telegram.

2/ Includes stainless steel wire rod.

3/ Not available.

Canada

There were two producers of specialty steel products in Canada in 1986: Rio Algom Ltd. (Atlas), whose Atlas Specialty Steels and Atlas Stainless Steels divisions produce stainless steel sheet, strip, bar, and alloy tool steel; and Slater Inds., Inc., a producer of certain alloy tool steel products. Both of the Canadian specialty steel producers have financial interests in U.S. companies. In June 1986, Rio Algom purchased Al Tech

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1/ U.S. Department of State telegram, February 1986, March 1987.

2/ Metal Bulletin, Mar. 20, 1987.

3/ Op. cit., telegram, Feb. 1986.

Specialty Steel Corp. in Dunkirk, NY. According to the trade press, Rio Algom plans to combine Al Tech's operations with those of its Atlas Steel's division in Welland, Ontario. As a result, Al Tech will no longer produce primary specialty steels for its finishing operations, but instead will receive specialty steel semifinished products made by Atlas Steel for finishing into bar, rod, wire, extruded shapes, and pipe and tube products. Rio Algom also owns Atlas Alloys Inc., a U.S. service center that distributes the parent company's products in Ohio, Michigan, Illinois, and New York. Slater Steels, a Canadian company, owns Fort Wayne (IN) Specialty Alloys, which produces stainless steel bar.

In recent years, the Canadian industry has experienced declines in capacity. There have been reductions in capacity to produce stainless steel sheet and strip and alloy tool steel, and elimination of all capacity to produce stainless steel wire rod. 1/

#### France

In 1986, there were at least five producers of stainless and alloy tool steel products in France. Almost 70 percent of French production of these steel products was accounted for by production of stainless sheet and strip. The largest producers of stainless and alloy tool steel products in 1986 included Sacilor, a state-owned producer of flat-rolled products and bars; Ugine-Gueugnon and Ugine-Savoie, companies that are majority-owned by Sacilor and are each the second largest producer worldwide of their particular products, stainless sheet and strip and stainless bar and rod, respectively; Usinor, a state-owned producer of sheet, plate, and bar; and Ascometal, a company that was established in 1983 to merge the unprofitable operations of Sacilor and Usinor and that produces specialty steel bars and rods. In September 1986 the French Government announced that a single chairman would head both Sacilor and Usinor. Industry sources felt that such a move would lead to further rationalization of the French steel industry through a coordination of investment and other policy decisions.

In December 1984, Usinor announced a reorganization of its stainless sheet business. Usinor's Chatillon division was merged with its Usinor Inox subsidiary (formerly Peugeot-Loire). The new group is called Usinor Chatillon and is the second largest French producer of stainless steel sheets, with annual production of about 100,000 metric tons per year. 2/ At the same time, Usinor announced plans to rationalize Chatillon's operations with improvements in its strip mill at Pont-de-Roide, to enable the plant to make a full range of sizes of stainless strip. 3/ In May 1985, Usinor Chatillon began efforts at its Taborgues works designed to enable the production of better quality steels. The move was consistent with the company's policy of becoming more of a specialized producer of sophisticated products such as ferritic stainless grades, as opposed to involvement in the high-volume, standard grade stainless.

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1/ Tr. at p. 262.

2/ Metal Bulletin, Dec. 28, 1984, p. 23; and May 10, 1985.

3/ Ibid., Jan. 11, 1985, p. 25.

flat products market dominated by Sacilor's Ugine-Gueugnon. 1/ In October 1985, Usinor announced plans for a major reorganization making all of its operating divisions into separate subsidiaries, leaving Usinor itself as strictly a holding company. The most important of these subsidiary companies is Usinor Aciers, which took over Usinor's flat product and stainless steel works on January 1, 1986. 2/

Sacilor announced several improvements in its operations in 1985 including the following: inauguration of a new bar and rod mill for Ugine-Savoie, which completed the company's modernization plans; and modernization of casting operations at Ugine-Gueugnon's Ardoise works. 3/ Sacilor also created a new holding company for its stainless steel interests. The company, called Ugine SA, is wholly owned by Sacilor and includes Ugine-Gueugnon and Ugine-Savoie. The changes are designed to simplify the organization and management structure of Sacilor's stainless steel activities. In July 1986, Sacilor announced that total employment in its specialty steel operations would decline from 7,900 in 1985 to 5,900 by 1989 as a result of corporate restructuring. 4/

Further rationalization plans aimed at the redistribution of production were mapped out in 1985 and 1986 for Ascometal. Higher productivity is a priority, accompanied by reductions in employment over the next 2 years. After the restructuring is completed, Ascometal will be producing about 1 million metric tons per year at four specialty steel plants. Investments under way at the other works include expenditures on continuous casting operations. 5/ In January 1986, Sacilor assumed total control of Ascometal by buying from Usinor the 49 percent of the company it did not already own.

France's production of stainless steel decreased from 1984 to 1985 as a result of weakness in its domestic market for such steel and recovered in 1986 as a result of strengthening end-user markets as illustrated in the following tabulation: 6/

<u>Item 1/</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>
Production.....1,000 short tons..	712	<u>2/</u> 617	<u>3/</u> 661
Capacity.....do....	<u>4/</u>	<u>4/</u>	<u>4/</u>
Capacity utilization.....percent..	<u>4/</u>	<u>4/</u>	<u>4/</u>

- 1/ Production data compiled from Alloy Metals and Steel Market Research.  
2/ Revised.  
3/ Preliminary.  
4/ Not available.

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1/ Ibid., May 10, 1985.

2/ Ibid., Oct. 8, 1985, p. 29 and Dec. 24, 1985, p. 25.

3/ Ibid., Sept. 27, 1985 and Oct. 29, 1985, p. 22.

4/ American Metal Market, July 24, 1986, p. 7.

5/ Metal Bulletin, Apr. 2, 1985.

6/ Ibid., June 25, 1985.

Japan

There were approximately 20 producers of stainless and alloy tool steel products in Japan in 1986, many of which produce a variety of the specialty steel products subject to investigation, as follows: stainless plate, 8 companies; stainless sheet and strip, 13 companies; stainless bar, 9 companies; stainless wire rod, 11 companies; alloy tool steel and high-speed steel products, 14 companies. 1/ The largest producers include Nippon Metal Industry Co., Nippon Yakin Kogyo Co., and Nippon Stainless Co.

In 1985, one company, Nigata Nyodo Metal Co., ceased production of stainless steel plate and applied for restructuring, and another company that produced stainless bar in 1984 did not produce in 1985. Nippon Kokan K.K. reopened production of alloy tool steel products in 1986. Modernization work was also announced in 1985 by four of Japan's leading producers. Nippon Steel is implementing plans to replace a 40-metric ton electric furnace at its Hikari works with a new 60-metric ton unit, which, when teamed with the existing 60-metric ton furnace, will lift monthly output from 24,000 metric tons to 28,000 metric tons. Nippon Metal Industry Co. announced plans to install new equipment at its Steckel mill, reducing the minimum thickness from 4mm to 2.5mm. Present output at the mill is about 12,000 metric tons per month. Nippon Yakin planned to redesign part of its continuous caster at the Kawasaki City works, and Kawasaki Steel planned to install a new method of making chrome additions to the converter at its Chiba plant. 2/

In May 1985, 32 Japanese specialty steelmakers and 34 trading companies formed an organization to monitor specialty steel exports to the United States as a result of the import restraint agreement limiting Japan's steel shipments to the United States. The new group is called the Japan Special Steel Exporters' Association and is the counterpart to an existing group which regulates carbon steel shipments to the United States. 3/

According to the Ministry of International Trade and Industry (MITI) in Japan, there were no Government assistance programs designed for the specialty steel industry in 1986. Japanese producers of specialty steel products with 300 or fewer regular employees or with paid-in capital of 100 million yen or less are eligible for Japanese Government assistance programs for small business in general. MITI also stated that there are no nontariff barriers to imports of specialty steel products in Japan. 4/

Japan's production of stainless and alloy tool steel products remained fairly stable at about 2.5 million short tons in 1984-86, reflecting the slower pace of activity in principal domestic markets (automotive, chemical, consumer electronics, and kitchenware) and in export markets. 5/ Japan's exports in 1986 totaled 777,000 short tons, of which 72,000 short tons (9 percent) went to the United States. Southeast Asia is Japan's largest stainless export market. 6/

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1/ U.S. Department of State telegram, March 1987.

2/ Metal Bulletin, July 12, 1985.

3/ Ibid., May 31, 1985, p. 33.

4/ U.S. Department of State telegram, March 1987.

5/ American Metal Market, Oct. 30, 1985, and Metal Bulletin, June 17, 1986.

6/ Metal Bulletin, Aug. 8, 1986.

Certain stainless and alloy tool steel - Japan 1/

	<u>1984</u>	<u>1985</u>	<u>1986</u>
Production.....1,000 short tons..	2,547	2,551	2,482
Capacity.....do....	2/	2/	2/
Capacity utilization.....percent..	2/	2/	2/
Exports:			
To the U.S.....1,000 short tons..	2/	2/	72
To all other countries.....do....	2/	2/	705
Total.....do....	2/	2/	777

1/ Data compiled from U.S. Department of State telegrams, February 1985, February 1986, March 1987.

2/ Not available.

Republic of Korea (Korea)

There were six producers of stainless and/or alloy tool steel products in Korea in 1986. They included Sammi Steel Co., a producer of stainless steel sheet, strip, bar, rod, and alloy and tool steel products; Samyang Metal Co., Tong Yang Mulsan, Daiyang Metal Co., and Poongsan Specialty Steel Co., all producers of stainless steel sheet and strip; and Korea Heavy Machinery, a maker of alloy steel and tool steel products. Korean industry representatives indicate that in 1986 there was no significant change in Korea's capacity, that no firms began or terminated production, and no programs to restructure the Korean specialty steel industries were announced. 1/

There is a system of nontariff restrictions on certain of Korea's imports. Under the plan, the import of restricted items may be approved if recommended by the relevant ministry or trade association. During 1985, the Korean government eliminated the prior import requirement of recommendation by the concerned association for the import of bar, rod, and hollow drill steel. Six items are still under this plan; however, effective July 1, 1988, the government plans to eliminate all such import restrictions for various specialty steel products including bar and wire rod of stainless steel and heat-resisting steel, stainless steel sheets and plates not more than 4.75mm in thickness, and stainless steel hoop and strips. 2/

Korea's production of stainless steel bar, rod, and sheet and strip increased 43 percent from 159,000 short tons in 1984 to 228,000 short tons in 1985, largely reflecting an increase in sheet and strip production. Almost 85 percent of production in 1985 was accounted for by sheet and strip production. Korea's capacity to produce stainless bar, rod, sheet and strip rose in 1986 but the increased level of production resulted in an increase in capacity utilization, from 51.0 percent in 1984 to 65.5 percent in 1986. Korea's exports to the United States declined from 5,000 short tons in 1985 to 2,000 short tons in 1986, a decrease of 60 percent, as shown in the following tabulation:

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1/ U.S. Department of State telegram, March 1987.

2/ Ibid.

<u>Item</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>
Production <u>1/</u> .....1,000 short tons..	159	<u>2/</u> 163	228
Capacity.....do....	<u>2/</u> 312	<u>2/</u> 312	348
Capacity utilization.....percent..	51.0	52.0	65.5
Exports:			
To the U.S.....1,000 short tons..	<u>3/</u>	5	2
To all other countries.....do....	<u>3/</u>	16	20
Total.....do....	<u>3/</u>	21	22

1/ Production, capacity, and export data compiled from U.S. Department of State telegram.

2/ Revised.

3/ Not available.

### Spain

There were at least six Spanish producers of stainless and alloy tool steel products in 1986. Major producers included Acerinox SA, a producer of a wide variety of finished stainless steel products and Spain's only producer of stainless flat-rolled products; SA Echevarria, a producer of bar and rod; Olarra SA, a producer of stainless ingots, billets, and bar; and Roldan SA, a producer of stainless billets, bar, rod, and wire.

In September 1985, Acerinox, which has undertaken numerous recent modernization efforts, began production of plate, ranging in thickness from 10 to 15mm, with plans underway to progressively increase plate thickness to 60mm in order to serve more diverse markets. In October 1985 a Steckel hot strip mill came on stream, and the company planned to start up an annealing and pickling line in December 1985. The addition of this line is expected to raise Acerinox's capacity for cold-rolled sheet from 150,000 tons per year to 180,000 tons per year, as well as making the company Europe's first integrated stainless producer. 1/

In June 1984, the Aceriales group, which included Olarra and Echevarria, announced that Echevarria and two other specialty steel producers would combine to form Aceros Especiales del Norte SA (Acenor). During 1985, Acenor acquired additional specialty steel producers, including Olarra (October 1985). Acenor's goal is the rationalization and modernization of Spain's specialty steels sector through work force reductions, elimination of inefficient capacity, and plant modernization. The restructuring program is designed to enable Spain's specialty steelmakers to become internationally competitive, and is expected to be completed by 1989. 2/ As part of the restructuring efforts, Olarra recently replaced much of its plant and equipment. It now operates one 30-metric ton electric arc furnace (which replaced five electric furnaces and two induction furnaces), and an argon-oxygen-decarburization (AOD) converter (replacing three). In April 1986, the company brought on stream a NKK twin-strand horizontal continuous caster. 3/

1/ Metal Bulletin, May 31, 1985 and Nov. 12, 1985.

2/ Ibid., Oct. 18, 1985 and Aug. 13, 1985.

3/ Ibid., July 15, 1986.

Acenor's newest acquisitions now enable it to control 65 to 70 percent of Spain's specialty steel production. A spokesman for Acenor indicated that the weak demand for specialty steel in the Spanish domestic market is expected to continue for a few years, making it necessary for Acenor to continue exporting at least 50 percent of its production. 1/

According to a U.S. Department of State telegram, Spain, which entered the EC in 1986, is subject to the common EC policy on allocation of steel production. Under the terms of the agreement that admitted Spain to the EC, Spanish steel production and capacity are to be reduced. The effect of EC membership on Spain's specialty steel industry is not yet known.

Spain's production of stainless steel decreased from an estimated 268,000 short tons in 1984 to 257,000 short tons in 1985 as a result of increased production costs (e.g., the costs of scrap and electricity) and sluggish export demand is shown in the following tabulation:

<u>Item</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>
Production <u>1/</u> .....1,000 short tons..	<u>2/ 3/</u> 268	<u>2/</u> 257	274
Capacity.....do....	<u>4/</u>	<u>4/</u>	<u>4/</u>
Capacity utilization.....percent..	<u>4/</u>	<u>4/</u>	<u>4/</u>
Exports: <u>5/</u>			
To the U.S.....1,000 short tons..	<u>4/</u>	<u>4/</u>	20
To all other countries.....do....	<u>4/</u>	<u>4/</u>	194
Total.....do....	<u>4/</u>	<u>4/</u>	214

1/ Production data compiled from Alloy Metals and Steel Market Research, as published in Metal Bulletin, Feb. 8, 1985, and Metal Bulletin June 20, 1986. Export data compiled from U.S. Department of State telegram.

2/ Revised.

3/ Estimated by staff of the U.S. International Trade Commission.

4/ Not available.

5/ Data include exports of stainless steel plate, sheet and strip, and bar.

Production rose 7 percent to 274,000 short tons in 1986, partly reflecting growth in demand from the consumer durables market and the food processing industry. 2/ Exports totaled 214,000 short tons in 1986, of which 20,000 short tons, or 9 percent, were shipped to the United States.

### Sweden

In 1986, Sweden's stainless steel industry consisted of two major groups: Avesta AB, a producer of stainless flat-rolled products; and Sandvik AB, a producer of specialty tubes, strip, and wire. The leading alloy tool steel producer was Uddeholm AB.

In January 1984, the Swedish specialty steel industry announced a reorganization leaving Avesta and Sandvik as the leading stainless producers.

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1/ Ibid., Oct. 18, 1985 and Aug. 13, 1985.

2/ Ibid., Nov. 11, 1986.

Under terms of the reorganization, Sandvik agreed to concentrate on specialty steel tubes, strip, and wire; Avesta agreed to concentrate on flat-rolled products; and Uddeholm, once a producer of a full range of stainless steel products, agreed to concentrate on alloy tool steel products and to sell its other operations to Avesta. Fagersta AB, once a leading producer of hot- and cold-rolled stainless steel strip and wire rod, began to diversify out of steel in 1984, and most of its stainless operations were absorbed by Avesta. The industry intended to combine these operations to eliminate duplication and inefficiency. 1/

During 1985, Avesta announced several projects designed to improve its annual earnings. Early in the year, the company implemented a project to rationalize cold-rolled strip production and to expand its wide cold-rolled coil facilities. The narrow cold-rolled strip mill at the Avesta site was closed in the spring, and production transferred to the operations in Torshälla. In September 1985, a decline in the market for stainless flat products prompted the announcement of new cutbacks at Avesta's Degerfors works. 2/

Other restructuring efforts were undertaken by Sweden's steel industry in 1985. Sandvik continued to reduce its workforce while maintaining production levels and investing heavily in new continuous casting operations. Marginal products have been eliminated and production streamlined. 3/ In mid-1985 the steel melting plant within Fagersta Stainless (a joint subsidiary of Sandvik and Avesta) was closed, and production transferred to the two controlling companies. 4/ In addition, new companies producing stainless steel bars and seamless tubes were established, taking over the production of existing works. Avesta was to acquire a controlling share in a new company that will take stainless billets and heavy round bars from Avesta's Degerfors works and have them hire-rolled and finished at the Hagfors works of Uddeholm. Sandvik and Avesta are equal partners (50 percent each) in a new seamless tube company called Ansab, which is operating the Storfors works to produce cold-finished stainless tubes from seamless hollow bars and tube hollows. 5/

In October 1986, the Swedish Government approved a merger between Finland's Ovako Oy AB and Sweden's SKF Steel, Scandinavia's two largest specialty steel producers. 6/ The new company, Ovako Steel AB, will have its first full operating year in 1987. In a joint statement, Ovako and SKF said they regard the merger as an important step forward in restructuring the Nordic steel industry designed to strengthen its competitiveness during what they termed "the transitional period now prevailing in Europe's steel industry." 7/

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1/ Metal Bulletin, Jan. 13, 1984, p. 32.

2/ Ibid., Sept. 6, 1985.

3/ Ibid., Feb. 15, 1985.

4/ American Metal Market, Oct. 30, 1985.

5/ Metal Bulletin, Sept. 27, 1985.

6/ These companies produce low-alloy specialty steel, much of which, such as bearing steel, is not subject to this investigation.

7/ Metal Bulletin, Apr. 11, 1986 and Oct. 17, 1986, and 33 Metal Producing, Apr. 1986.

Two of Sweden's specialty steel producers entered into business agreements with U.S. firms during 1985. Avesta was granted an exclusive agency by Armco's specialty steel division for certain grades of cold-finished stainless steel bars. Armco will continue to serve some customers directly from its mills; however, Avesta will become Armco's exclusive mill depot for smooth-turned cold-finished round bar products of certain stainless grades. Avesta Stainless is based in New Jersey and serves over 400 steel service center depots in the United States. 1/

In another venture, Uddeholm, one of Europe's largest tool and high-speed steel producers and exporters, entered into partnership with the Ellwood City Forge Corp. to produce tool steel ingots in a new mini mill at New Castle, PA. The new company, Ellwood Uddeholm Steel Corp., is 80-percent owned by the U.S. firm and 20 percent by the Swedish company. Steel production at the plant was begun in December 1985. Initial capacity is about 60,000 tons per year of tool and other specialty steels as well as carbon and other alloy steels. Ellwood City Forge Corp. forges under contract and machines steel from the new plant on Uddeholm's behalf. Finished products will be marketed in the United States through Uddeholm's existing sales network, which is based in New Jersey. According to industry sources, Uddeholm's venture is partly in response to the U.S. import restrictions on certain alloy tool steel. 2/

In 1986, domestic specialty steel producers filed two cases under Section 301 of the Trade Act of 1974 against imports of Swedish stainless steel tube and stainless wire. 3/ The first filing was withdrawn in March 1986 after the U.S. administration promised to seek a voluntary restraint agreement from Sweden on its exports of all steel products to the United States. 4/ The United States Trade Representative made a determination not to initiate the second filing under Section 301.

Sweden's production of stainless steel and alloy tool steel products \* \* \*. The information in the preceding paragraph is illustrated in the following tabulation: 5/

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1/ Ibid., Dec. 17, 1985.

2/ Metal Bulletin, Jan. 18, 1985, p. 23.

3/ These products are not subject to specialty steel import relief.

4/ Metal Bulletin, Oct. 17, 1986.

5/ Compiled from data provided by counsel for Sweden's specialty steel industry.

<u>Item</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>
Production <u>1/</u> .....1,000 short tons...	***	***	***	***
Capacity.....do.....	***	***	***	***
Capacity utilization.....percent...	***	***	***	***
Exports:				
To the United States..1,000 short tons..	***	***	***	***
To all other countries.....do.....	***	***	***	***
Total.....do.....	***	***	***	***

1/ Includes significant tonnage consumed internally in producing products outside the scope of this investigation.

### United Kingdom

The British stainless and alloy tool steel industry consists of British Stainless Corporation, a division of state-owned British Steel Corporation, and approximately six private-sector firms, which are members of the British Independent Steel Producers Association (BISPA). British Stainless is by far the largest producer of stainless steel in the United Kingdom, whereas alloy tool steel is produced in smaller quantities by a limited number of firms. Many stainless and alloy tool steel producers have discontinued operations in recent years citing the pressures of foreign competition. 1/ In 1985, several years of negotiations between British Steel Corp. and engineering group Guest, Keen, and Nettlefold (GKN) resulted in an agreement to merge their specialty-steelmaking activities into a new jointly owned company called United Engineering Steels Ltd. (UES), which began operations in April 1986. UES is an independent private sector company that has been formed into four independent "self standing" operations - Rotherham Engineering Steels, Stocksbridge Engineering Steels, Brymbo Engineering Steels, and United Engineering and Forging - responsible for their own profitability and customer relations and developing new market opportunities in home and export markets. 2/ During the course of the merger negotiations, much excess production capacity was eliminated, with further rationalization of operations targeted. 3/ The plan for the new venture, drawn up under the code name "Project Phoenix," is the biggest initiative taken in the United Kingdom's steel industry since 1980. 4/

In recent months, a number of British steel producers have announced plans to move into stainless bar production in an effort to regain a bigger share of the British stainless bar market, that at present is experiencing significant import penetration. Companies which have announced plans to move into stainless bar production include Glynwed International's Steel Division, which is preparing to begin stainless steel bar production at a number of its plants, and British Steel Corp., which announced plans to install a new horizontal billet caster at one of its facilities in an effort to establish itself as a competitive producer of stainless bar and rod. 5/

1/ Financial Times, Mar. 26, 1984, p. 26.

2/ Metal Bulletin, Apr. 29, 1986.

3/ Metal Bulletin, Jan. 17, 1986, p. 19.

4/ U.S. Department of State telegram, Feb. 1986.

5/ Metal Bulletin, Dec. 23, 1986 and Jan. 16, 1987.

Total British production of stainless steel products increased 2 percent from 282,000 short tons in 1984 to an estimated 287,000 short tons in 1985. The data reflect a continuation of the positive trend in demand for flat products which resulted from growth in demand for consumer goods and an improvement in capital investment in the nuclear industry and the petro-chemicals industry. 1/ Production is believed to have declined in 1986, although data are not directly comparable with data in earlier years as shown in the following tabulation: 2/

<u>Item</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>
Production.....1,000 short tons..	282	<u>1/</u> 287	<u>2/</u> 239
Capacity.....do....	<u>3/</u>	<u>3/</u>	<u>3/</u>
Capacity utilization.....percent..	<u>3/</u>	<u>3/</u>	<u>3/</u>
Exports:			
To the U.S.....1,000 short tons..	<u>3/</u>	<u>3/</u>	12
To all other countries.....do....	<u>3/</u>	<u>3/</u>	<u>33</u>
Total.....do....	<u>3/</u>	<u>3/</u>	45

1/ Estimated by staff of the U.S. International Trade Commission.

2/ Data cover stainless steel plate, sheet and strip, bar, wire rod and alloy tool steel.

3/ Not available.

#### West Germany

There were two major producers of stainless and alloy tool steel in West Germany in 1986; Krupp Stahl AG, a producer of a full range of specialty steel products and Thyssen Edelstahlwerke AG, a subsidiary of Thyssen AG and a producer of a wide range of specialty steel products. Thyssen and Krupp are among the world's largest stainless and alloy tool steel producers. Krupp accounts for about 8 percent of world production of stainless flat-rolled material making it the world's largest producer of stainless steel flat-rolled products. 3/ In recent years, Thyssen Edelstahlwerke has increased its alloy tool steel production to nearly 50 percent of total company production from only 27 percent of production in 1977. Thyssen Edelstahlwerke is now one of the largest producers of alloy tool steel products in the Western world. 4/

West Germany's production of stainless steel products increased to 981,000 short tons in 1986 from 968,000 short tons in 1984 as a result of the continued strength of demand in both domestic and export markets. Capacity remained stable, and capacity utilization rose from 85.7 percent in 1984 to

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1/ Metal Bulletin, Jan. 8, 1985.

2/ Production data compiled from Alloy Metals and Steel Market Research, as published in Metal Bulletin, Feb. 8, 1985, and U.S. Department of State telegram, Mar. 1987.

3/ Metal Bulletin, Sept. 27, 1985.

4/ American Metal Market, Feb. 2, 1987.

86.8 percent in 1986, as shown in the following tabulation: 1/

<u>Item</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>
Production.....1,000 short tons..	968	<u>1/</u> 959	<u>2/</u> 981
Capacity.....do....	<u>3/</u> 1,130	<u>3/</u> 1,130	<u>3/</u> 1,130
Capacity utilization.....percent..	85.7	<u>1/</u> 84.9	<u>2/</u> 86.8

1/ Revised.

2/ Preliminary.

3/ Estimated by staff of the U.S. International Trade Commission.

### Exchange rates

Exchange-rate changes can affect the relative dollar price of foreign to U.S.-produced specialty steel, in turn affecting the level of U.S. imports or exports of this product. A depreciation of the dollar generally raises the dollar price of U.S. imports and decreases the foreign-currency price of U.S. exports, discouraging imports and encouraging exports. An appreciation of the dollar generally has the opposite effect.

During the 5 years preceding import relief (1978-82), the nominal and real value of the dollar experienced two cycles: a mild depreciation which lasted through the end of 1980, and a relatively steady appreciation through the end of 1982. The dollar then continued to appreciate on a quarterly basis through January-March 1985. Beginning in the second quarter of 1985, the U.S. dollar reversed its upward trend and began to depreciate sharply against major currencies, although the magnitude of the recent dollar depreciation varied against different foreign currencies.

Table 39 presents nominal and real exchange rate indexes between the U.S. dollar and the currencies of the following major countries of origin for U.S. imports of specialty steel products: France, Japan, Mexico, Korea, Spain, Sweden, the United Kingdom, and West Germany. Based on dollars per unit of foreign currency, the exchange rate indexes approximate quarterly changes in the dollar price of foreign products from January-March 1983 (the base period) to October-December 1986. 2/

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1/ Production data compiled from Alloy Metals and Steel Market Research, as published in Metal Bulletin, Feb. 8, 1985; capacity data estimated on the basis of information in Metal Bulletin.

2/ Decreasing index numbers suggest that the dollar price of foreign goods purchased with U.S. dollars has declined since the base period; increasing index numbers suggest that the dollar price of foreign goods purchased with U.S. dollars has increased since the base period. The nominal exchange rate index uses quarterly period-average exchange rates between the dollar and the foreign country's currency as a rough estimate of quarterly changes in the average prices of foreign goods sold at a constant price if purchased with U.S. dollars. Adjusted for relative changes in the wholesale price levels in the United States and in the subject foreign country, the real exchange rate index more accurately reflects real changes in average wholesale price levels of foreign goods if purchased with U.S. dollars.

Table 39

Indexes of the nominal and real exchange rates between the U.S. dollar and the British pound, French franc, Japanese yen, Korean won, Mexican peso, Spanish peseta, Swedish krona, and West German deutsche mark, by quarters, January 1983–December 1986 1/ 2/

Period	British pound		French franc		Japanese yen		Korean won	
	Nominal	Real	Nominal	Real	Nominal	Real	Nominal	Real
(January–March 1983=100)								
1983:								
Jan–March...	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Apr–June....	101.5	103.2	92.2	95.6	99.2	98.0	97.9	96.8
July–Sept...	98.6	100.0	86.5	92.2	97.2	95.2	96.0	93.7
Oct–Dec.....	95.9	98.1	84.3	92.6	100.5	97.4	94.8	92.1
1984:								
Jan–March...	93.6	96.4	82.9	93.2	102.0	97.9	94.7	91.4
Apr–June....	91.2	95.4	82.7	95.0	102.7	97.8	94.4	90.8
July–Sept...	84.7	89.4	76.9	90.5	96.8	93.2	93.0	90.4
Oct–Dec.....	79.4	85.1	73.6	88.2	95.8	92.2	91.9	89.7
1985:								
Jan–March...	72.8	79.4	69.2	84.4	91.5	88.5	89.8	87.8
Apr–June....	82.1	91.2	73.2	90.0	94.0	90.3	86.9	84.9
July–Sept...	89.8	101.1	79.3	96.9	98.8	94.4	85.3	84.2
Oct–Dec.....	93.8	105.8	87.3	103.6	113.8	105.7	84.5	83.3
1986:								
Jan–March...	94.0	109.2	95.6	<u>3/</u>	125.5	115.4	84.9	84.1
Apr–June....	98.5	118.5	96.4	<u>3/</u>	138.6	124.5	84.9	84.0
July–Sept...	97.2	118.0	101.6	<u>3/</u>	151.3	132.8	85.4	84.8
Oct–Dec.....	93.3	<u>3/</u>	104.8	<u>3/</u>	147.1	<u>3/</u>	86.6	85.4

See footnotes at the end of the table.

Table 39

Indexes of the nominal and real exchange rates between the U.S. dollar and the British pound, French franc, Japanese yen, Korean won, Mexican peso, Spanish peseta, Swedish krona, and West German deutsche mark, by quarters, January 1983–December 1986 1/ 2/—Continued

Period	(January–March 1983=100)							
	Mexican peso		Spanish peseta		Swedish krona		West German deutsche mark	
	Nominal	Real	Nominal	Real	Nominal	Real	Nominal	Real
1983:								
Jan–March...	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Apr–June....	89.3	108.1	93.5	95.9	98.3	98.8	96.9	97.0
July–Sept...	80.9	109.4	86.4	89.8	94.9	97.2	91.1	91.0
Oct–Dec.....	73.9	110.4	84.0	90.0	93.6	96.7	89.9	89.9
1984:								
Jan–March...	68.0	119.8	84.1	93.0	92.9	97.6	89.1	89.0
Apr–June....	63.0	127.4	84.9	95.6	92.6	97.9	88.9	88.8
July–Sept...	58.7	129.1	78.6	89.9	88.1	94.7	82.5	83.0
Oct–Dec.....	54.9	134.1	76.2	88.5	85.1	93.6	78.9	80.1
1985:								
Jan–March...	50.9	140.3	72.1	87.0	80.0	90.3	73.9	76.0
Apr–June....	46.7	143.7	74.7	91.4	82.9	93.5	78.0	80.4
July–Sept...	37.1	124.8	77.8	96.6	88.3	100.3	84.5	87.8
Oct–Dec.....	30.6	116.1	81.7	101.8	94.8	107.1	93.2	96.0
1986:								
Jan–March...	24.1	112.8	88.1	111.0	100.0	113.2	102.6	106.3
Apr–June....	19.5	108.2	91.0	117.0	102.9	116.5	107.2	111.5
July–Sept...	15.3	103.5	96.1	123.7	106.3	120.1	115.4	119.4
Oct–Dec.....	12.2	<u>3/</u>	96.4	<u>3/</u>	107.1	<u>3/</u>	119.9	<u>3/</u>

1/ Exchange rates are expressed in U.S. dollars per unit of foreign currency.

2/ The real exchange rate indexes are derived from nominal exchange rates adjusted by the producer price indexes for the United States and for the subject foreign countries. These indexes are presented in line 63 of the International Financial Statistics.

3/ Cannot be calculated because the necessary data are not yet available.

Source: International Monetary Fund, International Financial Statistics.

EC countries, accounting for 48 percent of total U.S. imports of specialty steel products during 1986, are the major source of imported specialty steel, followed by Japan, accounting for 19 percent of U.S. imports during this recent period. 1/ European countries' currencies (including the Swedish krona) and the Japanese yen followed the general exchange rate pattern outlined above. 2/ For example, by July-September 1986, the real values of the British pound and the West German deutsche mark had increased vis-a-vis the dollar to almost 20 percent above their values in January-March 1983. By July-September 1986, the real value of the Japanese yen had risen even more sharply against the dollar to 33 percent above its base period value.

Two exceptions to the exchange rate pattern outlined above are Korea and Mexico, accounting for approximately 5 and 6 percent of total U.S. imports of specialty steel products in 1986. Relative to the U.S. dollar, the real value of the Korean won fell steadily during 1983-85, and leveled off in 1986 at approximately 16 percent below its value in January-March 1983. With respect to Mexico, the nominal depreciation of the Mexican peso of almost 88 percent from January-March 1983 to October-December 1986 may not fully explain changes in the dollar price of Mexican products because of the high rate of Mexican inflation in that period. Adjusted for inflation, the real value of the Mexican peso increased continuously vis-a-vis the dollar from January-March 1983 to April-June 1985, or by 44 percent. In July-September 1985, the real value of the peso reversed its rise, falling continuously against the dollar through July-September 1986. As of July-September 1986, the real value of the Mexican peso was 3 percent above its base period value relative to the dollar.

To the extent that only a portion of foreign producers' costs are denominated in dollars, the recent depreciation of the dollar, in nominal and in real terms, puts the majority of foreign producers at a competitive disadvantage in the U.S. market. In response to an exchange-rate-generated increase in the dollar price of foreign-produced specialty steel, importers are faced with a choice between raising selling prices or operating at a smaller profit margin. Correlations run during investigation No. TA-201-48 suggested that the appreciation of the dollar in 1981 and 1982 may have contributed to increased imports (and decreased exports) of specialty steel in those periods.

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1/ Here, European Communities includes the newer entrants, Spain and Portugal.

2/ Together these countries accounted for approximately 75 percent of imports of specialty steel products in 1986.

Considerations Under Section 202(c) of the Trade Act of 1974

Section 202(c)(1).—Section 202(c)(1) directs that consideration be given to "information and advice from the Secretary of Labor on the extent to which workers in the industry have applied for, are receiving, or are likely to receive adjustment assistance under chapter 2 or benefits from other manpower programs."

The Department of Labor does not maintain data limited to the specialty steel industry as defined by the Commission's investigation. Since April 3, 1975, the effective date of the adjustment assistance program, the Department of Labor has instituted 1,149 investigations in response to petitions received from workers in the steel industry covered by SIC code 3312. This code includes carbon steel and other ferrous metals in addition to stainless and alloy tool steels. The total number of employees that applied for certification through April 1, 1987, was 369,165. A total of 183,007 of these workers were certified and an estimated \$387.1 million in benefits were paid. Petitions on behalf of 186,158 workers were denied. The average number of production and related workers in 1986 for all stainless and alloy tool steel products under investigation was 11,479.

Section 202(c)(2).—Section 202(c)(2) directs that consideration be given to "information and advice from the Secretary of Commerce on the extent to which firms in the industry have applied for, are receiving, or are likely to receive adjustment assistance under chapters 3 and 4."

The Department of Commerce informed the Commission that two firms known to be producing products covered by the Commission's investigation have petitioned for adjustment assistance retroactive to April 1975. The first petition filed by \* \* \*, was certified on \* \* \*. The second petition filed by \* \* \*, was certified on \* \* \*. As of April 1, 1987, neither firm had received technical services or financial assistance through the Department of Commerce. <sup>1/</sup>

Financial assistance—discontinued effective April 7, 1986, upon enactment of the Consolidated Omnibus Budget Reconciliation Act of 1985—is no longer available. The maximum amount of monetary assistance formerly available under the program, \$1 million in direct grants and \$3 million in loan guarantees, is far less than most specialty steel producers should be capable of obtaining from private or internal sources. In 1985, for example, the specialty steel industry spent \$130.1 million on capital improvements and research and development projects, or approximately 40 percent of 1984 operating income or cash-flow. The cost of even a relatively small capital investment in this industry would in most instances exceed the amount of assistance available under the program.

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<sup>1/</sup> Certified firms are eligible to apply for the technical services and financial assistance necessary to implement programs of economic recovery. Technical services includes assistance in engineering, marketing, production methods, and financial management. Financial assistance includes both direct loans and loan guarantees.

Section 202(c)(3).—Section 202(c)(3) directs that consideration be given to "the probable effectiveness of import relief as a means to promote adjustment, the efforts being made or to be implemented by the industry concerned to adjust to import competition, and other considerations relative to the position of the industry in the Nation's economy."

Petitioners have asserted that the import relief program has had limited effectiveness with respect to improving the industry's performance, citing, among other factors, increases in market penetration, declines in employment, suppressed and depressed prices, and a deterioration in average operating profitability compared with that prior to the imposition of import relief. <sup>1/</sup> Some reasons given by the domestic industry for the inability of the import relief to bring about a full recovery include stagnant consumption and/or modest growth for specialty steel products and the fact that fixed tonnage quotas for the long products allow increases in market share in a declining market. Petitioners have suggested market share quotas to improve the effectiveness of the import relief.

During the period of relief, the industry has endeavored to adjust to import competition through organizational changes, increased capital expenditures, and by restructuring labor costs.

Organizational/operational changes.—Since 1983, several major organizational changes have occurred. A few major firms have left the industry, including Bethlehem Steel and USX. Others, including LTV Specialty Steel, Crucible Specialty Metals, and the new divisions of Cyclops Corporation have become more specialized, as a result of company divestitures or management buyouts. The practice of sharing facilities between firms to avoid full integration is another form of rationalization that has occurred in recent years. <sup>2/</sup> For example, the new Coshocton Stainless Division of Cyclops buys coils from other suppliers, thereby allowing the division to concentrate on high-value finish processes. A new entrant to stainless bar production, Talley Metals in South Carolina, decided to buy billet from Armco and Cyclops rather than install a melt shop in its facility. As of February 1986, Cyclops was considering the possibility of a conversion arrangement with Talley Metals under which Cyclops would cease bar production in favor of having Talley convert billets into bar on a contractual basis. This type of arrangement can increase production efficiency without necessarily detracting from a supplier's product range.

Investment.—In 1986, the most recent year for which data are available, the specialty steel industry spent \$128.6 million on capital outlays and research and development, or more than 50 percent of 1986 operating income or cash-flow. Large investments in 1985 included \* \* \*. Research and development in 1985 included the development of new alloys, process research, and powder metallurgy. <sup>3/</sup>

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<sup>1/</sup> See, for example, petitioners' prehearing brief at pps. 15-17.

<sup>2/</sup> "Shakeout in Specialty Steel," Iron Age, Feb. 7, 1986.

<sup>3/</sup> For a detailed description of capital expenditures and research and development expenditures, see the sections of the report entitled "Financial Performance of the Industry."

Reductions in labor costs.—U.S. producers of specialty steel have made progress in recent years at reducing labor costs through the addition of capital equipment, labor force reductions, and by reducing the wage bill. 1/

The average number of production and related workers producing stainless steel and alloy tool steel declined 14 percent in 1983-86. During this period, labor productivity, measured as output per hours worked, increased 14 percent for stainless steel and alloy tool steel. The stainless steel sheet and strip sector experienced the greatest decline in average production and related workers (30 percent), and also the greatest increase in labor productivity (39 percent). The stainless steel plate sector also experienced large increases in labor productivity (37 percent). Increases and (decreases) in average production and related workers and in output per hour worked for stainless steel and alloy tool steel products in 1983-86 were as follows:

<u>Product</u>	<u>Employment</u> -----percent change-----	<u>Productivity</u> -----percent change-----
Sheet and strip	(28.1)	30.6
Plate	(5.7)	35.7
Bar	(11.1)	10.2
Rod	5.9	12.0
Alloy tool steel	6.7	0.2

Petitioners have stated that labor negotiations have resulted in major reductions in wages (adjusted for inflation) during the period of import relief in the industries producing stainless steel and alloy tool steel. 2/ These cost savings have reportedly been achieved primarily by negotiating temporary wage concessions, eliminating the cost-of-living adjustments (COLA), and transforming direct volume incentives into profit sharing plans.

Other considerations.—The specialty steel industry, comprising about 23 firms producing stainless steel and/or alloy tool steel, is concentrated in the northeast and north-central regions of the United States, with a large concentration of producers in western Pennsylvania. Imports are also concentrated regionally, with the bulk entering the United States market on the northeast and mid-Atlantic coasts.

Stainless steel is a necessary component of equipment used in such vital industries as food and chemical processing, power generation, and energy exploration. Major industries for which alloy tool steel or equipment made from alloy tool steel is a necessary input include the automotive, aerospace, and machine tools industries.

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1/ For a detailed description of capital improvements that have improved productivity see the section of the report on "Efforts of U.S Producers to Compete with Imports."

2/ Average hourly wage data received by the Commission does not generally show hourly wages declining, except for stainless steel rod and alloy tool steel.

Section 202(c)(4).—Section 202(c)(4) directs that consideration be given to "the effect of import relief upon consumers (including the price and availability of the imported articles and the like or directly competitive articles produced in the United States) and on competition in domestic markets for such articles."

Imposition of import relief in the form of additional tariffs or quotas increases the general price level of the product in the protected market, all other factors remaining equal. The general price increase in response to imposition of import relief occurs in the following manner. The likely effect of an additional tariff is to increase import prices by an amount less than the full amount of the tariff. <sup>1/</sup> The likely effect of a quota is to increase the price of imports by restricting its supply. The higher price for imported material may also lead to a price increase for domestic material. To the extent that the domestic and imported products are substitutable, the higher price for imports induces consumers to demand more U.S.-produced material. Depending on the responsiveness of domestic supply to changes in demand, the increased demand for U.S.-produced material may lead to higher prices for the domestic material. Through a similar chain of events, termination of import relief can be expected to reduce the general price level of the product in the formerly protected market.

Price data for stainless steel and alloy tool steel products sold during the period of the import relief were used to examine the possible effects of such relief on prices paid by consumers for these products. The price data examined suggest that implementation of the section 201 import relief may have contributed to a period of temporarily higher prices, but that, generally, prices did not remain higher in late 1986 than those in the period immediately preceding the import relief. A common trend in specialty steel prices was a general price increase for U.S.-produced and imported specialty steel products that began in the second half of 1983 and continued to at least the second half of 1984. <sup>2/</sup> However, examining price data for the period of import relief as a whole, 1983-86, suggests that prices of most specialty steel products have not changed substantially, with the exception of stainless steel wire rod and alloy tool steel. Average prices of U.S.-produced stainless steel sheet and strip, stainless steel plate, and stainless steel bar in October-December 1986 were within 5 percent of average prices in January-March 1983. Prices of U.S.-produced wire rod sold to end users increased by 14 percent from January-March 1983 to October-December 1986. In contrast, average prices of U.S.-produced alloy tool steel bar suggest that prices of tool steel products generally declined throughout the period of import relief, or by 32 percent from January-March 1983 to October-December 1986.

Table 40 presents estimates of declines in prices and resulting gains for consumers that may occur if the import relief is terminated and all existing VRAs stay in effect, using a range of likely price elasticities. Table 41 presents corresponding estimates assuming that all VRAs are terminated.

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<sup>1/</sup> This assumes that import supply is not perfectly elastic, or that import supply is not perfectly responsive to changes in prices in the U.S. market. If import supply was perfectly elastic, import prices would increase by the full amount of the tariff.

<sup>2/</sup> Because consumption of stainless steel and alloy tool steel products also increased from 1983 to 1984 (by 12 percent), it is difficult to estimate how much of the price increase was due to the implementation of import relief.

Table 40.—Estimated effects on consumers of terminating import relief for stainless steel and alloy tool steel products from non-VRA imports, 1986 <sup>1/</sup>

Product	Projected decrease in import price		Projected decrease in U.S. price		Estimated total consumer gains	
	Range		Range		Range	
	<u>low</u> (percent)	<u>high</u> (percent)	<u>low</u> (percent)	<u>high</u> (percent)	<u>low</u> (thousands)	<u>high</u> (thousands)
Stainless steel:						
Sheet and strip	2.9	3.0	0.0 <sup>2/</sup>	0.1	\$1,967	\$2,142
Plate	2.9	3.0	0.0 <sup>2/</sup>	0.0 <sup>2/</sup>	272	296
Bar	8.8	34.1	0.6	2.0	7,621	28,161
Wire rod	1.8	6.4	0.9	0.3	649	2,214
Alloy tool Steel	7.3	27.6	0.6	2.1	5,888	21,383

<sup>1/</sup> Imports and import prices used for this estimate were those from countries which have not negotiated VRAs.

<sup>2/</sup> The projected price decrease of 0.0 percent is a rounded number and indicates that producers' prices are expected to decline by less than 0.05 percent in response to a termination of import relief.

Source: Estimate prepared by the staff of the U.S. International Trade Commission.

Table 41.—Estimated effects on consumers of terminating import relief for total imports of stainless steel and alloy tool steel products, 1986 <sup>1/</sup>

Product	Projected decrease in import price		Projected decrease in U.S. price		Estimated total consumer gains	
	Range		Range		Range	
	<u>low</u> (percent)	<u>high</u> (percent)	<u>low</u> (percent)	<u>high</u> (percent)	<u>low</u> (thousands)	<u>high</u> (thousands)
Stainless steel:						
Sheet and strip	<sup>2/</sup> 3.0	3.1	0.3	0.3	\$10,462	\$12,267
Plate	<sup>3/</sup> 3.0	3.1	0.2	0.2	1,244	1,459
Bar	10.4	41.0	1.1	3.7	13,227	49,809
Wire rod	8.1	31.2	2.6	8.8	5,239	19,375
Alloy tool Steel	10.9	43.1	1.9	6.6	17,199	65,339

<sup>1/</sup> Imports and import prices used for this estimate were for total imports and correspond to the analysis presented in the Office of Economics' memorandum EC-K-176, dated May 6, 1987 which is in app. G of this report.

<sup>2/</sup> The estimated effects on consumers presented here for sheet and strip are from the second method used for flat-rolled products in app. G. Estimates of consumer gains in the stainless steel sheet and strip sector from the first method are \$4.1-\$8.7 million. Estimates of changes in prices of total imports and domestic shipments are not available for the first method used in analysis 2 of app. G.

<sup>3/</sup> The estimated effect on consumers presented here for plate are from the second method used in the alternate analysis in app. G. Estimates of consumer gains in the stainless steel plate sector from the first method are \$0.9-\$2.3 million. Estimates of changes in prices of total imports and domestic shipments are not available for the first method used in the alternate analysis in app. G.

Source: Estimate prepared by the staff of the U.S. International Trade

Section 202(c)(5) and 202(c)(6).—Sections 202(c)(5) and 202(c)(6) direct that consideration be given to "the effect of import relief on the international economic interests of the United States;" and "the impact on U.S. industries and firms as a consequence of any possible modification of duties or other import restrictions which may result from international obligations with respect to compensation."

Under Article XIX of the GATT, member countries affected by U.S. import relief imposed to allow orderly adjustment to fairly traded import competition are entitled to receive equivalent compensation for the U.S. action. Compensation is generally in the form of duty reductions on other items that the affected countries export to the United States. If consultations do not produce agreement as to adequate compensation, a trading partner can retaliate by introducing restrictions against products that it imports from the United States. These products may include, but are not necessarily limited to, specialty steel products. Should the President decide to continue the import relief program, GATT members could request equivalent compensation or retaliate against U.S. exports. To date, only two trading partners that export specialty steel products to the United States, the EC and Canada, are known to have requested compensation for the U.S. imposition of import relief. Both countries retaliated against U.S. exports but have since discontinued such restrictions.

On December 22, 1983, the Canadian Government imposed a 4-year program of declining surtaxes (or additional tariffs) on imports into Canada of certain stainless steel sheet, strip, and plate after December 31, 1983. The surtaxes for 1984 ranged from 4.4 to 7.7 percent. On June 14, 1984, the Canadian Government revoked the surtax in light of equivalent concessions made by the United States as compensation. A respondent for Canadian producers stated that these concessions were granted on Canadian exports of cement to the United States.

In response to the imposition of section 201 import relief, the EC requested compensation in the amount of \$160 million a year in the form of reduced U.S. duties on EC steel and textile products. In late 1983, U.S.-EC compensation negotiations deteriorated, and in March 1984, the EC retaliated by putting quotas and increased duties on U.S. exports of certain petrochemicals, sporting goods, and burglar alarms. 1/ The retaliation, which was to remain in effect for the duration of the import relief action was estimated to net the EC about \$119 million annually. 2/

In March 1986, after the USTR published notice in the Federal Register that the EC was no longer subject to the additional duties on stainless flat-rolled products nor subject to the global quotas on stainless steel bar,

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1/ A preliminary list of specific products believed to be included in the retaliation was provided by the USTR in a letter dated Jan. 13, 1984. Products subject to additional tariffs of 6.4 to 6.7 percent included methyl alcohol; vinyl acetate; and alarms, burglar, fire, etc. Products subject to value quotas included styrene; polyethylene sheets; sporting and target guns, rifles and carbines; gymnastic and athletic equipment; and snow skis.

2/ Operation of the Trade Agreements Program, USITC Publication 1535, June 1984.

wire rod, and tool steel by reason of the implementation of a VRA, the EC simultaneously rescinded its retaliatory trade measures. In 1986, the EC (not including Spain and Portugal) accounted for almost 41 percent of U.S. imports of all stainless steel and alloy tool steel products under investigation. It is believed that other countries that are no longer subject to the import relief by reason of negotiating VRAs with the United States covering stainless flat-rolled products (and tool steel products for Austria) will not request compensation for the import relief on those products. However, VRA signatories that are GATT members and have exported stainless steel bar and wire rod and alloy tool steel to the United States may be eligible for compensation for those quotas. A major example of such a country is Japan. Japan has an Orderly Marketing Agreement (OMA) that gives it a separate allocation for these products. <sup>1/</sup> It is believed that countries that negotiate OMA's with the United States do so with the understanding that they will not request compensation.

Major exporting countries that have not signed VRAs or already received compensation (i.e. Canada) could conceivably do so should the import relief be continued. Sweden, Taiwan, and Finland are major exporting countries that fall into this category. Because it has been 3 years since the implementation of the import relief program, it seems likely that any foreign governments that believed it was in their country's best interests to request compensation or retaliate would have already done so.

Section 202(c)(7).—Section 202(c)(7) directs that consideration be given to "the geographic concentration of imported products marketed in the United States."

Similar to the geographic concentration of domestic production, imports of stainless steel and alloy tool steel are fairly concentrated in the United States. For example, four customs districts—Philadelphia, New York, Chicago, and Los Angeles—accounted for over 50 percent of all imports of the subject products in 1986. The following tabulation presents the percentage of 1986 imports of stainless steel and alloy tool steel imports that entered customs districts in various regions of the country: <sup>2/</sup>

<u>Region</u>	<u>Percent</u>
mid-Atlantic	24.8
Northeast	22.7
Midwest	17.2
California	14.8
Gulf Coast	14.2
Other (see below)	6.3
	100.0

<sup>1/</sup> Other countries that have negotiated OMA's with the United States include Argentina, Canada, Spain, Sweden, and Poland.

<sup>2/</sup> The custom districts are listed in order of importance for each of the regions defined by staff: mid-Atlantic (Philadelphia, PA; Baltimore, MD; Norfolk, VA; Wilmington, DE; and Washington, DC); Northeast (New York, NY; Bridgeport, CT; Boston, MA; Providence, RI; Buffalo, NY; Ogdensburg, NY; St. Albans, VT; and Portland, ME); Midwest (Chicago, IL; Detroit, MI; Cleveland, OH; Minneapolis, MN; St. Louis, MO; and Milwaukee, WI); California (Los Angeles and San Francisco); Gulf Coast (Houston, TX; Laredo, TX; New Orleans, LA; Mobile, AL; and Dallas, TX); and Other (Savannah, GA; Charleston, SC; Miami, FL; Tampa, FL; Seattle, WA; and Portland, OR).

The bulk of the stainless steel and alloy tool steel imports enter the United States market in the Northeast and mid-Atlantic States, followed by the Midwest. The largest customs district, Philadelphia, accounted for 15.6 percent of 1986 imports. Thus, any impact of the additional tariffs and quotas implemented in 1983 on availability of the subject products or on employment in firms that handle, transport, or distribute the subject products would have been felt primarily in these areas. Final distribution of the articles produced with imported and domestic specialty steel, especially of consumer goods, is spread throughout the United States, however.

Section 202(c)(8).—Section 202(c)(8) directs that consideration be given to "the extent to which the U.S. market is the focal point for exports of such article by reason of restraints on exports of such article to, or on imports of such article into, third-country markets."

Similar to the United States, the EC has steel agreements with about 14 countries, including Australia, Austria, Brazil, Bulgaria, Czechoslovakia, Finland, Hungary, Japan, Norway, Poland, Romania, South Africa, Republic of Korea, and Sweden that restrain those countries' exports to EC-member countries. 1/ There does not exist such an agreement limiting U.S. exports of steel products to EC countries. These VRAs appear to include the bulk of stainless steel and alloy tool steel products in the instant investigation. 2/ Renewed annually, the VRA negotiations concluded in April 1986 granted all of the countries a 3-percent increase in export quotas towards the EC. 3/ With respect to other countries, the Ministry of International Trade and Industry in Japan stated that there are no nontariff barriers to imports of specialty steel products in Japan. 4/

Section 202(c)(9).—Section 202(c)(9) directs that consideration be given to "the economic and social costs which would be incurred by taxpayers, communities, and workers, if import relief were or were not provided."

The removal of the additional tariffs for stainless steel sheet, strip, and plate, and the removal of the quotas for stainless steel bar and wire rod and tool steel products would reduce the protection from import competition currently enjoyed by the domestic industry. For stainless steel flat-rolled products, considerable import protection may still be available to the domestic industry as a result of the VRAs, which cover the majority of imports of these products. 5/ The protection remaining for stainless steel bar and wire rod and for tool steel products as a result of existing VRAs would be substantially less if the section 201 relief were not continued. To the extent that elimination of section 201 import protection would cause an increase in imports and a reduction in domestic sales, the industry might be

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1/ European Report, Mar. 6, 1986.

2/ Based on SITC numbers appearing in the Official Journal, Dec. 20, 1985.

3/ European Report, ibid.

4/ U.S. Department of State telegram, March 1987.

5/ See explanation of the VRA program in the section of this report titled, "Import Relief Program".

forced to reduce output and layoff workers. <sup>1/</sup> Economic costs faced by taxpayers under these conditions would include State and Federal unemployment insurance payments, income maintenance in cases of extended need, food stamps, and reduced Federal, State, and local tax receipts. Social costs to the people and the communities would result from the added unemployment burden. However, continuing the tariffs and quotas may also have adverse, though less readily measurable, side effects. To the extent that they are effective in restricting imports, the continuation of the import relief may continue to have adverse employment and tax effects on the firms that handle, transport, or distribute imports. In addition, to the extent that import relief has caused artificially higher prices, for both domestic and imported specialty steel products, a continuation of the import relief would maintain this economic distortion. Higher prices for specialty steel products could encourage developments that would have a long-term adverse affect on the domestic specialty steel industry. For example, higher prices could encourage the development of substitutes for specialty steel and discourage the use of specialty steel in new industrial applications. Specifically, higher prices for stainless steel products could discourage the automotive industry from proceeding with development of stainless steel exhaust systems. Another example of possible adverse developments from higher prices is downstream imports. Higher costs for end users could make those industries less competitive with respect to imports of their products. If higher costs have caused a significant reduction in sales volume and production of end-user industries, continuing the import relief may further reduce the U.S. market for specialty steel products.

Extending import relief may also keep some marginal firms in business that have no further plans of adjustment. As a result, unproductive capital and labor engaged in producing specialty steel may have no incentive to move to other, more profitable, products and industries. In turn, this distortion could increase capital and labor costs in other industries, possibly causing artificially higher prices in those industries.

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<sup>1/</sup> Estimates of import, domestic sales, production, and employment effects of such removal are discussed in app. G.



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APPENDIX A

PRESIDENTIAL PROCLAMATION NO. 5074

## Presidential Documents

Proclamation 5074 of July 18, 1983

### Temporary Duty Increases and Quantitative Limitations on the Importation Into the United States of Certain Stainless Steel and Alloy Tool Steel

By the President of the United States of America

#### A Proclamation

1. Pursuant to section 201(d)(1) of the Trade Act of 1974 (the Trade Act) (19 U.S.C. 2251(d)(1)), the United States International Trade Commission (USITC) on May 4, 1983, reported to the President the results of its Investigation No. TA-201-48 under section 201(b) of the Trade Act (19 U.S.C. 2251(b)). The USITC determined that certain hot wire rods and plates, sheets, and strip, not cut, not pressed, and not stamped to nonrectangular shape; all the foregoing of stainless steel or certain alloy tool steel; and round wire of high speed tool steel; provided for in items 806.90, 806.93, 806.94, 806.95, 807.26, 807.28, 807.34, 807.43, 807.46, 807.54, 807.72, 807.76, 807.88, 807.90, 808.26, 808.29, 808.34, 808.43, 808.49, 808.57, 808.64, and 809.45 of the Tariff Schedules of the United States (TSUS) (19 U.S.C. 1202), are being imported into the United States in such increased quantities as to be a substantial cause of serious injury to the domestic industries producing articles like or directly competitive with the imported articles. The USITC recommended the imposition of quantitative restrictions on imports of articles classified in the above TSUS items with exemptions for certain articles which are not produced in the United States or are produced in such small quantities that their exemption would not have an adverse impact on the domestic industry.

2. On July 5, 1983, pursuant to section 202(b)(1) of the Trade Act (19 U.S.C. 2252(b)(1)), and after taking into account the considerations specified in section 202(c) of the Trade Act (19 U.S.C. 2252(c)), I determined to impose additional tariffs and quantitative restrictions, with exemptions for certain articles which are not produced in the United States or are produced in such small quantities that their exemption would not have an adverse impact on the domestic industry. On July 5, 1983 in accordance with section 203(b)(1) of the Trade Act (19 U.S.C. 2253(b)(1)), I transmitted a report to the Congress setting forth my determination and intention to proclaim these additional tariffs and quotas, and stating the reasons why my decision differed from the action recommended by the USITC.

3. Section 203(e)(1) of the Trade Act (19 U.S.C. 2253(e)(1)) requires that import relief be proclaimed and take effect within 15 days after the import relief determination date.

4. Pursuant to sections 203(a)(1), 203(a)(3), and 203(e)(1) of the Trade Act (19 U.S.C. 2253(a)(1), 2253(a)(3), and 2253(e)(1)), I am providing import relief through the temporary imposition of increased tariffs and quantitative restrictions on certain stainless steel and alloy tool steel, as hereinafter proclaimed.

5. In accordance with section 203(d)(2) of the Trade Act (19 U.S.C. 2253(d)(2)), I have determined that the level of import relief hereinafter proclaimed pursuant to section 203(a)(3) of the Trade Act (19 U.S.C. 2253(a)(3)) permits the importation into the United States of a quantity of articles which is not less than the average annual quantity of such articles imported into the United States in the 1972-1982 period, exclusive of 1975 and 1982, which I have

determined to be the most recent representative period for imports of such articles.

NOW, THEREFORE, I, RONALD REAGAN, President of the United States of America, acting under the authority vested in me by the Constitution and the statutes of the United States, including sections 203 and 804 of the Trade Act (19 U.S.C. 2253 and 2483), and in accordance with Article XIX of the General Agreement on Tariffs and Trade (GATT) (61 Stat. (pt. 5) A58; 8 UST (pt. 2) 1786), do proclaim that—

(1) Part I of Schedule XX of the GATT is modified to conform to the action taken in the Annex to this proclamation.

(2) Subpart A, part 2 of the Appendix to the TSUS is modified as set forth in the Annex to this proclamation.

(3) The United States Trade Representative (USTR) is hereby directed to take such actions and perform such functions for the United States as may be necessary to administer and implement the relief set forth in the Annex hereto, including the allocation of quota quantities on a country-by-country basis; to negotiate orderly marketing agreements pursuant to section 203 of the Trade Act (19 U.S.C. 2253); and to modify, pursuant to section 203, the relief set forth in the Annex hereto. In order to carry out said directive, the USTR is hereby authorized to delegate to appropriate officials or agencies of the United States authority to perform any functions necessary for the implementation and administration of said relief. The USTR is hereby authorized to make any changes in the headnote or TSUS items created in the Annex hereto which may be necessary to implement the foregoing authority, such changes to be effective on or after the date of their publication in the Federal Register or such other date as may be specified therein.

(4) The President's authority in sections 203(g) (1) and (2) of the Trade Act (19 U.S.C. 2253(g) (1) and (2)) to prescribe regulations providing for the efficient and fair administration of any restriction herein proclaimed or governing the entry or withdrawal from warehouse of articles covered by any orderly marketing agreement negotiated hereunder or of like articles which are the product of countries not parties to any such agreement, has been delegated to the Secretary of the Treasury pursuant to section 5(b) of Executive Order No. 11846, as amended. Such authority shall be exercised by the Secretary of the Treasury, upon direction by the USTR, in consultation with representatives of the member agencies of the Trade Policy Staff Committee.

(5) The USTR is directed to conduct an annual review of the necessity for and effectiveness of such relief and recommend to the President any appropriate action under section 203(h)(4) of the Trade Act (19 U.S.C. 2253(h)(4)), and to set up such interagency bodies as may be necessary to monitor the progress toward adjustment of the domestic industry.

(6) The Secretary of the Treasury shall take such actions, not otherwise in contravention of law or in derogation of the authority of the Secretary, as the USTR shall determine are necessary to implement any import relief under this proclamation, or modification thereof.

(7) This proclamation shall be effective with respect to articles entered, or withdrawn from warehouse for consumption, on or after July 20, 1983, and before the close of July 19, 1987, unless the period of its effectiveness is earlier expressly modified or terminated.

IN WITNESS WHEREOF, I have hereunto set my hand this 19th day of July, in the year of our Lord nineteen hundred and eighty-three, and of the Independence of the United States of America the two hundred and eighth.

*Ronald Reagan*

## ANNEX

Subpart A, part 2 of the Appendix to the Tariff Schedules of the United States (19 U.S.C. 1202) is modified --

(a) by adding in numerical sequence the following new headnote 10:

\*10. Additional duties and quantitative limitations on stainless steel and alloy tool steel. -- The provisions of this headnote apply to items 926.00 through 926.23, inclusive, of this subpart. The duties provided for in items 926.00 and 926.05 and the quantitative limitations set forth in items 926.10 through 926.23, inclusive, are in addition to the duties provided for the subject articles in schedule 6, part 2B, or in item 832.00, part 3A, schedule 8, where applicable.

(a) Definitions. - For the purposes of this subpart -

- (i) the term "restraint period" refers to a 3-month period provided for in the Quota Quantity column for items 926.10 through 926.23, inclusive;
- (ii) the terms "razor blade steel" and "chipper knife steel" are defined as provided in headnotes 2(h)(x) and 2(h)(viii), respectively, of part 2B, schedule 6;
- (iii) the term "band saw steel" refers to alloy tool steel which contains, in addition to iron, each of the following elements by weight in the amounts specified:
  - (A) carbon: not less than 0.47 nor more than 0.53 percent;
  - (B) manganese: not less than 0.60 nor more than 0.90 percent;
  - (C) sulfur: none, or not more than 0.015 percent;
  - (D) phosphorus: none, or not more than 0.025 percent;
  - (E) silicon: not less than 0.10 nor more than 0.25 percent;
  - (F) chromium: not less than 0.90 nor more than 1.10 percent;

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- (G) nickel: not less than 0.50 nor more than 0.70 percent;
- (H) molybdenum: not less than 0.90 nor more than 1.10 percent; and
- (I) vanadium: not less than 0.08 percent nor more than 0.15 percent;

(iv) the term "cladding grade 434 stainless steel sheet" refers to stainless steel sheet, not under 0.055 inch and not over 0.065 inch in thickness, not under 25.5 inches and not over 26.25 inches in width, containing by weight not more than 0.12 percent carbon; not less than 16 percent nor more than 18 percent chromium; and not less than 0.75 percent nor more than 1.25 percent molybdenum; certified by the importer of record or the ultimate consignee at the time of entry for use in the manufacture of stainless steel-clad-aluminum automobile trim.

(b) Shortfall.-- During the last 30-day period of a restraint period, if the United States Trade Representative (USTR) determines that any quota quantity under an item hereof is unlikely to be used during that restraint period, the USTR may, to the extent permitted by law, modify the quota quantity for that item during the remainder of that restraint period to reallocate the shortfall or any portion thereof to the quota quantity of any other item, such modifications to be effective on the date of their publication in the Federal Register.

(c) Carryover.-- Whenever the quota quantity specified for an item has not been entered during any restraint period, the USTR may by Federal Register notice authorize the entry during subsequent restraint periods of an amount not to exceed the difference between the quota quantity specified for such restraint period and the amount entered during that period; and such amount shall not be counted against the quota quantity therefor.

(d) Exceeding restraint levels.-- The USTR may by Federal Register notice authorize the restraint levels for any quota quantity to be exceeded by not more than 10 percent during any restraint period. If a quota quantity is exceeded during a restraint period, the USTR shall make a downward adjustment of the corresponding quota quantity for the next restraint period in the absolute amount the preceding restraint level was exceeded.

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(e) Adjustments.-- If any country-by-country allocations of quota quantities are made by the USTR, the USTR may make the necessary adjustments to the appropriate quota quantities.

(f) United States International Trade Commission (USITC) surveys.-- The USITC shall conduct mandatory surveys with respect to the products subject to import relief under each item involved as follows:

- (i) Quarterly.-- Surveys by calendar quarter to obtain from domestic producers monthly data on production, shipments, prices, employment, and man-hours; and to obtain from importers data by calendar quarter on prices, orders, and inventories. The initial surveys shall cover the fourth quarter of 1982 and the first two quarters of 1983; subsequent surveys will cover individual quarters; the last such survey shall cover the quarter which ends not less than 60 days prior to the termination of the import restraints. The USITC shall publish the results of the initial surveys by October 1, 1983 and the results of later surveys within 45 days of the end of the survey quarter. Such surveys will be conducted monthly, upon written request of the USTR to the USITC, if the USTR determines that monthly reporting is necessary.
- (ii) Annually.-- Annual surveys to obtain from domestic producers data by calendar quarter on profits, orders, and inventories, and annual data on capital expenditures, capacity, and research and development expenditures. The initial surveys shall cover the fourth quarter of 1982 and calendar year 1982, as appropriate, and calendar year 1983, and the results shall be published by March 31, 1984. The results of subsequent surveys shall be published by March 31 of each year thereafter so long as the import restraints in this subpart are in effect. With each annual survey, the USITC shall also report the production, capacity, and capacity utilization, to the extent the information can be obtained, for each country which is a major supplier of imports, and any projected changes in production, capacity, and capacity utilization for those countries."

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(b) by inserting in numerical sequence the following new provisions:

*Item :	Articles :	Rates of duty			
		1		2	
		Effective with respect to articles entered during the period -			
		July 20, 1983	July 20, 1984	July 20, 1985	July 20, 1986
		through July 19, 1984	through July 19, 1985	through July 19, 1986	through July 19, 1987

926.00 Sheets and strip of stainless steel (except razor blade steel, and cladding grade 434 stainless steel sheet) provided for in items 607.76, 607.90, 608.29, 608.43, and 608.57, part 2B, schedule 6, all the foregoing whether or not entitled to duty-free treatment under item 832.00, part 3A, schedule 8..... 10% ad val. 8% ad val. 6% ad val. 4% ad val. No change

926.05 Plates of stainless steel provided for in items 607.76 and 607.90, part 2B, schedule 6, all the foregoing whether or not entitled to duty-free treatment under item 832.00, part 3A, schedule 8..... 8% ad val. 6% ad val. 5% ad val. 4% ad val. No change

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Item :	Articles	Quota Quantity (in short tons)			
		Entered during the restraint period—			
		July 20 through October 19	October 20 through January 19	January 20 through April 19	April 20 through July 19
	Whenever the respective aggregate quantity of articles specified below for items 926.10 through 926.23, inclusive, has been entered in any restraint period (whether, for tariff purposes, in schedule 6 or in item 832.00 of schedule 8), no article in such item may be entered during the remainder of such restraint period, except as provided in headnote 10:				
	Bars of stainless steel, provided for in item 607.90, part 2B, schedule 6:				
926.10	If entered during the period from July 20, 1983, through July 19, 1984, inclusive.....	6,750	6,750	6,750	6,750
926.11	If entered during the period from July 20, 1984, through July 19, 1985, inclusive.....	6,950	6,950	6,950	6,950
926.12	If entered during the period from July 20, 1985, through July 19, 1986, inclusive.....	7,150	7,150	7,150	7,150
926.13	If entered during the period from July 20, 1986, through July 19, 1987, inclusive.....	7,375	7,375	7,375	7,375
	Wire rod of stainless steel, provided for in item 607.26 and 607.43, part 2B, schedule 6:				
926.15	If entered during the period from July 20, 1983, through July 19, 1984, inclusive.....	4,775	4,775	4,775	4,775
926.16	If entered during the period from July 20, 1984, through July 19, 1985, inclusive.....	4,925	4,925	4,925	4,925
926.17	If entered during the period from July 20, 1985, through July 19, 1986, inclusive.....	5,075	5,075	5,075	5,075

Item	Articles	Quota Quantity (in short tons)			
		Entered during the restraint period—			
		July 20 through October 19	October 20 through January 19	January 20 through April 19	April 20 through July 19
	Whenever the respective, etc. (con.):				
926.18	Wire rod, etc. (con.): If entered during the period from July 20, 1986, through July 19, 1987, inclusive.....	5,225	5,225	5,225	5,225
	Bars, wire rods, plates, sheets, and strip, all the foregoing of alloy tool steel (except chipper knife steel and hand saw steel), provided for in items 606.95, 607.28, 607.34, 607.46, 607.54, 607.72, 607.82, 608.34, 608.49, and 608.64, and round wire of high speed tool steel, provided for in item 609.45, part 28, schedule 6:				
926.20	If entered during the period from July 20, 1983, through July 19, 1984, inclusive.....	5,600	5,600	5,600	5,600
926.21	If entered during the period from July 20, 1984, through July 19, 1985, inclusive.....	5,775	5,775	5,775	5,775
926.22	If entered during the period from July 20, 1985, through July 19, 1986, inclusive.....	5,950	5,950	5,950	5,950
926.23	If entered during the period from July 20, 1986, through July 19, 1987, inclusive.....	6,125	6,125	6,125	6,125



APPENDIX B

Federal Register Notices

economic effect on the domestic industry concerned of the termination of the import relief presently in effect with respect to stainless or alloy tool steel, provided for in items 606.90, 606.93, 606.94, 606.95, 607.28, 607.28, 607.34, 607.46, 607.54, 607.72, 607.78, 607.88, 607.90, 608.28, 608.29, 608.34, 608.43, 608.49, 608.57, 608.64, and 609.45 of the Tariff Schedules of the United States (TSUS). Such import relief is provided for in Presidential Proclamation 5074 of July 19, 1983 (48 FR 33233) and is described in items 926.04, 926.05, 926.12, 926.13, 926.17, 926.1A, 926.22, and 926.23 of the appendix to the TSUS. The relief is scheduled to terminate on July 19, 1987, unless extended by the President.

For further information concerning the conduct of this investigation, hearing procedures, and rules of general application, consult the Commission's Rules of Practice and Procedure, part 206, subparts A and B (19 CFR part 206), and part 201, subparts A through E (19 CFR Part 201).

**EFFECTIVE DATE:** January 27, 1987.

**FOR FURTHER INFORMATION CONTACT:** Judith C. Zeck (202-523-0339), Office of Investigations, U.S. International Trade Commission, 701 E Street NW., Washington, DC 20436. Hearing-impaired individuals are advised that information on this matter can be obtained by contacting the Commission's TDD terminal on 202-724-0002.

**SUPPLEMENTARY INFORMATION:**

**Participation in the investigation.**—Persons wishing to participate in the investigation as parties must file an entry of appearance with the Secretary to the Commission, as provided in § 201.11 of the Commission's rules (19 CFR 201.11), not later than twenty-one (21) days after publication of this notice in the Federal Register. Any entry of appearance filed after this date will be referred to the Chairman, who will determine whether to accept the late entry for good cause shown by the person desiring to file the entry.

**Service list.**—Pursuant to § 201.11(d) of the Commission's rules (19 CFR 201.11(d)), the Secretary will prepare a service list containing the names and addresses of all persons, or their representatives, who are parties to this investigation upon the expiration of the period for filing entries of appearance. In accordance with § 201.16(c) of the rules (19 CFR 201.16(c)), each document filed by a party to the investigation must be served on all other parties to the investigation (as identified by the service list), and a certificate of service

Secretary will not accept a document for filing without a certificate of service.

**Hearing.**—The Commission will hold a hearing in connection with this investigation beginning at 9:30 a.m. on April 2, 1987, at the U.S. International Trade Commission Building, 701 E Street NW., Washington, DC. Requests to appear at the hearing should be filed in writing with the Secretary to the Commission not later than the close of business (5:15 p.m.) on March 13, 1987. All persons desiring to appear at the hearing and make oral presentations, with the exception of public officials and persons not represented by counsel, should file prehearing briefs and attend a prehearing conference to be held at 9:30 a.m. on March 18, 1987, in room 117 of the U.S. International Trade Commission Building. The deadline for filing prehearing briefs is March 27, 1987. Posthearing briefs must be submitted not later than the close of business on April 9, 1987. Confidential material should be filed in accordance with the procedures described below.

Parties are encouraged to limit their testimony at the hearing to a nonconfidential summary and analysis of material contained in prehearing briefs and to information not available at the time the prehearing brief was submitted. Any written materials submitted at the hearing must be filed in accordance with the procedures described below and any confidential materials must be submitted at least three (3) working days prior to the hearing (see § 201.6(b)(2) of the Commission's rules (19 CFR 201.6(b)(2))).

**Written submissions.**—As mentioned, parties to this investigation may file prehearing and posthearing briefs by the dates shown above. In addition, any person who has entered an appearance as a party to the investigation may submit a written statement of information pertinent to the subject of the investigation on or before April 9, 1987. A signed original and fourteen (14) copies of each submission must be filed with the Secretary to the Commission in accordance with § 201.8 of the Commission's rules (19 CFR 201.8). All written submissions except for confidential business data will be available for public inspection during regular business hours (8:45 a.m. to 5:15 p.m.) in the Office of the Secretary to the Commission.

Any business information for which confidential treatment is desired shall be submitted separately. The envelope and all pages of such submissions must be clearly labeled "Confidential Business Information." Confidential

[Investigation No. TA-203-16]

**Stainless Steel and Alloy Tool Steel, Import Investigation**

**AGENCY:** United States International Trade Commission.

**ACTION:** Institution of an investigation under section 203(i)(3) of the Trade Act of 1974 (19 U.S.C. 2253(i)(3)) and scheduling of a hearing to be held in connection with the investigation.

**SUMMARY:** Following receipt of a petition filed on January 14, 1987 on behalf of the Specialty Steel Industry of the United States (SSIUS) and the United Steelworkers of America (AFL-CIO), the United States International Trade Commission instituted investigation No. TA-203-16 under section 203 of the Trade Act of 1974 for the purpose of gathering information in order that it might advise the President

confidential treatment must conform with the requirements of § 201.6 of the Commission's rules (19 CFR 201.6).

*Authority:* This investigation is being conducted under the authority of section 203 of the Trade Act of 1974. This notice is published pursuant to § 201.10 of the Commission's rules (19 CFR 201.10).

Issued: January 29, 1987.

By order of the Commission

Kenneth R. Mason,

Secretary.

[FR Doc. 87-2162 Filed 2-3-87; 8:45 am]

BILLING CODE 7530-02-9

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Basin countries, I have determined that the countries, listed below, designated by the President as beneficiaries under the Caribbean Basin Economic Recovery Act (19 U.S.C. 2701, et. seq.) provide appropriate reciprocal competitive government procurement opportunities for United States products and suppliers of such products. I hereby direct that products originating in those countries shall be treated as eligible products for purposes of section 1-101 of Executive Order 12260 until September 30, 1985, unless otherwise provided by the U.S. Trade Representative in the Federal Register. Such treatment shall not apply, however, to products, originating in those countries, that are excluded from duty free treatment under 19 U.S.C. 2703(b).

Clayton Yeutter,

United States Trade Representative.

Countries Designed as Beneficiaries under the Caribbean Basin Economic Recovery Act: Antigua and Barbuda, Bahamas, Barbados, Belize, British Virgin Islands, Costa Rica, Dominica, Dominican Republic, El Salvador, Grenada, Guatemala, Haiti, Honduras, Jamaica, Montserrat, Netherlands Antilles, Panama, St. Christopher-Nevis, St. Lucia, St. Vincent and the Grenadines, Trinidad and Tobago.

[FR Doc. 86-4247 Filed 2-26-86; 8:45 am]

BILLING CODE 3190-01-M

### Implementation of Modifications in Specialty Steel Import Relief

AGENCY: Office of the United States Trade Representative.

ACTION: Notice.

**SUMMARY:** This notice modifies the import relief for specialty steel in order to implement agreements with the European Communities, Japan and the Republic of Korea.

**EFFECTIVE DATE:** March 1, 1986.

**FOR FURTHER INFORMATION CONTACT:** Joseph Papovich, Office of the United States Trade Representative (202) 395-4510.

**SUPPLEMENTARY INFORMATION:** Presidential Proclamation 5074 of July 19, 1983, provided for the temporary imposition of increased tariffs and quantitative restrictions on certain stainless and alloy tool steel imported into the United States. The U.S. Trade Representative was directed by Proclamation 5074 to take such actions and perform such functions for the United States as may be necessary to implement the relief, including the allocation of quota quantities on a country-by-country basis; and, pursuant

to section 203 of the Trade Act of 1974, to negotiate orderly marketing agreements and modify the import relief. On September 18, 1984, the President established a national policy for the steel industry and directed the U.S. Trade Representative to coordinate and direct the implementation of that policy, including the negotiation of new arrangements and the reaffirmation of existing measures limiting steel exports into the United States. Supplemental authority to enforce the national policy for the steel industry was provided for in title VII of the Trade and Tariff Act of 1934 (18 U.S.C. 2253 note).

Pursuant to the above authority, the U.S. Trade Representative has concluded agreements with Australia, Austria, Brazil, Czechoslovakia, the European Communities (Belgium, Denmark, Federal Republic of Germany, France, Greece, Ireland, Italy, Luxembourg, the Netherlands and the United Kingdom of Great Britain and Northern Ireland), German Democratic Republic, Finland, Hungary, Japan, Mexico, Poland, Portugal, the Republic of Korea, Romania, South Africa, Spain, Venezuela, Yugoslavia. In order to implement such agreements, and unless and until further modified by the U.S. Trade Representative, the Tariff Schedules of the United States (TSUS) is modified as follows:

1. Headnote 10 to subpart A, part 2 of the TSUS is modified by adding new paragraph (g) at the end thereof, as follows:

"(g) Products Subject to Certain Export Restraint Agreements.

(i) The duties provided for in items 926.00 and 926.05 shall not apply to products of Australia, Austria, Brazil, Czechoslovakia, the European Communities (Belgium, Denmark, Federal Republic of Germany, France, Greece, Ireland, Italy, Luxembourg, the Netherlands and the United Kingdom of Great Britain and Northern Ireland), German Democratic Republic, Finland, Hungary, Japan, Mexico, Poland, Portugal, the Republic of Korea, Romania, South Africa, Spain, Venezuela, Yugoslavia exported to the United States on or after March 1, 1986."

(ii) Items 926.00 and 926.05 are modified by inserting in the parenthetical expressions in each item after the opening of parenthesis the words "except as provided in headnote 10(g) to this subpart, and".

(iii) Items 926.12, 926.13, 926.17, 926.18, 926.22, and 926.23 are modified by replacing the country allocations for "Other" countries with "Other, excluding the European Communities (Belgium, Denmark, Federal Republic of

Germany, France, Greece, Ireland, Italy, Luxembourg, the Netherlands and the United Kingdom of Great Britain and Northern Ireland)". These modifications shall be effective as to products of such Member States of the European Communities on or after March 1, 1986. Such products exported to the United States prior to March 1, 1986 shall, on or after March 1, 1986, be permitted entry subject to normal Customs procedures. Such products are subject to a bilateral export restraint agreement with the European Communities which will be implemented on March 1, 1986.

(2) Items 926.12, 926.13, 926.16, 926.22, and 926.23 are further modified by changing the quota quantities for "Other, excluding the European Communities (Belgium, Denmark, Federal Republic of Germany, France, Greece, Ireland, Italy, Luxembourg, the Netherlands, and the United Kingdom of Great Britain and Northern Ireland) to the following:

Item	Quota quantity (in short tons) entered during the restraint period			
	July 20 through Oct. 19	Oct. 20 through Jan. 19	Jan. 20 through Apr. 19	Apr. 20 through July 19
926.12	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	"1,105"
926.13	"1,130"	"1,130"	"1,130"	"1,130"
926.17	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	"657"
926.18	"676"	"676"	"676"	"677"
926.22	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	"715"
926.23	"736"	"736"	"737"	"737"

<sup>1</sup> No change.

Dated: February 21, 1986.

Clayton Yeutter,

United States Trade Representative.

[FR Doc. 86-4244 Filed 2-26-86; 8:45 am]

BILLING CODE 3190-01-M

### DEPARTMENT OF TRANSPORTATION

#### Coast Guard

[CGD 86-014]

#### Lower Mississippi River Waterway Safety Advisory Committee; Meeting

Pursuant to section 10(a) of the Federal Advisory Committee Act (Pub. Law 92-463; 5 U.S.C. App. I) notice is hereby given of a meeting of the Lower Mississippi River Waterway Safety Advisory Committee. The meeting will be held on Tuesday, March 11, 1986, in the U.S. Coast Guard Vessel Traffic Service, 4400 Dauphine Street, New Orleans, LA. The meeting is scheduled to begin at 9:30 a.m. and end at 4:00 p.m. The agenda for the meeting consists of the following items:

1. Call to Order.
2. Minutes of the January 14, 1986 Meeting.

**APPENDIX C**

**LIST OF WITNESSES APPEARING AT  
THE PUBLIC HEARING**

TENTATIVE CALENDAR OF PUBLIC HEARING

Those listed below appeared as witnesses at the United States International Trade Commission's hearing:

Subject : Stainless Steel and Alloy Tool Steel

Inv. No. : TA-203-16

Date and time : April 2, 1987 - 9:30 a.m.

Sessions were held in the Hearing Room of the United States International Trade Commission, 701 E Street, N.W., in Washington.

Congressional appearances:

Honorable John Heinz, United States Senator, State of Pennsylvania

Honorable Joseph M. Gaydos, United States Representative, State of Pennsylvania and Chairman, Congressional Steel Caucus

Honorable Richard T. Schulze, United States Representative, State of Pennsylvania and Vice Chairman, Congressional Steel Caucus

Honorable John P. Murtha, United States Representative, State of Pennsylvania and Member, Congressional Steel Caucus

Honorable Ralph S. Regula, United States Representative, State of Ohio and Member, Congressional Steel Caucus

Honorable George C. Wortley, United States Representative, State of New York

Government:

Federal Trade Commission, Washington, D.C.

Benjamin Cohen, Attorney, Bureau of Competition

Dr. David G. Tarr, Economist, Bureau of Competition

Domestic:

Collier, Shannon, Rill & Scott--Counsel  
Washington, D.C.  
on behalf of

The Specialty Steel Industry of the United States  
and the United Steelworkers of America

Paul R. Roedel, President and Chief Executive  
Officer, Carpenter Technology Corporation

James H. Mintun, Jr., Vice President and General  
Manager, AL Tech Specialty Steel Corporation

Lynn Williams, President, United Steelworkers  
of America, AFL-CIO

Economic Consulting Services, Inc., Washington,  
D.C.

Stanley Nehmer, President

Bruce Malashevich, Vice President

Clark Chandler, Vice President

Clarissa Morgan, Senior Economist

Panelists: (for questions and answers)

Robert E. Heaton, President, Washington Steel Corp.

C. Philip Weigel, President and Chief Executive  
Officer, Latrobe Steel Company

William J. Pendleton, Director, Corporate Affairs,  
Carpenter Technology Corporation

Robert Rubins, President, Teledyne Vasco.

David A. Hartquist)  
Patrick B. Fazzone)--OF COUNSEL  
Laurence J. Lasoff)

Consumer:

Cadwalader, Wickersham & Taft--Counsel  
Washington, D.C.  
on behalf of

The American Wire Producers Association and the  
Stainless Redrawers Committee

Richard Nash, Jr., a member of the  
Board of Directors of the Association

Walter A. Koenig, Sr., Willing B. Wire  
Corporation and Chairman of the Stainless  
Steel Redrawers Committee

Frederick P. Waite--OF COUNSEL

Importers:

Winthrop, Stimson, Putnam & Roberts---Counsel  
Washington, D.C.  
on behalf of

The Swedish Steelproducers' Association (Jernkontoret)  
Avesta AB, Avesta Uddeholm Stainless Bar AB,  
Fagersta Stainless AB, Gunnebo Stainless AB,  
Kanthal AB of Hallstahammar, Sweden and its  
subsidiary Kanthal Corporation, Bethel,  
Connecticut, Kloster Speedsteel AB, Ovako  
Steel AB, AB Sandvik Steel and Uddeholm Tooling  
AB, of Hagfors, Sweden, and its subsidiary,  
Uddeholm Corporation, Totowa, New Jersey

Axel Granered, President, Uddeholm Corporation

E. Roger Clark, President, Kanthal Corporation

Louis H. Kurrelmeyer )  
Raymond S. Calamaro }  
Christopher R. Wall }--OF COUNSEL  
Mark A. Monborne )

Freeman, Wasserman & Schneider--Counsel  
New York, N.Y.  
on behalf of

Avesta AB, Avesta Stainless Inc., and Avesta Inc.

Dr. Carl R. Crego, President, Carl R. Crego  
and Associates, Inc.

Gary O'Neill, Product Manager, Avesta Stainless Inc.

Jack Gumpert Wasserman )  
Philip Yale Simons ) --OF COUNSEL  
Patrick C. Reed )  
Edwin C. Bullock )

Rhode & Qualey--Counsel  
Washington, D.C.  
on behalf of

Sandvik Steel Company

Edward J. Mayle, Vice President

James Baker, Vice President

Patrick D. Gill--OF COUNSEL

Willkie, Farr & Gallagher--Counsel  
Washington, D.C.  
on behalf of

The Japan Special Steel Exporters' Association

Noel Hemmendinger ) --OF COUNSEL  
Zygmunt Jablonski )

George V. Egge, P.C.--Counsel  
Washington, D.C.  
on behalf of

Union de Empresas Y Entidades Siderurgicas  
(UNESID) - The Spanish Steel Producers  
Association of Madrid, Spain

George V. Egge, Jr.--OF COUNSEL

Dow, Lohnes & Albertson--Counsel  
Washington, D.C.  
on behalf of

Slater Steels Corporation, Sorel Forge Division  
and Atlas Specialty Steels

William Silverman)  
Mark Cohen )--OF COUNSEL

APPENDIX D  
TARIFF SCHEDULES AND QUOTA LEVELS

## TARIFF SCHEDULES OF THE UNITED STATES ANNOTATED (1987)

Page 9-16

APPENDIX TO THE TARIFF SCHEDULES  
Part 2. - Temporary Modifications Proclaimed Pursuant to  
Trade-Agreements Legislation

9 - 2 - A

Item	Stat. Suffix	Articles	Units of Quantity	Rates of Duty	
				1	2
		<p>10. <u>Additional duties and quantitative limitations on stainless steel and alloy tool steel.</u>--The provisions of this headnote apply to items 926.00 through 926.23, inclusive, of this subpart. The duties provided for in items 926.00 and 926.05 and the quantitative limitations set forth in items 926.10 through 926.23, inclusive, are in addition to the duties provided for the subject articles in schedule 6, part 2B, or in item 832.00, part 3A, schedule 8, where applicable.</p> <p>(a) <u>Definitions.</u>--For the purposes of this subpart--</p> <p>(i) the term "<u>restraint period</u>" refers to a 3-month period provided for in the Quota Quantity column for items 926.10 through 926.23, inclusive;</p> <p>(ii) the terms "<u>razor blade steel</u>" and "<u>chipper knife steel</u>" are defined as provided in headnotes 2(h)(x) and 2(h)(viii), respectively, of part 2B, schedule 6;</p> <p>(iii) the term "<u>band saw steel</u>" refers to alloy tool steel which contains, in addition to iron, each of the following elements by weight in the amounts specified:</p> <p>(A) carbon: not less than 0.47 nor more than 0.53 percent;</p> <p>(B) manganese: not less than 0.60 nor more than 0.90 percent;</p> <p>(C) sulfur: none, or not more than 0.015 percent;</p> <p>(D) phosphorus: none, or not more than 0.025 percent;</p> <p>(E) silicon: not less than 0.10 nor more than 0.25 percent;</p> <p>(F) chromium: not less than 0.90 nor more than 1.10 percent;</p> <p>(G) nickel: not less than 0.50 nor more than 0.70 percent;</p> <p>(H) molybdenum: not less than 0.90 nor more than 1.10 percent; and</p> <p>(I) vanadium: not less than 0.08 percent nor more than 0.15 percent;</p> <p>(iv) the term "<u>cladding grade 434 stainless steel sheet</u>" refers to stainless steel sheet, not under 0.055 inch and not over 0.065 inch in thickness, not under 25.5 inches and not over 26.25 inches in width, containing by weight not more than 0.12 percent carbon; not less than 16 percent nor more than 18 percent chromium; and not less than 0.75 percent nor more than 1.25 percent molybdenum; certified by the importer of record or the ultimate consignee at the time of entry for use in the manufacture of stainless steel-clad-aluminum automobile trim;</p> <p>(v) the term "<u>stainless steel of the type described in headnote 10(a)(v)</u>" refers to the stainless steel grades described in either subparagraph (A) or (B) below which contain, in addition to iron, each of the following elements by weight in the amounts specified:</p> <p>(A) carbon: not more than 0.02 percent;</p> <p>silicon: not less than 0.2 percent nor more than 0.8 percent;</p> <p>manganese: not less than 0.2 percent nor more than 1.0 percent;</p> <p>chromium: not less than 19.5 percent nor more than 20.5 percent;</p>			

TARIFF SCHEDULES OF THE UNITED STATES ANNOTATED (1987)

APPENDIX TO THE TARIFF SCHEDULES  
Part 2. - Temporary Modifications Proclaimed Pursuant to  
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Item	Stat. Suf-fix	Articles	Units of Quantity	Rates of Duty	
				1	2
		nickel: not less than 17.5 percent; nor more than 18.5 percent; molybdenum: not less than 6.0 percent; nor more than 6.5 percent; nitrogen: not less than 0.18 percent; nor more than 0.22 percent; copper: not less than 0.5 percent; nor more than 1.0 percent; sulfur: not more than 0.03 percent; phosphorus: not more than 0.04 percent; or (B) carbon: not less than 0.05 percent; nor more than 0.10 percent; silicon: not less than 1.4 percent; nor more than 2.0 percent; manganese: not less than 0.2 percent; nor more than 0.8 percent; chromium: not less than 20.0 percent; nor more than 22.0 percent; nickel: not less than 10.0 percent; nor more than 12.0 percent; nitrogen: not less than 0.14 percent; nor more than 0.20 percent; cerium: not less than 0.03 percent; nor more than 0.08 percent; sulfur: not more than 0.03 percent; phosphorus: not more than 0.04 percent; (vi) the term "flapper valve steel" refers to stainless steel strip not over 0.05 inch in thick- ness, certified by the importer of record or the ultimate consignee at the time of entry for use in the manufacture of stainless steel flapper valves for compressors; (vii) the term "rotor steel for hysteresis motors" refers to tool steel strip not over 0.05 inch in thickness containing by weight not less than 0.5 percent carbon and not less than 5.5 per- cent tungsten, certified by the importer of record or the ultimate consignee at the time of entry for use in the manufacture of rotor rings or cups for hysteresis motors; (viii) the term "tool steel of the type de- scribed in headnote 10(a)(viii)" refers to the alloy tool steel grades described in any one of the subparagraphs (A) through (F) below which contain, in addition to iron, each of the follow- ing elements by weight in the amounts specified: (A) carbon: not less than 0.85 percent; nor more than 1.05 percent; manganese: not less than 0.95 percent; nor more than 1.75 percent; sulfur: less than 0.03 percent; phosphorus: less than 0.03 percent; silicon: not less than 0.45 percent; nor more than 0.90 percent; chromium: not less than 0.90 percent; nor more than 1.80 percent; nickel: less than 0.35 percent; copper: less than 0.35 percent; molybdenum: less than 0.10 percent; (B) carbon: not less than 0.95 percent; nor more than 1.05 percent; manganese: not less than 0.95 percent; nor more than 1.25 percent; sulfur: not more than 0.025 percent; phosphorus: not more than 0.025 percent; silicon: not less than 0.45 percent; nor more than 0.75 percent; chromium: not less than 0.90 percent; nor more than 1.20 percent; nickel: not more than 0.25 percent; copper: not more than 0.35 percent; molybdenum: not more than 0.08 percent;			

TARIFF SCHEDULES OF THE UNITED STATES ANNOTATED (1987)

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Trade-Agreements Legislation

Item	Stat. Suffix	Articles	Units of Quantity	Rates of Duty	
				1	2
		<p>(C) carbon: not less than 0.85 percent nor more than 1.00 percent; manganese: not less than 1.40 percent nor more than 1.70 percent; sulfur: not more than 0.025 percent; phosphorus: not more than 0.025 percent; silicon: not less than 0.50 percent nor more than 0.80 percent; chromium: not less than 1.40 percent nor more than 1.80 percent; nickel: not more than 0.25 percent; copper: not more than 0.35 percent; molybdenum: not more than 0.08 percent;</p> <p>(D) carbon: not less than 0.95 percent nor more than 1.10 percent; manganese: not less than 0.65 percent nor more than 0.90 percent; sulfur: not more than 0.025 percent; phosphorus: not more than 0.025 percent; silicon: not less than 0.20 percent nor more than 0.35 percent; chromium: not less than 1.10 percent nor more than 1.50 percent; nickel: not more than 0.25 percent; copper: not more than 0.35 percent; molybdenum: not less than 0.20 percent nor more than 0.30 percent;</p> <p>(E) carbon: not less than 0.95 percent nor more than 1.10 percent; manganese: not less than 1.05 percent nor more than 1.35 percent; sulfur: not more than 0.025 percent; phosphorus: not more than 0.025 percent; silicon: not less than 0.20 percent nor more than 0.35 percent; chromium: not less than 1.10 percent nor more than 1.50 percent; nickel: not more than 0.25 percent; copper: not more than 0.35 percent; molybdenum: not less than 0.45 percent nor more than 0.60 percent; or</p> <p>(F) carbon: not less than 0.92 percent nor more than 1.02 percent; manganese: not less than 0.25 percent nor more than 0.40 percent; sulfur: not more than 0.025 percent; phosphorus: not more than 0.025 percent; silicon: not less than 0.25 percent nor more than 0.40 percent; chromium: not less than 1.65 percent nor more than 1.95 percent; nickel: not more than 0.25 percent; copper: not more than 0.35 percent; molybdenum: not less than 0.18 percent nor more than 0.40 percent; aluminum: not more than 0.05 percent;</p> <p>certified by the importer of record or the ultimate consignee at the time of entry for use in the manufacture of ball or roller bearings.</p> <p>(b) Shortfall.--During the last 30-day period of a restraint period, if the United States Trade Representative (USTR) determines that any quota quantity under an item hereof is unlikely to be used during that restraint period, the USTR may, to the extent permitted by law, modify the quota quantity for that item during the remainder of that restraint period to reallocate the shortfall or any portion thereof to the quota quantity of any other item, such modifications to be effective on the date of their publication in the <u>Federal Register</u>.</p>			

TARIFF SCHEDULES OF THE UNITED STATES ANNOTATED (1987)

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Trade-Agreements Legislation

Item	Stat. Suffix	Articles	Units of Quantity	Rates of Duty	
				1	2
		<p>(c) <u>Carryover</u>.--Whenever the quota quantity specified for any of the individually named countries for an item has not been entered during any restraint period, entry may be made during the subsequent restraint period of an amount up to 20 percent (10 percent in the case of shortfalls occurring in the restraint period April 20 through July 19 of any year) of the base limit for the restraint period in which the shortfall occurs, but not to exceed the difference between the quota quantity specified for such restraint period and the amount entered during that period; and such amount shall not be counted against the quota quantity therefor.</p> <p>(d) <u>Exceeding restraint levels</u>.--The restraint level for any quota quantity allocated to any of the individually named countries may be exceeded by not more than 10 percent during any restraint period, except that the restraint levels for the period April 20 through July 19 for 1984, 1985, or 1986 may be exceeded by not more than 3 percent, and shall not be exceeded for that period in 1987. If a quota quantity is exceeded during a restraint period, a downward adjustment of the corresponding quota quantity for the next restraint period in the absolute amount the preceding restraint level was exceeded shall be made.</p> <p>(e) <u>Adjustments</u>.--If any country-by-country allocations of quota quantities are made by the USTR, the USTR may make the necessary adjustments to the appropriate quota quantities.</p> <p>(f) <u>United States International Trade Commission (USITC) surveys</u>.--The USITC shall conduct mandatory surveys with respect to the products subject to import relief under each item involved as follows:</p> <p>(i) <u>Quarterly</u>.--Surveys by calendar quarter to obtain from domestic producers monthly data on production, shipments, prices, employment, and man-hours; and to obtain from importers data by calendar quarter on prices, orders, and inventories. The initial surveys shall cover the fourth quarter of 1982 and the first two quarters of 1983; subsequent surveys will cover individual quarters; the last such survey shall cover the quarter which ends not less than 60 days prior to the termination of the import restraints. The USITC shall publish the results of the initial surveys by October 1, 1983 and the results of later surveys within 45 days of the end of the surveyed quarter. Such surveys will be conducted monthly, upon written request of the USTR to the USITC, if the USTR determines that monthly reporting is necessary.</p> <p>(ii) <u>Annually</u>.--Annual surveys to obtain from domestic producers data by calendar quarter on profits, orders, and inventories, and annual data on capital expenditures, capacity, and research and development expenditures. The initial surveys shall cover the fourth quarter of 1982 and calendar year 1982, as appropriate, and calendar year 1983, and the results shall be published by March 31, 1984. The results of subsequent surveys shall be published by March 31 of each year thereafter so long as the import restraints in this subpart are in effect. With each annual survey, the USITC shall also report the production, capacity, and capacity utilization, to the extent the information can be obtained, for each country which is a major supplier of imports, and any projected changes in production, capacity, and capacity utilization for those countries.</p>			

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APPENDIX TO THE TARIFF SCHEDULES

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9 - 2 - A

Item	Stat. Suffix	Articles	Units of Quantity	Rates of Duty		
				1	Special	2
		<p>(g) Products Subject to Certain Export Restraint Agreements.</p> <p>(1) The duties provided for in items 926.00 and 926.05 shall not apply to products of Australia, Austria, Brazil, Czechoslovakia, the European Communities (Belgium, Denmark, Federal Republic of Germany, France, Greece, Ireland, Italy, Luxembourg, the Netherlands and the United Kingdom of Great Britain and Northern Ireland), German Democratic Republic, Finland, Hungary, Japan, Mexico, Poland, Portugal, the Republic of Korea, Romania, South Africa, Spain, Venezuela, Yugoslavia exported to the United States on or after March 1, 1986.</p>				

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Item	Stat Suffix	Articles	Units of Quantity	Rates of Duty					2
				1					
				Effective on or after April 16,					
			1983	1984	1985	1986	1987		
924.20	1/	Motorcycles provided for in item 692.52 having engines with total piston displacement over 700 cubic centimeters, imported in excess of the quota quantities specified in headnote 9 to this subpart.....	1/	The rate provided for in item 692.52 + 45% ad val.	The rate provided for in item 692.52 + 35% ad val.	The rate provided for in item 692.52 + 20% ad val.	The rate provided for in item 692.52 + 15% ad val.	The rate provided for in item 692.52 + 10% ad val.	The rate provided for in item 692.52, but not less than the rate which would have applied had the imported article been subject to the applicable column 1 rate of duty provided herein for this item
924.30		Wood shingles and shakes of western red cedar provided for in item 200.85: If entered during the period from June 7, 1986, through December 6, 1988, inclusive.....						35% ad val.	35% ad val.
924.31		If entered during the period from December 7, 1988, through December 6, 1990, inclusive.....						20% ad val.	20% ad val.
924.32		If entered during the period from December 7, 1990, through June 6, 1991, inclusive.....						8% ad val.	8% ad val.
				Quota Quantity (in gross)					
				Entered during the restraint period--					
				February 23, through May 12	May 23, through August 22	August 23, through November 22	November 23, through February 22		
925.11	2/	Whenever the respective aggregate quantity of clothespins specified below for items 925.11, 925.12 and 925.13, has been entered in any restraint period, no article in such item may be entered during the remainder of such restraint period, except as provided for in headnote 7: Clothespins, spring type, of wood or plastic, valued not over \$1.70 per gross, provided for in item 790.03, entered on or after February 23, 1982, and before the close of February 22, 1984: Valued not over 80 cents per gross..... Valued over 80 cents but not over \$1.35 per gross..... Valued over \$1.35 but not over \$1.70 per gross.....	2/	125,000	125,000	125,000	125,000		
925.12	2/		2/	150,000	150,000	150,000	150,000		
925.13	2/		2/	225,000	225,000	225,000	225,000		
				Note: The shaded area indicates that the effective period has expired.					

1/ See Appendix statistical headnote 1.

2/ See Appendix statistical headnote 2.

TARIFF SCHEDULES OF THE UNITED STATES ANNOTATED (1987)

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926.00 - 926.05

APPENDIX TO THE TARIFF SCHEDULES  
Part 2. - Temporary Modifications Proclaimed Pursuant to  
Trade-Agreements Legislation

Item	Stat. Suffix	Articles	Units of Quantity	Rates of Duty				
				1				2
				Effective with respect to articles entered during the period--				
				July 20, 1983 through July 19, 1984	July 20, 1984 through July 19, 1985	July 20, 1985 through July 19, 1986	July 20, 1986 through July 19, 1987	
926.00	<u>1/</u>	Sheets and strip of stainless steel (except as provided in headnote 10(g) to this subpart, and except razor blade steel, cladding grade 434 stainless steel sheet, cold-rolled sheets of stainless steel, over 71 inches in width, stainless steel of the type described in headnote 10(a)(v), and flapper valve steel) provided for in items 607.76, 607.90, 608.29, 608.43, and 608.57, part 2B, schedule 6, all the foregoing whether or not entitled to duty-free treatment under item 832.00, part 3A, schedule 8.....	<u>1/</u>	10% ad val.	8% ad val.	6% ad val.	4% ad val.	No change
926.05	<u>1/</u>	Plates of stainless steel (except as provided in headnote 10(g) to this subpart, and except stainless steel of the type described in headnote 10(a)(v)) provided for in items 607.76 and 607.90, part 2B, schedule 6, all the foregoing whether or not entitled to duty-free treatment under item 832.00, part 3A, schedule 8.....	<u>1/</u>	8% ad val.	6% ad val.	5% ad val.	4% ad val.	No change

1/ See Appendix statistical headnotes 1.

TARIFF SCHEDULES OF THE UNITED STATES ANNOTATED (1987)

APPENDIX TO THE TARIFF SCHEDULES  
Part 2. - Temporary Modifications Proclaimed Pursuant to  
Trade-Agreements Legislation

Item	Stat. Suf-fix	Articles	Units of Quantity	Quota Quantity (in short tons)			
				Entered during the restraint period--			
				July 20 through October 19	October 20 through January 19	January 20 through April 19	April 20 through July 19
926.12		<p>Whenever the respective aggregate quantity of articles the product of a foreign country specified below for items 926.10 through 926.23, inclusive, has been entered in any restraint period (whether, for tariff purposes, in schedule 6 or in item 832.00 of schedule 8), no article in such item the product of such country may be entered during the remainder of such restraint period, except as provided in headnote 10:</p> <p>Bars of stainless steel (except stainless steel of the type described in headnote 10(a)(v)), provided for in item 606.90, part 2B, schedule 6:</p> <p>If entered during the period from July 20, 1985, through July 19, 1986, inclusive:</p>					
		Argentina.....	1/	53	53	53	52
		Canada.....	1/	259	259	258	258
		Japan.....	1/	3,316	3,315	3,315	3,315
		Spain.....	1/	1,030	1,030	1,029	1,029
		Sweden.....	1/	319	318	318	318
		Other, excluding the European Communities (Belgium, Denmark, Federal Republic of Germany, France, Greece, Ireland, Italy, Luxembourg, the Netherlands, and the United Kingdom of Great Britain and Northern Ireland)...	1/	2,173	2,175	2,177	1,105
926.13		<p>If entered during the period from July 20, 1986, through July 19, 1987, inclusive:</p>					
		Argentina.....	1/	55	54	54	54
		Canada.....	1/	267	266	266	266
		Japan.....	1/	3,415	3,415	3,415	3,414
		Spain.....	1/	1,061	1,061	1,060	1,060
		Sweden.....	1/	328	328	328	327
		Other, excluding the European Communities (Belgium, Denmark, Federal Republic of Germany, France, Greece, Ireland, Italy, Luxembourg, the Netherlands, and the United Kingdom of Great Britain and Northern Ireland)...	1/	1,138	1,138	1,138	1,139
926.17		<p>Wire rod of stainless steel (except stainless steel of the type described in headnote 10(a)(v)), provided for in items 607.26 and 607.43, part 2B, schedule 6:</p> <p>If entered during the period from July 20, 1985, through July 19, 1986, inclusive:</p>					
		Japan.....	1/	1,486	1,485	1,485	1,485
		Spain.....	1/	436	436	435	435
		Sweden.....	1/	929	928	928	928
		Other, excluding the European Communities (Belgium, Denmark, Federal Republic of Germany, France, Greece, Ireland, Italy, Luxembourg, the Netherlands, and the United Kingdom of Great Britain and Northern Ireland)...	1/	2,224	2,226	2,227	657

1/ See Appendix statistical headnote 1.

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APPENDIX TO THE TARIFF SCHEDULES  
Part 2. - Temporary Modifications Proclaimed Pursuant to  
Trade-Agreements Legislation

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926.18 - 926.23

Item	Stat. Suffix	Articles	Units of Quantity	Quota Quantity (in short tons)			
				Entered during the restraint period--			
				July 20 through October 19	October 20 through January 19	January 20 through April 19	April 20 through July 19
926.18		Whenever the respective aggregate quantity, etc. (con.): Wire rod of stainless steel, etc. (con.): If entered during the period from July 20, 1986, through July 19, 1987, inclusive:					
		Japan.....	1/	1,530	1,530	1,530	1,529
		Spain.....	1/	449	449	448	448
		Sweden.....	1/	957	956	956	956
		Other, excluding the European Communities (Belgium, Denmark, Federal Republic of Germany, France, Greece, Ireland, Italy, Luxembourg, the Netherlands, and the United Kingdom of Great Britain and Northern Ireland) --	1/	676	678	676	677
926.22		Bars, wire rods, plates, sheets, and strip, all the foregoing of alloy tool steel (except chipper knife steel, band saw steel, rotor steel for hysteresis motors, and tool steel of the type described in headnote 10(a) (viii)), provided for in items 606.95, 607.28, 607.34, 607.46, 607.54, 607.72, 607.88, 608.34, 608.49, and 608.64, and round wire of high speed tool steel, provided for in item 609.45, part 2B, schedule 6: If entered during the period from July 20, 1985, through July 19, 1986, inclusive:					
		Argentina.....	1/	54	54	53	53
		Austria.....	1/	636	636	637	637
		Canada.....	1/	372	371	371	371
		Japan.....	1/	1,082	1,082	1,082	1,082
		Poland.....	1/	66	66	66	67
		Spain.....	1/	43	43	43	43
		Sweden.....	1/	2,043	2,042	2,042	2,042
		Other, excluding the European Communities (Belgium, Denmark, Federal Republic of Germany, France, Greece, Ireland, Italy, Luxembourg, the Netherlands, and the United Kingdom of Great Britain and Northern Ireland) --	1/	1,934	1,936	1,936	715
926.23		If entered during the period from July 20, 1986, through July 19, 1987, inclusive:					
		Argentina.....	1/	56	55	55	55
		Austria.....	1/	655	656	656	656
		Canada.....	1/	383	383	382	382
		Japan.....	1/	1,115	1,115	1,114	1,114
		Poland.....	1/	69	68	68	68
		Spain.....	1/	45	44	44	44
		Sweden.....	1/	2,104	2,104	2,103	2,103
		Other, excluding the European Communities (Belgium, Denmark, Federal Republic of Germany, France, Greece, Ireland, Italy, Luxembourg, the Netherlands, and the United Kingdom of Great Britain and Northern Ireland) --	1/	736	736	737	737

1/ See Appendix statistical headnote 1.

- U.S RATES OF DUTY, BY TSUSA ITEMS, FOR STAINLESS  
AND ALLOY TOOL STEEL PRODUCT

Table 1.—Stainless steel plate, and sheet and strip: U.S. rates of duty, by TSUSA items, as of Jan. 1, 1987

TSUSA item No.	Article	Rate of duty <sup>1/</sup>	
		Col. 1	Col. 2
607.7603	Stainless steel plates, not pickled and not cold-rolled, not coated or plated with metal, not clad, over 6 inches in thickness.	9.5% adval. + additional duties.	28% adval. + additional duties.
607.7606	Stainless steel plates, not pickled and not cold-rolled, not coated or plated with metal, not clad, other.	9.5% adval. + additional duties.	28% adval. + additional duties.
607.7510	Stainless steel sheets, not pickled and not cold-rolled, not coated or plated with metal, not clad.	9.5% adval. + additional duties.	28% adval. + additional duties.
607.9005	Stainless steel plates, pickled or cold-rolled, not coated or plated with metal, not clad.	9.5% adval. additional duties.	0.2¢ per lb. 28% adval. + additional duties.
607.9010	Stainless steel sheets, pickled but not cold-rolled, not coated or plated with metal, not clad.	10% adval. additional duties.	0.2% adval. additional duties.
607.9020	Stainless steel sheets, cold-rolled, not coated or plated with metal, not clad.	10% adval. additional duties.	0.2% adval. additional duties.
608.2900	Stainless steel strip, other than razor steel, not over 0.01 inch in thickness.	8% adval. additional duties.	33% adval. + additional duties.
608.4300	Stainless steel strip, over 0.01 but not over 0.05 inch in thickness.	10.5% adval. + additional duties.	33% adval. + additional duties.
608.5700	Stainless steel strip, over 0.05 inch in thickness.	11.5% adval. + additional duties.	33% adval. additional duties.

<sup>1/</sup> Stainless steel plate, sheet and strip are also subject to additional cumulative duties on alloy content, as shown in table 4.

Table 2.—Stainless steel bar and wire rod: U.S. rates of duty, by TSUSA items, as of Jan. 1, 1987

TSUSA item No.	Article	Rate of duty <sup>1/</sup>	
		Col. 1	Col. 2
606.9005	Stainless steel bar, not cold formed.....	10.5% adval. + additional duties.	28% adval. + additional duties.
606.9015	Stainless steel bar, cold formed, having a maximum cross-sectional dimension of 0.703 inch or more.	10.5% adval. + additional duties.	28% adval. + additional duties.
606.9020	Stainless steel bar, cold formed, having a maximum cross-sectional dimension of 0.703 inch or more.	10.5% adval. + additional duties.	28% adval. + additional duties.
607.2600	Stainless steel wire rod, not tempered, not treated, and not partly manufactured.	4.3% adval. + additional duties.	11% adval. + + additional duties.
607.4300	Stainless steel wire rod tempered, treated, or partly manufactured.	4.6% adval. + additional duties.	10% adval. + additional duties.

<sup>1/</sup> Stainless steel bar and wire rod are subject to additional cumulative duties on allo: conten as shown in table 4.

Table 3.—Alloy tool steel, all forms: U.S. rates of duty, by TSUSA items, as of Jan. 1, 1987

TSUSA item No.	Article	Rate of duty 1/	
		Col. 1	Col. 2
606.9505	Tool steel bar: High-speed tool steel: Not cold formed	10.5% adval + additional duties.	28% adval. + additional duties.
606.9512	Cold formed, having a maximum cross-sectional dimension of 0.703 inch or more.	10.5 adval + additional duties.	28% adval. + additional duties.
606.9514	Cold formed, having a maximum cross-sectional dimension of 0.703 inch or more.	10.5% adval. + additional duties.	28% adval. + additional duties.
606.9535	Tool steel other than high speed or band saw steel: Not cold formed	10.5% adval. + additional duties.	28% adval. + additional duties.
606.9542	Cold formed, having a maximum cross-sectional dimension of less than 0.703 inch, or round or rectangular cross section with surfaces ground, milled, or polished.	10.5% adval. + additional duties.	28% adval. + additional duties.
606.9544	Cold formed having a maximum cross- sectional dimension of less than 0.703 inch, of other than round or rectangular cross section with surfaces ground, milled, or polished.	10.5% adval. + additional duties.	28% adval. + additional duties.
606.9546	Cold formed, having a maximum cross- sectional dimension of 0.703 inch or more, of round or rectangular cross section with surfaces ground, milled, or polished.	10.5% adval. + additional duties.	28% adval. + additional duties.

Table 3.—Alloy tool steel, all forms: U.S. rates of duty, by TSUSA items, as of Jan. 1, 1987 —continued

TSUSA item No.	Article	Rate of duty 1/	
		Col. 1	Col. 2
606.9548	Cold formed, having a maximum cross-sectional dimension of 0.703 inch or more, other than of round or rectangular cross section with surfaces ground, milled, or polished.	10.5% adval. + additional duties.	28% adval. + additional duties.
607.2800	Tool steel wire rod, not tempered, not treated, and not partly manufactured: High speed	4.9% adval. + additional duties.	11% adval. + additional duties.
607.3420	Tool steel, other than chipperknife steel, band saw steel, and bearing steel.	4.9% adval. + additional duties.	11% adval. + additional duties.
607.4600	Tool steel wire rod, tempered, treated, or partly manufactured: High speed	4.3% adval. + additional duties.	10% adval. + additional duties.
607.5420	Tool steel, other than chipper knife steel, band saw steel, and bearing steel.	5.9% adval. + additional duties.	10% adval. + additional duties.
	Tool steel strip over 0.01 but not over 0.05 inch in thickness:		
608.4920	Of tool steel other than chipperknife steel and band saw steel.	10.5% adval. + additional duties.	33% adval. + additional duties.
	Tool steel strip, over 0.05 inch in thickness:		

Table 3.—Alloy tool steel, all forms: U.S. rates  
of duty, by TSUSA items, as of Jan. 1, 1987 —continued

TSUSA item No.	Article	Rate of duty <sup>1/</sup>	
		Col. 1	Col. 2
	Tool steel plates and shrrts, not coated or plated with metal and not clad <sup>m</sup> not pickled and not cold rolled:		
607.7210	Of tool steel other than chipperknife steel, band saw steel, and bearing steel, over 6 inches in thickness.	9.5% adval. + additional duties.	28% adval. + additional duties.
607.7220	Plates of tool steel other than chipperknife steel, band saw steel, and bearing steel under 6 inches in thickness.	9.5% adval. + additional duties.	28% adval. + additional duties.
607.7225	Sheets of tool steel other than chipper knife steel, band saw steel, and bearing steel, under 6 inches in thickness.	9.5% adval. + additional duties.	11% adval. additional duties.
	Tool steel plates and sheets, not coated or plated with metal and not clad, pickled or cold rolled:		
607.8820	Of tool steel other than chipperknife steel and band saw steel.	10% adval. + additional duties.	0.2% per lb. + 28% adval. + additional duties
	Tool steel strip, not over 0.01 inch in thickness:		
608.3420	Of toll steel other than chipperknife steel and band saw steel.	5.1% adval. + additional duties.	33% adval. + additional duties.

Table 3.—Alloy tool steel, all forms: U.S. rates of duty, by TSUSA items, as of Jan. 1, 1987 —continued

TSUSA item No.:	Article	Rate of duty <sup>1/</sup>	
		Col. 1	Col. 2
	Tool steel strip, over 0.01 but not over 0.05 inch thickness:		
608.4920	Of tool steel other than chipperknife steel and band saw steel.	10.5% adval. + additional duties.	33% adval. + additional duties.
608.6420	Of tool steel other than chipperknife steel and band saw steel.	11.5% adval. + additional duties.	33% adval. + additional duties.
	Tool steel round wire:		
609.4520	High speed tool steel, under 0.06 inch in diameter.	9% adval. + additional duties.	33% adval. + additional duties.
609.4550	High speed tool steel, 0.060 inch or more in diameter.	9% adval. + additional duties.	33% adval. + additional duties.

<sup>1/</sup> Alloy tool steel products are also subject to additional cumulative duties on alloy content, as shown in table 4.

Table 4.—Stainless steel plate, sheet strip, bar,  
wire rod and alloy tool steel: additional cumulative  
duties on alloy content

TSUSA item No.	Article	Rate of duty 1/	
		Col. 1	Col. 2
606.00	Chromium content over 0.2 percent by weight	0.1% adval.	1% adval.
606.02	Molybdenum content over 0.1 percent by weight.	0.3% adval.	1% adval.
606.04	Tungsten conten over 0.3 percent by weight.	0.49% adval.	1% adval.
606.06	Vanadium content over 0.1 percent by weight.	0.2% adval.	1% adval.

APPENDIX E

ADDITIONAL TABLES ON THE CONDITION OF  
THE U.S. INDUSTRY

Table E-1

Stainless steel and alloy tool steel: Income and loss data of 19 U.S. producers on their all stainless steel and alloy tool steel operations, 1/ by quarters, 1986

Item	Jan.- Mar.	Apr.- June	July- Sept.	Oct.- Dec.	Total
<b>Net sales:</b>					
Trade.....1,000 dollars..	638,895	648,661	577,264	592,343	2,457,163
Intra-Intercompany transfers.....do....	14,456	13,130	9,869	14,316	51,771
Total net sales.....do....	653,351	661,791	587,133	606,659	2,508,934
Cost of goods sold.....do....	557,730	567,730	498,071	503,558	2,127,089
Gross profit or (loss).....do....	95,621	94,061	89,062	103,101	381,845
General, selling, and administrative expenses.....do....	48,231	49,517	44,258	47,931	189,937
Operating income or (loss).....do....	47,390	44,544	44,804	55,170	191,908
Interest expense.....do....	10,229	12,480	12,136	11,918	46,763
Other income or (expense), net.....do....	(5,125)	(998)	(2,447)	(2,547)	(11,117)
Net income or (loss) before income taxes.....do....	32,036	31,066	30,221	40,705	134,028
Depreciation and amortization expense included above.....do....	16,105	17,254	17,210	16,229	66,798
Cash flow or (deficit) from operations 3/.....do....	48,141	48,320	47,431	56,934	200,826
<b>As a share of net sales:</b>					
Gross profit or (loss).....percent..	14.6	14.2	15.2	17.0	15.2
Operating income or (loss).....do....	7.3	6.7	7.6	9.1	7.6
Net income or (loss) before income taxes.....do....	4.9	4.7	5.1	6.7	5.3
Cost of goods sold.....do....	85.4	85.8	84.8	83.0	84.8
General, selling, and administrative expenses.....do....	7.4	7.5	7.5	7.9	7.6
<b>Number of firms reporting:</b>					
Operating losses.....	7	7	8	7	7
Net losses.....	9	10	10	10	9

1/ Reporting 19 firms accounted for 100 percent of U.S. shipments in 1986.

2/ Data do not equal those presented in table 13 because data in table 13 are reported on fiscal year of firms.

3/ Defined as pretax net income or loss plus depreciation and amortization expense.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table E-2  
Stainless steel sheets and strips: Income-and-loss data of 10 U.S. producers on their operations, 1/ by quarters, 1986

Item	Jan.- Mar.	Apr.- June	July- Sept.	Oct.- Dec.	Total
Net sales:					
Trade.....1,000 dollars..	299,008	311,061	287,150	306,659	1,203,878
Intra-Intercompany transfers.....do....	3,691	3,991	3,738	1,547	12,967
Total net sales.....do....	302,699	315,052	290,888	308,206	1,216,845
Cost of goods sold.....do....	258,146	268,287	239,378	251,284	1,017,095
Gross profit or (loss).....do....	44,553	46,765	51,510	56,922	199,750
General, selling, and administrative expenses.....do....	10,270	11,640	10,501	12,435	44,846
Operating income or (loss).....do....	34,283	35,125	41,009	44,487	154,904
Interest expense.....do....	2,772	4,026	4,448	4,383	15,629
Other income or (expense), net...do....	(373)	(2,456)	(3,219)	(1,583)	(7,631)
Net income or (loss) before income taxes.....do....	31,138	28,643	33,342	38,521	131,644
Depreciation and amortization expense included above.....do....	5,282	5,625	5,764	5,680	22,351
Cash flow or (deficit) from operations <u>1/</u> .....do....	36,420	34,268	39,106	44,201	153,995
As a share of net sales:					
Gross profit or (loss).....percent..	14.7	14.8	17.7	18.5	16.4
Operating income or (loss).....do....	11.3	11.1	14.1	14.4	12.7
Net income or (loss) before income taxes.....do....	10.3	9.1	11.5	12.5	10.8
Cost of goods sold.....do....	85.3	85.2	82.3	81.5	83.6
General, selling, and administrative expenses.....do....	3.4	3.7	3.6	4.0	3.7
Number of firms reporting:					
Operating losses.....	1	2	2	0	1
Net losses.....	0	1	1	0	0

1/ Reporting 10 firms accounted for 100 percent of U.S. shipments in 1986.

2/ Defined as pretax net income or loss plus depreciation and amortization expense.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table E-3

Stainless steel plate: Income-and-loss data of 6 U.S. producers on their operations, <sup>1/</sup> by quarters, 1986

Item	Jan.- Mar.	Apr.- June	July- Sept.	Oct.- Dec.	Total
Net sales:					
Trade.....1,000 dollars..	58,271	59,486	49,825	55,538	223,120
Intra-Intercompany transfers.....do....	7,364	6,811	3,523	3,793	21,491
Total net sales.....do....	65,635	66,297	53,348	59,331	244,611
Cost of goods sold.....do....	57,985	57,099	47,413	51,181	213,678
Gross profit or (loss).....do....	7,650	9,198	5,935	8,150	30,933
General, selling, and administrative expenses.....do....	3,465	3,649	3,490	3,594	14,198
Operating income or (loss).....do....	4,185	5,549	2,445	4,556	16,735
Interest expense.....do....	1,203	947	886	863	3,899
Other income or (expense), net.....do....	(522)	(676)	(908)	(480)	(2,586)
Net income or (loss) before income taxes.....do....	2,460	3,926	651	3,213	10,250
Depreciation and amortization expense included above.....do....	1,331	1,357	1,378	1,242	5,308
Cash flow or (deficit) from operations <sup>1/</sup> .....do....	3,791	5,283	2,029	4,455	15,558
As a share of net sales:					
Gross profit or (loss).....percent..	11.7	13.9	11.1	13.7	12.6
Operating income or (loss).....do....	6.4	8.4	4.6	7.7	6.8
Net income or (loss) before income taxes.....do....	3.7	5.9	1.2	5.4	4.2
Cost of goods sold.....do....	88.3	86.1	88.9	86.3	87.4
General, selling, and administrative expenses.....do....	5.3	5.5	6.5	6.1	5.8
Number of firms reporting:					
Operating losses.....	1	0	1	1	1
Net losses.....	1	1	1	1	1

<sup>1/</sup> Reporting 6 firms accounted for 100 percent of U.S. shipments in 1986. \* \* \*

<sup>2/</sup> Defined as pretax net income or loss plus depreciation and amortization expense.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table E-4  
Stainless steel bar: Income-and-loss data of 8 U.S. producers on their operations, 1/ by quarters, 1986

Item	Jan.- Mar.	Apr.- June	July- Sept.	Oct.- Dec.	Total
Net sales:					
Trade.....1,000 dollars..	119,514	112,381	99,229	92,631	423,755
Intra-Intercompany transfers.....do....	1	-	2	1	4
Total net sales.....do....	119,515	112,381	99,231	92,632	423,759
Cost of goods sold.....do....	105,541	99,503	89,314	80,575	374,933
Gross profit or (loss).....do....	13,974	12,878	9,917	12,057	48,826
General, selling, and administrative expenses.....do....	12,230	11,618	10,282	10,242	44,372
Operating income or (loss).....do....	1,744	1,260	(365)	1,815	4,454
Interest expense.....do....	2,982	3,153	2,898	2,715	11,748
Other income or (expense), net...do....	(1,382)	120	(307)	(199)	(1,768)
Net income or (loss) before income taxes.....do....	(2,620)	(1,773)	(3,570)	(1,099)	(9,062)
Depreciation and amortization expense included above.....do....	3,691	3,896	3,918	3,552	15,057
Cash flow or (deficit) from operations <u>1/</u> .....do....	1,071	2,123	348	2,453	5,995
As a share of net sales:					
Gross profit or (loss).....percent..	11.7	11.5	10.0	13.0	11.5
Operating income or (loss).....do....	1.5	1.1	(0.4)	2.0	1.1
Net income or (loss) before income taxes.....do....	(2.2)	(1.6)	(3.6)	(1.9)	(2.1)
Cost of goods sold.....do....	88.3	88.5	90.0	87.0	88.5
General, selling, and administrative expenses.....do....	10.2	10.3	10.4	11.1	10.5
Number of firms reporting:					
Operating losses.....	4	6	6	3	5
Net losses.....	5	7	7	5	6

1/ Reporting 8 firms accounted for 100 percent of U.S. shipments in 1986.

2/ Defined as pretax net income or loss plus depreciation and amortization expense.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table E-5

Stainless steel wire rod: Income-and-loss data of 5 U.S. producers on their operations, 1/ by quarters, 1986

Item	Jan.- Mar.	Apr.- June	July- Sept.	Oct.- Dec.	Total
<b>Net sales:</b>					
Trade.....1,000 dollars..	19,813	20,763	18,950	19,128	78,654
Intra-Intercompany transfers.....do....	-	-	-	-	-
Total net sales.....do....	19,813	20,763	18,950	19,128	78,654
Cost of goods sold.....do....	18,964	19,985	18,101	17,104	74,154
Gross profit or (loss).....do....	849	778	849	2,024	4,500
General, selling, and administrative expenses.....do....	1,797	1,980	1,833	2,025	7,635
Operating income or (loss).....do....	(948)	(1,202)	(984)	(1)	(3,135)
Interest expense.....do....	455	508	448	454	1,865
Other income or (expense), net...do....	(234)	60	13	15	(146)
Net income or (loss) before income taxes.....do....	(1,637)	(1,650)	(1,419)	(440)	(5,146)
Depreciation and amortization expense included above.....do....	795	901	946	904	3,546
Cash flow or (deficit) from operations <u>2/</u> .....do....	(842)	(749)	(473)	464	(1,600)
<b>As a share of net sales:</b>					
Gross profit or (loss).....percent..	4.3	3.7	4.5	10.6	5.7
Operating income or (loss).....do....	(4.8)	(5.8)	(5.2)	0.0	(4.0)
Net income or (loss) before income taxes.....do....	(8.3)	(7.9)	(7.5)	(2.3)	(6.5)
Cost of goods sold.....do....	95.7	96.3	95.5	89.4	94.3
General, selling, and administrative expenses.....do....	9.1	9.5	9.7	10.6	9.7
<b>Number of firms reporting:</b>					
Operating losses.....	5	5	3	2	3
Net losses.....	5	5	4	3	4

1/ Reporting 5 firms accounted for 100 percent of U.S. shipments in 1986.

2/ Defined as pretax net income or loss plus depreciation and amortization expense.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table E-6

Alloy tool steel products: Income-and-loss data of 12 U.S. producers on their operations, 1/ by quarters, 1986

Item	Jan.- Mar.	Apr.- June	July- Sept.	Oct.- Dec.	Total <u>2/</u>
<b>Net sales:</b>					
Trade.....1,000 dollars..	78,509	74,650	65,372	63,998	282,529
Intra-Intercompany transfers.....do....	867	1,065	1,081	690	3,703
Total net sales.....do....	79,376	75,715	66,453	64,688	286,232
Cost of goods sold.....do....	63,389	60,789	53,623	53,161	230,962
Gross profit or (loss).....do....	15,987	14,926	12,830	11,527	55,270
General, selling, and administrative expenses.....do....	10,697	9,943	9,589	9,591	39,820
Operating income or (loss).....do....	5,290	4,983	3,241	1,936	15,450
Interest expense.....do....	1,019	990	963	1,049	4,021
Other income or (expense), net...do....	(1,169)	(377)	(473)	(2,166)	(4,185)
Net income or (loss) before income taxes.....do....	3,102	3,616	1,805	(1,279)	7,244
Depreciation and amortization expense included above.....do....	2,309	2,259	2,269	2,120	8,957
Cash flow or (deficit) from operations <u>3/</u> .....do....	5,411	5,875	4,074	841	16,201
<b>As a share of net sales:</b>					
Gross profit or (loss).....percent..	20.1	19.7	19.3	17.8	19.3
Operating income or (loss).....do....	6.7	6.6	4.9	3.0	5.4
Net income or (loss) before income taxes.....do....	3.9	4.8	2.7	(2.0)	2.5
Cost of goods sold.....do....	79.9	80.3	80.7	82.2	80.7
General, selling, and administrative expenses.....do....	13.5	13.1	14.4	14.8	13.9
<b>Number of firms reporting:</b>					
Operating losses.....	5	6	6	6	5
Net losses.....	5	6	6	8	5

1/ Reporting 12 firms accounted for 96 percent of U.S. shipments in 1986.

2/ Data do not equal those presented in table 18 because data in table 18 are reported on fiscal year of firms.

3/ Defined as pretax net income or loss plus depreciation and amortization expense.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table E-7

Capital expenditures as a share of cash flow, and research and development expenditures as a share of total net sales, by product, 1979-86

Item/year	(In percent)				
	Stainless steel				Alloy tool steel, all forms
	Plate	Sheets and strip	Bar	Wire rod	
Capital expenditures as a share of cash flow: <u>1/</u>					
1979.....	12.6	9.3	30.3	61.3	17.5
1980.....	20.4	36.4	27.4	419.6	24.0
1981.....	47.8	180.3	51.0	<u>2/</u> (791.5)	38.1
1982.....	<u>2/</u> (24.7)	108.2	<u>2/</u> (278.6)	<u>2/</u> (100.4)	<u>2/</u> (187.6)
1983.....	<u>2/</u> (47.1)	60.5	<u>2/</u> (1,594.5)	<u>2/</u> (93.1)	65.0
1984.....	58.0	23.2	73.8	<u>2/</u> (174.2)	17.4
1985.....	39.5	34.6	357.6	<u>2/</u> (317.0)	62.5
1986.....	22.6	23.2	109.5	<u>2/</u> (1,015.6)	101.8
Research and development expenditures as a share of total net sales:					
1979.....	0.09	0.30	1.42	1.75	0.58
1980.....	0.15	0.43	1.38	2.21	0.72
1981.....	0.20	0.43	1.48	2.50	0.87
1982.....	0.26	1.45	2.11	4.64	1.15
1983.....	0.17	0.30	3.36	4.12	1.20
1984.....	0.05	0.78	1.43	3.41	0.93
1985.....	0.05	0.82	1.59	2.60	1.33
1986.....	<u>3/</u> 1.70	<u>3/</u> 2.16	1.94	2.86	1.57

1/ Stainless steel plate, sheet and strip, and alloy tool steel data may be somewhat overstated for 1979-81, and stainless wire rod and alloy tool steel data may be somewhat overstated for 1985, due to failure of some companies to provide depreciation expenses.

2/ Parentheses signify that companies reported negative cash flow for the period indicated.

3/ One firm revised its method of reporting research and development expenditures in 1986 to reflect broader coverage of expenditures. The firm did not revise its expenditures for prior years.

Source: For 1979-81, Stainless Steel and Alloy Tool Steel: Determinations of the Commission in Investigations No. TA-201-48 under Section 201 of the Trade Act of 1974, Together with the Information Obtained in the Investigation USITC Publication 1377, May 1983. For 1982-86, compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table E-8.

Actual and projected capital expenditures for operations associated either directly or indirectly to products subject to relief, by producer, 1986.

(In thousands of dollars)

Producers	Projected 1986 2/	Actual 1986	Difference (Actual- projected)	Reason for difference 2/
-----------	----------------------	----------------	--------------------------------------	-----------------------------

\* \* \* \* \*

1/ \* \* \*

2/ Codes identifying reason for difference:

- A. Funds not available due to lower than anticipated product prices and/or inadequate profits.
- B. Postponement of project(s) due to insufficient time allocated in 1986 for completion.
- C. Major unanticipated capital expenditures undertaken in 1986.
- D. Other, including small, unanticipated expenditures on equipment; reduced expenditure plans; project cancellations due to changes in scope of program; and import competition.
- E. No explanation provided by respondent.
- F. Projected expenditure very close to actual expenditure; no reason given.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table E-9

Actual and projected expenditures on research and development for operations associated either directly or indirectly with products subject to relief, by producer, 1986.

(In thousands of dollars)

Producers	Projected 1986	Actual 1986	Difference (Actual- projected)	Reason for difference 2/
*	*	*	*	*

1/ \* \* \*

2/ Codes identifying reason for difference:

- A. Funds not available due to lower than anticipated product prices and/or inadequate profits.
- B. Postponement of project(s) due to insufficient time allocated in 1986 for completion.
- C. Major unanticipated capital expenditures undertaken in 1986.
- D. Other, including small, unanticipated expenditures on equipment; reduced expenditure plans; project cancellations due to changes in scope of program; and import competition.
- E. No explanation provided by respondent.
- F. Projected expenditure very close to actual expenditure; no reason given.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table E-10

Projected capital expenditures and expenditures on research and development by U.S. producers for their operations producing stainless steel and alloy tool steel products subject to relief, 1987.

(In thousands of dollars)

Item	1987
<b>Capital expenditures:</b>	
Projections made in February 1984.....	168,385
Projections made in February 1985.....	160,062
Projections made in February 1986.....	104,945
Projections made in February 1987.....	92,319
<b>Research and development expenditures: <u>1/</u></b>	
Projections made in February 1984.....	28,939
Projections made in February 1985.....	25,491
Projections made in February 1986.....	23,553
Projections made in February 1987.....	35,579

1/ Research and development includes the further development of present products, development of new or improved products, manufacturing methods, testing of new materials, and pure research.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission. •

Table E-11

Capital expenditures, 1986, and projected capital expenditures, 1987, by producer, for operations associated either directly or indirectly with production of the stainless and/or alloy tool steel products subject to relief

(In thousands of dollars)	
Producer	Total Investment 1986
	Projected Investment 1986

\* \* \* \* \*

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table E-12

Certain stainless and alloy tool steel: U.S. producers' unfilled orders, by products, by specified periods, 1985 and 1986

(In short tons)					
Period	Stainless steel plate	Stainless steel sheet and strip	Stainless steel bar	Stainless steel wire rod	Alloy tool steel, all forms
1985:					
Dec. 31—	8,257	142,093	15,180	***	6,338
1986:					
March 31—	14,114	161,607	18,834	***	5,910
June 30—	13,440	129,285	17,821	***	6,280
Sept. 30—	10,544	114,065	17,095	***	6,124
Dec. 31—	13,820	140,292	18,624	***	6,044

Table E-13

Certain stainless and alloy tool steel: U.S. producers' end-of period inventories, by products, by specified periods, 1985 and 1986

(In short tons)					
Period	Stainless steel plate	Stainless steel sheet and strip	Stainless steel bar	Stainless steel wire rod	Alloy tool steel, all forms
1985:					
Dec. 31—	20,052	140,852	51,498	***	39,073
1986:					
March 31—	22,265	139,629	51,537	***	37,505
June 30—	23,836	149,484	51,243	***	39,323
Sept. 30—	23,867	144,651	47,120	***	37,910
Dec. 31—	27,148	141,260	44,039	***	36,417



APPENDIX F  
VRA COVERAGE TABLE AND  
SUPPLEMENTAL PRICING TABLES

Table 1.--Coverage of stainless steel sheet, strip, and plate under voluntary restraint agreements (VRAs) with major exporting countries: share of total 1986 imports of stainless steel flat-rolled products, VRA product categories covering stainless flat-rolled products, the type and level of restraint, and 1987 export ceilings based on February 1987 consumption forecast, by country or signatory

Country	Share of 1986 imports Percent	Agreement product categories	Restraint type	Levels	Effective 1987 export ceiling for stainless flat-rolled products Tons
European Communities <u>1/</u> ...	47.5	Stainless sheet and strip	Market share	3.99%	36,349
		Stainless plate		4.93%	5,472
Japan.....	13.5	Sheet and strip	Market share	5.57%	<u>2/</u>
		Plate		.60%	<u>2/</u>
Spain.....	7.1	Stainless flat rolled	Market share	1.10%	11,242
Mexico.....	6.7	Hot-rolled sheet and strip	Market share	.05%	
		Cold-rolled sheet and strip		.09%	17,473 (total for all flat rolled) <u>3/</u>
South Korea.....	6.0	Stainless sheet, strip, and plate	Fixed tonnage	9,000 tons	9,000
South Africa.....	1.6	Hot-rolled sheet and strip	Market share	.37%	0 <u>4/</u>
		Cold-rolled sheet and strip		.30%	
		Plate		.94%	
Brazil.....	.3	Stainless flat rolled	Market share	.03%	307

1/ Belgium, Denmark, Federal Republic of Germany, France, Greece, Ireland, Italy, Luxembourg, the Netherlands, and the United Kingdom of Great Britain and Northern Ireland.

2/ Unknown. Japan's 1987 export ceiling for all types of steel sheet and strip is 2,629,096 tons, and for all types of steel plate is 27,048 tons.

3/ The VRA with Mexico was modified in early 1987 by an exchange of letters to reflect the fact that much of stainless flat-rolled imports from Mexico enter under tariff classification 806.30. These imports are cold-finished in Mexico from hot bands produced in the U.S. The results of the recent exchange of letters are twofold. First, Mexico has agreed to limit its exports of U.S. origin stainless sheet and strip to 16,150 tons in 1987-1988 and to 12,113 tons in January-September 1989, the end period of the VRA. Second, Mexico has agreed to limit its exports of Mexican origin stainless sheet and strip to 1,323 net tons in each of the periods, 1987, 1988, January-September 1989.

4/ Imports of stainless steel sheet, strip, and plate from South Africa are not currently permitted entry into the United States due to the Comprehensive Anti-Apartheid Act of 1986.

Source: Voluntary restraint agreements and worksheets, Office of Agreements and Compliance, International Trade Administration, Department of Commerce.

Table 1.—Stainless sheet and strip: Weighted average selling prices of various specifications of U.S. produced and imported stainless steel sheet for sales to service centers/distributors, by quarters, 1983-86.

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Table 2.—Stainless steel plate: Weighted average selling prices of various specifications of U.S. produced and imported stainless steel plate for sales to service centers/distributors, by quarters 1983-86

\* \* \* \* \*

Table 3.—Stainless steel bar: Weighted average selling prices of various specifications of U.S. produced and imported stainless steel bar for sales to service centers/distributors, by quarters 1983-86

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Table 4.—Stainless steel wire rod: Weighted average selling prices of various specifications of U.S. produced and imported stainless steel wire rod for sales to service centers/distributors, by quarters 1983-86

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Table 5.—Alloy tool steel: Weighted average selling prices of various specifications of U.S. produced and imported alloy tool steel for sales to service centers/distributors, by quarters 1983-86

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APPENDIX G

ECONOMIC ANALYSIS OF THE PROBABLE ECONOMIC  
EFFECT OF TERMINATING IMPORT RELIEF

Economic Analysis of the Probable Economic Effect  
of Terminating or Extending Import Relief

In July 1983, the President implemented an import relief program that included digressive tariffs and quotas which expand over the period of import relief. The level of import relief currently provided to the stainless steel and alloy tool steel industries separately for five specialty steel products, as noted in Schedule 9 of the TSUSA, is as follows: 1/

Stainless sheet and strip	4% ad valorem tariff	<u>1/</u>
Stainless plate	4% ad valorem tariff	
Stainless steel bar	"1986" quota amount,	25,748 short tons
Stainless steel wire rod	"1986" quota amount,	15,787 short tons
Alloy tool steel	"1986" quota amount,	21,564 short tons

1/ The ad valorem additional tariffs for sheet and strip and for plate were reduced from 5-6 percent to 4 percent effective July 20, 1986.

2/ The quota levels presented above actually cover the period January 20, 1986 through January 19, 1987. These quota levels reflect the reductions in the quota allotment for all other countries pursuant to the March 1986 implementation of the VRA with the EC.

As previously explained, stainless steel and alloy tool steel products from several countries are subject to VRAs which limit signatories' exports to the United States to a certain percentage of U.S. apparent consumption through September 30, 1989. Accordingly, imports of stainless steel and alloy tool steel products subject to VRAs are exempted from the import restrictions listed above by reason of those agreements. For example, importers of stainless steel sheet, strip, and plate produced in VRA countries pay the applicable TSUS tariff rate of 8.5-10 percent, but do not pay the additional 4-percent duty. If this additional tariff is removed, VRA countries will not receive any reduction in duties nor will they be able to increase their exports of the subject products to the United States beyond the negotiated export ceilings of the VRA's. Thus, in examining the probable economic effect of terminating section 201 imports, the continued existence of the VRAs was assumed. 2/ 3/

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1/ Adding the export restraint ceilings negotiated in the EC agreement to the quotas listed for imports of stainless steel bar, wire rod, and tool steel yields a total quantitative import restriction that appears to be slightly less restrictive than the 1986 quotas as originally stated in the July 21, 1983, Federal Register notice implementing the relief.

2/ An assessment of the potential economic effect of an end to the implementation of the VRA's concurrent with a termination of the section 201 relief appears later in this appendix.

3/ It was assumed that the VRAs are binding at their current levels. That is, without the VRAs, imports from the VRA countries would be at a level higher than the agreements allow. Import data pertaining to VRA-signatories support this assumption. For example, because the VRA's for the EC and Korea were not implemented until March 1986, actual imports of stainless flat-rolled products from these countries in 1986 were higher than they would have been had the VRAs been in effect the entire year. See the section of the Report on the effect of VRAs on import data.

Using a methodology that has been frequently employed at the International Trade Commission, a static model was developed using 1986 data to estimate the probable net economic effects on the industry and consumers in 1986 had the tariffs or quotas been terminated in that year. <sup>1/</sup> This is similar to predicting the effect of the termination in the following year, holding all other factors, including consumption, constant. To isolate the effects of termination of import restrictions on changes in quantities and prices of non-VRA imports, net consumption of U.S.-produced and non-VRA imports (or aggregate demand for each product, less demand for imports from VRA countries) was used in the model. To estimate aggregate demand in absence of the import relief, and the resulting market shares for domestic producers and for total imports, VRA-import market share (or fixed tonnages) can later be added back to net imports and consumption. <sup>2/</sup>

The estimated effects of a removal of the additional tariffs for sheet, strip, and plate and the removal of quotas for stainless steel bar, wire rod, and tool steel are explored in the following sections using a range of likely price elasticities. <sup>3/</sup> This approach establishes upper and lower bounds for the probable economic effect on domestic and non-VRA import prices, non-VRA imports, production, and employment. Aggregate demand for stainless steel and alloy tool steel products is assumed to be relatively inelastic because demand for these products is a derived demand dependent on the level of consumption in end-user industries.

#### Termination of additional tariffs

Stainless steel sheet and strip.—Eighty-three percent of 1986 imports of stainless steel sheet and strip were subject to VRA's, which will remain in effect through September 30, 1989. Thus, the removal of the 4-percent additional tariff for imports of stainless steel sheet and strip is estimated to have a small effect on the industry and consumers (table G-1). In response to a decrease in the tariff, importers of sheet and strip from non-VRA

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<sup>1/</sup> The model assumes that the domestic and imported products are partial substitutes and that both import and domestic supply curves slope upward. A more detailed examination of the methodology employed in developing these estimates is described in a USITC staff research paper by Rousslang and Suomela entitled "Calculating the Consumer and Net Welfare Costs of Import Relief," July 1985.

<sup>2/</sup> Estimation of actual consumption and market shares resulting from a termination of the import relief is problematic. Before certain VRA's became effective in March 1986, there was a surge in imports of stainless steel flat-rolled products from VRA countries. It is unclear whether or not these imports actually entered commerce, or this surge increased inventories. In any case, imports of stainless steel flat-rolled products from certain VRA countries will represent a smaller share of 1987 consumption because the import surge was a one-time occurrence. The effect of this import surge in 1986 and the effect of no import surge in 1987 should be considered separately from the probable economic effects of terminating the import relief. See the earlier section on the effect of VRA's on import data.

<sup>3/</sup> The following elasticity estimates were used in the model: aggregate demand -0.3 to -0.7, domestic demand -1 to -5, domestic supply 3 to 10, import demand -2 to -8, and import supply 10 to 30.

signatories are expected to pass through most of the tariff reduction to consumers. As importers' sales displace domestic shipments (as result of the new lower price), imports from non-VRA countries are expected to increase by 1,387 to 5,013 tons, or by 5 to 19 percent. Declines in producers' shipments resulted in an estimated decline in production of 986 to 4,009 net tons, or by 0.1 to 0.6 percent of the 1986 production of stainless steel sheet and strip. Sales revenue lost by domestic producers is approximately \$586,000-\$701,000, for a decline of 0.05 to 0.06 percent from 1986 sales revenue. Estimates of declines in employment producing stainless steel sheet and strip are 5 to 20 jobs. During the period of import relief, the average number of production and related workers producing stainless steel sheet and strip fell from 5,580 workers in 1983 to 4,012 workers in 1986, or by 1,568 workers. In response to the lower prices, net consumption of the U.S.-produced and non-VRA imported sheet and strip could increase by 372 to 970 tons if the additional tariff is terminated.

Stainless steel plate.—Eighty-three percent of 1986 imports of stainless steel plate were subject to VRA's. Thus, similar to the case for stainless steel sheet and strip, the removal of the 4-percent additional tariff for imports of stainless steel plate would be expected to have a small effect on the industry and consumers (table G-2). As a result of a decrease in the price of imported plate, imports from non-VRA countries are expected to increase by 150 to 543 tons, or by 5 to 19 percent. Declines in producers' shipments result in an estimated decline in production of 114 to 462 net tons, or 0.1 to 0.4 percent of 1986 production of stainless steel plate. Domestic producers' sales revenue is estimated to decline by approximately \$81,000 to \$97,000, or by 0.03 to 0.04 percent of 1986 sales revenue. Estimates of declines in employment producing stainless steel plate are 1 to 4 jobs. During the period of import relief, the average number of production and related workers producing stainless steel plate decreased from 1,208 workers in 1983 to 1,139 workers in 1986, or by 69 workers. As a result of lower prices for stainless steel plate, net consumption is expected to increase by 33 to 78 tons.

#### Termination of the quotas

The methodology traditionally employed by Commission staff to estimate the effects of changes in tariffs and quotas cannot be used to predict the level of imports that would result in response to an elimination of a quota. Assuming that the quotas are binding at their current levels, <sup>1/</sup> it is reasonable to assume that the level of imports would increase if the quotas were terminated. Only the EC has negotiated a VRA with respect to stainless steel bar and stainless steel wire rod. Only the EC and Austria have negotiated VRAs with respect to alloy tool steel. Whereas VRA coverage of these products represented a fair percentage of 1986 imports, 20 and 25 percent for stainless steel bar and wire rod, and 45 percent for tool steel,

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<sup>1/</sup> It was assumed that the quotas are binding at their current levels. That is, without the quotas, imports would be at a level higher than the quotas allow. Total import data from these countries have been slightly below the quota levels, a phenomenon that often occurs as exporters and importers try to match their shipments to the levels permitted by import quotas.

Table G-1

Stainless steel sheet and strip: Estimated effects of terminating the 4 percent additional tariff on import and domestic prices, domestic production, employment, and non-VRA imports for stainless steel sheet and strip from their 1986 levels

Present level:

Domestic shipments (quantity in net tons)....	688,452
Domestic shipments (value in dollars).....	\$1,193,236,000
Non-VRA imports.(quantity in net tons).....	26,005

	<u>Low-elasticity estimate</u>	<u>High-elasticity estimate</u>
<u>Tariff reduction results:</u>		
Percent decrease in import price.....	3.0	2.9
Percent decrease in domestic price.....	0.0	0.1
Non-VRA imports (quantity in net tons)....	27,392	31,018
Domestic shipments.....do.....	687,437	684,409
Decrease in domestic production.....do.....	986	4,009
Producers loss in sales volume (dollars).....	\$586,388	\$700,721
Decrease in employment (jobs).....	5	20

Table G-2

Stainless steel plate: Estimated effects of terminating the 4 percent additional tariff on import and domestic prices, domestic production, employment, and non-VRA imports for stainless steel plate from their 1986 levels

Present level:

Domestic shipments (quantity in net tons)....	118,271
Domestic shipments (value in dollars).....	\$245,973,000
Non-VRA imports.(quantity in net tons).....	2,814

	<u>Low-elasticity estimate</u>	<u>High-elasticity estimate</u>
<u>Tariff reduction results:</u>		
Percent decrease in import price.....	3.0	2.9
Percent decrease in domestic price.....	0.0	0.0
Non-VRA imports (quantity in net tons)....	2,964	3,357
Domestic shipments.....do.....	118,154	117,806
Decrease in domestic production.....do.....	114	462
Producers loss in sales volume (dollars).....	\$80,952	\$96,738
Decrease in employment (jobs).....	1	4

the lack of VRA coverage for the majority of imports of these products suggests that remaining non-VRA countries may be able to increase their exports of these products to the United States should import relief be terminated. Foreign industry data support this conclusion. Japan, Sweden, and Spain 1/ are major exporting countries of one or more of the above products. For each country, exports to the United States of stainless and alloy tool products represent less than 15 percent of total exports of these products. These countries may therefore be able to easily divert exports from other markets to the United States should the quotas be removed.

However, predicting the precise level to which imports would increase is problematic because microeconomic and macroeconomic events since the imposition of import relief are difficult to quantify and may have important implications for the relative competitiveness of domestic and foreign producers in absence of import relief. First, it is hard to assess the net effect of the many changes that have occurred in the domestic and foreign industries during the period of import relief. In the United States, rationalization measures (closing of operations and sharing of facilities) have occurred concurrently with additions to capacity. With respect to foreign industries, capacity data available for four major foreign producing countries operations producing all stainless and alloy tool steel products indicate the presence of some excess capacity (capacity utilization rates of 65.5 to 88.4 percent for Belgium, Korea, Sweden, and West Germany). Capacity data are not available for other countries nor for individual product categories, such as stainless steel bar. Thus, much is unknown about the likely responsiveness of import supply to a termination of the quotas.

Whereas domestic and foreign industry data present a complicated picture with respect to current relative competitiveness, historical import penetration and exchange rate conditions provide some guidelines for predicting the level of imports in absence of the quotas. Import penetration ratios for most specialty steel products were at historically high levels in 1982, at approximately 30 percent for stainless steel bar, 51 percent for stainless wire rod, and 49 percent for alloy tool steel. 2/ In addition, exchange rate conditions have improved markedly for U.S. producers since the period preceding the recent period of import relief. The declining value of the dollar should increase the dollar price of imports from countries in which the majority of imports of specialty steel products originate, unless other factors offset this tendency (see Exchange Rate Section). The real values of several countries' currencies, which approximate the dollar price of imports, were 20 to 30 percent higher in late 1986 than they were in the beginning of 1983. To the extent that only a portion of foreign producers' costs are denominated in dollars, the recent dollar depreciation may reduce the competitiveness of imported stainless steel and alloy tool steel in the United States market, thereby restraining any increase in imports if the quotas were eliminated.

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1/ Although Spain joined the EC in 1986, the EC's VRA negotiated prior to its accession remains in effect, and Spain is not covered by it. Spain has negotiated a VRA, but stainless flat-rolled products are the only subject products included in that agreement.

2/ Remedy paper memorandum INV-G-068, Apr. 21, 1983.

Because import penetration in most specialty steel products was at historically high levels in 1982, and because exchange-rate fluctuations have generally moved against importers' interests since 1982, the following analysis assumes that imports would not be able to regain a market share higher than their market share in 1982. In addition, 1982 is the most recent year in which there was no import protection for stainless steel bar and wire rod, and alloy tool steel. Estimating the effects of a return to import penetration ratios in 1982 provides some guidelines as to how sensitive prices, production, and employment are to the removal of the quotas for each sector currently protected by quotas. 1/

Once the import market share resulting from a termination of the quotas was assumed by staff members, the traditional methodology was employed to estimate the effects that the increased import share would have on domestic and import prices, production, and employment. For the products covered by quotas, staff members used 1986 data but gave non-VRA imports and domestic shipments their 1982 market share. 2/ Using the range of elasticities as previously noted, a tariff-equivalent was introduced to the model until non-VRA imports were restricted to their 1986 levels under the quotas. The price and production effects of the tariff-equivalent in 1986 approximate the absolute value of effects that removing the quotas would have on the industry and consumers. For the low-elasticity estimates a higher tariff is necessary to induce the 1986 level of imports under the quotas, and removal of the import relief would have a stronger impact on the industry and consumers. For the high-elasticity estimates, a much lower tariff is necessary to induce the level of imports under the quotas, and removal of the import relief would have a smaller impact on the industry and consumers.

Stainless steel bar.—Eighty percent of 1986 imports of stainless steel bar were not subject to VRA's, considerably higher than imports not subject for stainless steel flat-rolled products (17 percent of imports). In addition, market penetration of imports is higher for stainless steel bar than that for stainless steel sheet, strip, and plate. Thus, termination of the import relief for stainless steel bar is expected to have a greater economic effect on the stainless steel bar industry and its consumers.

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1/ If actual import penetration of non-VRA imports were to exceed their 1982 share following a termination of the quotas, the effects of terminating the quotas would be larger than those presented in this analysis. If actual import penetration of non-VRA imports were to fall below their 1982 share following a termination of the quotas, the effects of terminating the quotas would be smaller than those presented in this analysis.

2/ More precisely, domestic shipments were calculated as the residual of apparent consumption in 1986 less the constructed non-VRA import quantity (at 1982 market share), less the annual export ceiling for VRA imports. Staff members ran this exercise preliminarily with actual 1986 consumption data. The application of a tariff equivalent to approximate the effects of the quota then resulted in imports at their 1986 import-relief level, but with consumption reduced from actual 1986 consumption. Staff then used the average reduction to adjust post-import-relief consumption upward. This adjustment reflects the likely economic effects of a removal of the quotas and resulted in a proper level of consumption during the period of import relief.

The EC is the only country for which stainless steel bar has been incorporated into a VRA. Excluding imports from the EC, non-VRA imports of stainless steel bar in 1986 were 21,788 tons, or 14.1 percent of apparent consumption. Imports from non-VRA signatories in 1982 were 22.3 percent of consumption. Using the methodology outlined above, if the quotas are terminated, it is assumed that non-VRA imports will return to their 1982 market share (22.3 percent). The estimated effects of this increase in imports on the industry and consumers are presented in table G-3.

If quotas are terminated, the supply of non-VRA imports would increase (the import supply curve shifts outward) leading to a decrease in the price of imported stainless bar (the new location of the supply curve intersects demand for the imported good at a lower price). The range of elasticity estimates used here results in an import price decline of 9 to 34 percent. As import sales displace producers' shipments, producers' prices are expected to decline by 0.6 to 2.0 percent and production would fall by 7,253 to 7,446 tons, or by approximately 6 percent from the actual 1986 production level. Depending primarily on the extent to which domestic and import prices would fall in response to termination of the quotas, it is estimated that domestic producers' sales revenue would decline by approximately \$2.5 million to \$8.3 million, or by approximately 0.6 to 2.0 percent of actual 1986 sales revenue. Estimates of declines in employment producing stainless steel bar are 212 to 218 jobs. During the period of import relief, the average number of production and related workers producing stainless steel bar declined from 4,180 workers in 1983 to 3,717 workers in 1986, or by 463 workers. As a result of lower prices for stainless steel bar, consumption is expected to increase by approximately 6,600 tons.

Stainless steel wire rod.—Seventy-five percent of 1986 imports of stainless steel wire rod were not subject to VRA's. The low level of protection provided by VRA's to the stainless steel wire rod industry (25 percent of imports) is similar to that provided to stainless steel bar (20 percent of imports).

The EC is the only country for which stainless steel wire rod has been incorporated into a VRA. Excluding imports from the EC, non-VRA imports of stainless steel wire rod in 1986 were 13,857 tons, or 25.0 percent of apparent consumption. Imports from non-VRA signatories in 1982 were 27.5 percent of consumption. Using the methodology outlined above, if the quotas are terminated, it is assumed that non-VRA imports will return to their 1982 market share (27.5 percent). Because the change in market share of non-VRA imports in response to a termination of the quotas is assumed to be not as large as that for stainless steel bar, the effects of terminating the import relief to the stainless wire rod industry are smaller than those for bar. The estimated effects of this increase in imports on the industry and consumers are presented in table G-4.

If the quotas are terminated, the supply of non-VRA imports would increase (the import supply curve shifts outward) leading to a decrease in the price of imported stainless wire rod (the new location of the supply curve intersects demand for the imported good at a lower price). The range of elasticity estimates used here results in an import price decline of 2 to 6 percent. As import sales displace producers' shipments, producers' prices are expected to decline by 0.3 to 0.9 percent, and production would fall by 950 to

Table G-3

Stainless steel bar: Estimated effects of terminating the quotas on import and domestic prices, domestic production, and employment for stainless steel bar from their 1986 levels

Actual 1986 data:

Domestic shipments (quantity in net tons)...	127,196
Domestic shipments (value in dollars).....	\$418,948,000
Non-VRA imports (quantity in net tons).....	21,788
Apparent consumption do.....	154,429

	<u>Low-elasticity</u> <u>estimate</u>	<u>High-elasticity</u> <u>estimate</u>
<u>Present level used in model:</u>		
Domestic shipments (quantity in net tons)...	127,099	127,136
Domestic shipments (value in dollars).....	\$427,215,767	\$421,344,823
Non-VRA imports (quantity in net tons).....	21,784	21,790
Apparent consumption (quantity in net tons).....	154,383	154,425

Quota termination results: 1/Assumed return to 1982 market shares

Non-VRA imports (quantity in net tons) 2/.....	35,909	35,909
Domestic shipments ..do 2/.....	119,620	119,620

Other results

Percent decrease in import price.....	34.1	8.8
Percent decrease in domestic price.....	2.0	0.6
Decrease in domestic production.....do.....	7,253	7,446
Producers loss in sales volume (dollars).....	\$8,279,810	\$2,479,895
Decrease in employment (jobs).....	212	218

1/For the low elasticity estimate, staff estimated the effects of terminating the quota by eliminating an equivalent additional tariff of 45.3 percent. For the high elasticity estimate, staff estimated the effects of terminating the quota by terminating an equivalent additional tariff of 11.77 percent.

2/ Staff assumed that non-VRA imports would return to approximately their 1982 market shares of consumption in 1986, that VRA imports from the EC would be 5,500 tons under its fixed tonnage export ceiling, and that domestic shipments were the residual amount of consumption in 1986. Total apparent consumption in 1986, on which these shares were based, was adjusted upward slightly to reflect the increase in consumption occurring in response to a removal of the quotas. Subsequently, the model produced a level of consumption during the import relief that corresponds closely to actual 1986 consumption.

Table G-4

Stainless steel wire rod: Estimated effects of terminating the quotas on import and domestic prices, domestic production, and employment for stainless steel wire rod from their 1986 levels

<u>Actual 1986 data:</u>			
Domestic shipments (quantity in net tons)...	36,931		
Domestic shipments (value in dollars).....	\$75,702,000		
Non-VRA imports (quantity in net tons).....	13,857		
Apparent consumption do.....	55,427		
		<u>Low-elasticity</u>	<u>High-elasticity</u>
		<u>estimate</u>	<u>estimate</u>
<u>Present level used in model:</u>			
Domestic shipments (quantity in net tons)...	36,047		36,119
Domestic shipments (value in dollars).....	\$74,568,159		\$74,259,907
Non-VRA imports (quantity in net tons).....	13,856		13,859
Apparent consumption			
(quantity in net tons).....	55,403		55,478
<u>Quota termination results: 1/</u>			
<u>Assumed return to 1982 market shares</u>			
Non-VRA imports			
(quantity in net tons) 2/.....	15,394		15,394
Domestic shipments			
..do 2/.....	35,083		35,083
<u>Other results</u>			
Percent decrease in import price.....	6.4		1.8
Percent decrease in domestic price.....	0.9		0.3
Decrease in domestic			
production.....do.....	950		1,031
Producers loss in			
sales volume (dollars).....	\$661,687		\$212,633
Decrease in employment (jobs).....	16		18

1/For the low elasticity estimate, staff estimated the effects of terminating the quota by eliminating an equivalent additional tariff of 7.85 percent. For the high elasticity estimate, staff estimated the effects of terminating the quota by terminating an equivalent additional tariff of 2.25 percent.

2/ Staff assumed that non-VRA imports would return to approximately their 1982 market shares of consumption in 1986, that VRA imports from the EC would be 5,500 tons under its fixed tonnage export ceiling, and that domestic shipments were the residual amount of consumption in 1986. Total apparent consumption in 1986, on which these shares were based, was adjusted upward slightly to reflect the increase in consumption occurring in response to a removal of the quotas. Subsequently, the model produced a level of consumption during the import relief that corresponds closely to actual 1986 consumption.

1,031 tons, or by approximately 2 to 3 percent from the actual 1986 production level. Domestic producers' sales revenue is estimated to decline by approximately \$213,000 to \$661,000, or by 0.3 to 0.9 percent of 1986 sales revenue. Estimates of declines in employment producing stainless steel wire rod resulting from a termination of the quotas are 16 to 18 jobs. During the period of import relief, the average number of production and related workers producing stainless steel wire rod increased from 623 workers in 1983 to 660 workers in 1986, or by 37 workers. As a result of lower prices for stainless steel wire rod, consumption is expected to increase by approximately 499 to 574 tons.

Alloy tool steel.—Sixty percent of 1986 imports of alloy tool steel were not subject to VRA's. The level of import coverage provided by VRA's to the alloy tool steel industry (40 percent of imports) is higher than that for stainless steel wire rod and bar (20 to 25 percent of imports) but lower than that for stainless steel sheet, strip, and plate (83 percent of imports).

Alloy tool steel has been incorporated into the VRA's negotiated with the EC and Austria. Excluding imports from the EC and Austria, non-VRA imports of alloy tool steel in 1986 were 17,543 tons, or 17.9 percent of apparent consumption. Imports from non-VRA signatories in 1982 were 25.9 percent of consumption. Using the methodology outlined above, if the quotas are terminated, it is assumed that non-VRA imports will return to their 1982 market share (25.9 percent). The estimated effects of this increase in imports on the industry and consumers are presented in table G-5.

If the quotas are terminated, the supply of non-VRA imports would increase (the import supply curve shifts outward), leading to a decrease in the price of imported stainless wire rod (the new location of the supply curve intersects demand for the imported good at a lower price). The range of elasticity estimates used here results in an import price decline of 7 to 28 percent. As import sales displace producers' shipments, producers' prices are expected to decline by 0.6 to 2.1 percent, and production would fall by 3,895 to 4,026 tons, or by approximately 6 percent from the actual 1986 production level. Domestic producers' sales revenue is estimated to decline by approximately \$1.9 million to \$6.3 million, or by 0.6 to 2.0 percent of 1986 sales revenue. Estimates of declines in employment producing alloy tool steel resulting from a termination of the quotas are 111 to 115 jobs. During the period of import relief, the average number of production and related workers producing alloy tool steel increased from 1,829 workers in 1983 to 1,951 workers in 1986, or by 122 workers. As a result of lower prices for alloy tool steel, consumption is expected to increase by approximately 4,965 to 5,040 tons.

The staff has prepared an alternate analysis of the probable economic effects of a termination of section 201 relief that incorporates the end of VRA-coverage of stainless steel and alloy tool steel. The analysis of probable economic effects presented in the final report to the Commission was confined to the removal of 201 relief, and VRA imports were held constant. <sup>1/</sup> There are arguments in support of either view.

<sup>1/</sup> VRA's are scheduled to remain in effect through Sept. 30, 1989.

Table G-5

Alloy tool steel: Estimated effects of terminating the quotas on import and domestic prices, domestic production, and employment for alloy tool steel from their 1986 levels

<u>Actual 1986 data:</u>			
Domestic shipments (quantity in net tons)...	68,459		
Domestic shipments (value in dollars).....	\$323,774,000		
Non-VRA imports (quantity in net tons).....	17,543		
Apparent consumption do.....	97,558		
	<u>Low-elasticity</u>	<u>High-elasticity</u>	
	<u>estimate</u>	<u>estimate</u>	
<u>Present level used in model:</u>			
Domestic shipments (quantity in net tons)...	67,488	67,560	
Domestic shipments (value in dollars).....	\$325,684,868	\$321,475,900	
Non-VRA imports (quantity in net tons).....	17,543	17,546	
Apparent consumption			
(quantity in net tons).....	97,348	97,423	
<u>Quota termination results: 1/</u>			
<u>Assumed return to 1982 market shares</u>			
Non-VRA imports			
(quantity in net tons) 2/.....	26,563	26,563	
Domestic shipments			
..do 2/.....	63,508	63,508	
<u>Other results</u>			
Percent decrease in import price.....	27.6	7.3	
Percent decrease in domestic price.....	0.6	2.1	
Decrease in domestic			
production.....do.....	3,895	4,026	
Producers loss in			
sales volume (dollars).....	\$6,329,907	\$1,920,651	
Decrease in employment (jobs).....	111	115	

1/For the low elasticity estimate, staff estimated the effects of terminating the quota by eliminating an equivalent additional tariff of 36.1 percent. For the high elasticity estimate, staff estimated the effects of terminating the quota by terminating an equivalent additional tariff of 9.59 percent.

2/ Staff assumed that non-VRA imports would return to approximately their 1982 market shares of consumption in 1986, that VRA imports from the EC would be 5,500 tons under its fixed tonnage export ceiling, that VRA imports from Austria would be 3.4 percent of consumption under its market share export ceiling, and that domestic shipments would have the residual amount of consumption in 1986. Total apparent consumption in 1986, on which these shares were based, was adjusted upward slightly to reflect the increase in consumption occurring in response to a removal of the quotas. Subsequently, the model produced a level of consumption during the import relief that corresponds closely to actual 1986 consumption.

There is no evidence currently available to the Commission that foreign countries will not honor their existing VRA's through September 30, 1989. The scope of the VRA's, which exist primarily to control imports of carbon steel to the United States, is broader than the scope of the instant investigation; VRA's are scheduled to remain in effect for more than two years after the scheduled termination of the section 201 relief. Unlike the section 201 relief, the VRA's are not a global instrument, but rather a set of 18 agreements negotiated separately with each signatory over a period of more than two years. On February 27, 1986, all ties to 201 relief for VRA signatories were ended as signatories were released from the duties and quotas of 201 relief.

The major advantage of VRA's for foreign producers is that they are a deterrent to U.S. producers filing additional trade petitions. The VRA's contain provisions that the filing of trade petitions during the course of the agreement can jeopardize the agreements. To the extent that VRA's deter further trade petitions, VRA's shield foreign interests from litigation costs, lessen the possibility of an outcome worse than the VRA's as a result of potential unfair trade or escape clause cases, and provide a degree of certainty to foreign producers that facilitates planning of production, capacity, and marketing strategies. Currently, the VRA regime allows a foreign producer to estimate not only its own country's exports to the United States, but also those of its competitors in other VRA-member countries. Finally, the VRA's are not altogether undesirable in that most allowed signatories a market share based on the period 1981-83 that includes one of the highest years for import penetration (1982). Finally, to the extent that each country's products are differentiated from those of other countries, it is possible that the allocation of market share quotas to each signatory allows foreign producers to exercise a greater degree of market power (and to charge higher prices for its exports) than would otherwise be possible.

While there is no clear evidence suggesting that VRA-coverage of stainless steel and alloy tool steel would end with a termination of 201 relief, VRA countries could object to continued VRA-coverage of the subject products should the President terminate section 201 relief. VRA signatories could cease to honor the relevant portions of their voluntary agreements based on the "equitable treatment" clauses of their agreements. 1/ Or, VRA countries could request consultations with USTR to relax their export ceilings based on the new advantageous position of non-VRA imports. 2/ If one VRA signatory successfully renegotiated its export ceilings or ceased to honor the relevant portions of its agreement and increased its market share, it is quite likely that other VRA countries would choose to follow a similar course. The likely result is that VRA-coverage of stainless steel and alloy tool steel would erode substantially.

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1/ Staff notes that the VRA's with each country were negotiated independently and in full knowledge that a) not all other countries were covered by VRA's, and b) the 201 relief was scheduled to expire 2 years prior to the expiration of the VRA's.

2/ Several of the agreements contain provisions allowing consultations should the negotiation of subsequent VRA's with other exporting countries give those countries an advantageous position in exporting the subject products to the United States.

Even if renegotiation does not occur, the VRAs that cover one set of countries may become largely ineffective in the absence of complementary 201 relief that covers all other non-VRA countries. This is because the termination of 201 relief will tend to make it profitable for companies in VRA countries to increase their exports to non-VRA (formerly 201 relief) countries. This in turn reduces the price everywhere and thereby encourages increased exports from unrestricted non-VRA countries to the United States. If this process is not deterred by high transportation costs or trade barriers between VRA and non-VRA countries, the United States will face the same supply of imports that would exist in the absence of the VRAs. Thus, VRAs applied to some countries without restrictions against the rest may offer limited, if any, effective protection from imports. This phenomenon is often referred to as "trade diversion" or "leakage."

Because there is no way to predict what will happen to the VRA regime should section 201 relief be terminated, staff has examined the probable economic effects of a complete collapse of specialty-steel VRA's as a worse-case scenario. Comparing effects on industries and consumers in the worse-case scenario with the earlier analysis of the probable economic effects of a termination of the section 201 relief on net demand for domestic shipments and non-VRA imports yields a range of possible outcomes should the section 201 relief be terminated. However, due to the nature of the VRA-regime, the actual resulting effect on the industries producing stainless steel and alloy tool steel would likely be closer to one of the polar cases rather than in the middle.

Termination of the 201 quotas on stainless steel bar,  
stainless steel wire rod and alloy tool steel

The analysis of the probable economic effect of termination of 201 relief and the subsequent end to their VRA's is relatively straightforward for stainless steel bar, wire rod, and alloy tool steel. Removal of both quantitative restrictions (quotas and export restraint ceilings) is treated in the same way, that is, a tariff-equivalent estimating technique is used to calculate the effects on prices, production, and employment of a return to import market penetration levels of 1982. <sup>1/</sup> As discussed in detail in the final report, 1982 was chosen because it was a year in which import penetration for stainless steel bar, stainless steel wire rod, and alloy tool steel was at historically high levels, exchange rate conditions favored foreign producers, and there were no import restrictions.

Similar to the earlier analysis, staff used 1986 data but assigned total imports from VRA signatories and from non-VRA countries and domestic shipments

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<sup>1/</sup> If actual import penetration of non-VRA imports were to exceed its 1982 share following a termination of the quotas, the effects of terminating the quotas would be larger than those presented in this analysis. If actual import penetration of non-VRA imports were to fall below its 1982 share following a termination of the quotas, the effects of terminating the quotas would be smaller than those presented in this analysis.

their 1982 market shares. 1/ Using a range of elasticities, a tariff-equivalent was introduced to the model until total imports were restricted to their 1986 levels under the existing system of quotas and VRA's. 2/ The price and production effects of this approach closely approximate the effects of removing the quotas. For the low-elasticity estimates a higher tariff is necessary to induce the 1986 level of imports under the quotas, and removal of the import relief would have a stronger impact on the industry and consumers. For the high-elasticity estimates, a much lower tariff is necessary to induce the same level of imports as under the quotas, and removal of the import relief would have a smaller impact on the industry and consumers.

Stainless steel bar.—Total imports of stainless steel bar in 1986 were 27,233 tons, or 17.6 percent of apparent consumption. In 1982, total imports were 40,053 tons, or 30.0 percent of consumption. The estimated effects in 1986 of a return to import penetration levels of 1982 (30 percent), following the termination of section 201 quotas and an EC refusal to honor its VRA are presented in table G-6. This is similar to predicting the effect of the termination in the following year, holding all other factors, including consumption, constant.

The range of elasticity estimates results in an import price decline of from 10 to 41 percent. As import sales displace producers' shipments, producers' prices decline by 1 to 4 percent and production falls by 12,716 to 12,878 tons, or by approximately 10 percent from the actual 1986 production level. Depending primarily on the extent to which domestic and import prices fall in response to termination of the quotas, domestic producers' sales revenue is estimated to decline by approximately \$4.3 million to \$14.6 million, or by approximately 1 to 3 percent of actual 1986 sales revenue. Estimates of declines in employment producing stainless steel bar are 372 to 377 jobs. During the period of import relief, the average number of production and related workers producing stainless steel bar declined from 4,180 workers in 1983 to 3,717 workers in 1986, or by 463 workers. As a result of lower prices for stainless steel bar, consumption is expected to increase by approximately 8,600 tons.

Stainless steel wire rod.—Total imports of stainless steel wire rod in 1986 were 18,496 tons, or 33.4 percent of apparent consumption. In 1982 total imports were 21,881 tons, or 50.6 percent of consumption. If the 201 quotas are terminated and the EC chooses not to honor its agreement with respect to

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1/ Staff ran this exercise preliminarily with actual 1986 consumption data. The application of a tariff equivalent to approximate the effects of the quota then resulted in imports at their 1986 import-relief level, but with consumption reduced from actual 1986 consumption. Staff then used the average reduction to adjust post-import-relief consumption upward. This adjustment reflects the likely economic effects of a removal of the quotas and resulted in a proper level of consumption during the period of import relief.

2/ The following ranges of elasticity estimates were used in the model: aggregate demand  $-.3$  to  $-.7$ , domestic demand  $-1$  to  $-5$ , domestic supply 3 to 10, import demand  $-2$  to  $-8$ , and import supply 10 to 50. For the purpose of this analysis, the upper limit for import supply was increased to reflect the potential for greater supply responsiveness from total imports than from only non-VRA imports.

Table G-6

Stainless steel bar: Estimated effects of terminating all import protection on import and domestic prices, domestic production, and employment for stainless steel bar from their 1986 levels

Actual 1986 data:

Domestic shipments (quantity in net tons)...	127,196
Domestic shipments (value in dollars).....	\$418,948,000
Total imports (quantity in net tons).....	27,233
Apparent consumption do.....	154,429

	<u>Low-elasticity estimate</u>	<u>High-elasticity estimate</u>
<u>Present level used in model:</u>		
Domestic shipments (quantity in net tons)...	127,236	127,120
Domestic shipments (value in dollars).....	\$434,592,328	\$423,275,781
Total imports (quantity in net tons).....	27,233	27,233
Apparent consumption (quantity in net tons).....	154,469	154,353

Quota termination results: 1/Assumed return to 1982 market shares

Total imports (quantity in net tons) 2/.....	48,909	48,909
Domestic shipments ..do 2/.....	114,120	114,120

Other results

Percent decrease in import price.....	41.0	10.4
Percent decrease in domestic price.....	3.7	1.1
Decrease in domestic production.....do.....	12,716	12,878
Producers loss in sales volume (dollars).....	\$14,618,649	\$4,296,459
Decrease in employment (jobs).....	372	377

1/For the low elasticity estimate, staff estimated the effects of terminating the quota by eliminating an equivalent additional tariff of roughly 55 percent. For the high elasticity estimate, staff estimated the effects of terminating the quota by terminating an equivalent additional tariff of roughly 13 percent.

2/ Staff assumed that total imports would return to approximately their 1982 market share of consumption in 1986, and that domestic shipments were the residual amount of consumption in 1986. Total apparent consumption in 1986, on which these shares were based, was adjusted upward slightly to reflect the increase in consumption occurring in response to a removal of the quotas. Subsequently, the model produced a level of consumption during the import relief that corresponds closely to actual 1986 consumption.

stainless steel wire rod, total imports are assumed to return to their highest historical market share of 1982 (50.6 percent) as a benchmark for estimating the probable effects of such termination on the industry and consumers (table G-7).

The range of elasticity estimates results in an import price decline of 8 to 31 percent. As import sales displace producers' shipments, producers' prices are expected decline by 3 to 9 percent and production falls by 8,132 to 8,239 tons, or by approximately 21 percent from the actual 1986 production level. Domestic producers' sales revenue declines by approximately \$1.7 million to \$5.9 million, or by 2 to 8 percent of 1986 sales revenue. Estimates of declines in employment producing stainless steel wire rod resulting from a termination of the quotas are 138 to 140 jobs. During the period of import relief, the average number of production and related workers producing stainless steel wire rod increased from 623 workers in 1983 to 660 workers in 1986, or by 37 workers. As a result of lower prices for stainless steel wire rod, consumption is expected to increase by approximately 2,600 tons.

Alloy tool steel.—Total imports of alloy tool steel in 1986 were 29,099 tons, or 29.8 percent of apparent consumption. In 1982, total imports were 40,058 tons, or 48.6 percent of consumption. Using a return of imports to their 1982 market share (48.6 percent) to estimate the potential effects of a termination of 201 and VRA quotas yields the estimates presented in table G-8.

The range of elasticity estimates used here results in an import price decline of 11 to 43 percent. As import sales displace producers' shipments, producers' prices decline by 2 to 7 percent and production falls by 11,667 to 11,684 tons, or by approximately 17 percent from the actual 1986 production level. Domestic producers' sales revenue declines by approximately \$5.6 million to \$19.4 million, or by 2 to 6 percent of 1986 sales revenue. Estimates of declines in employment producing alloy tool steel resulting from a termination of the quotas are from 333 to 334 jobs. During the period of import relief, the average number of production and related workers producing alloy tool steel increased from 1,829 workers in 1983 to 1,951 workers in 1986, or by 122 workers. As a result of lower prices for alloy tool steel, consumption increases by approximately 12,503 to 12,697 tons.

#### Termination of the 201 Tariffs

Unlike the analysis of termination of 201 quotas, there is no straightforward approach to removing the 201 duties on the stainless steel flat-rolled products along with elimination of VRA-coverage of these products. There are not only two different types of trade restrictions, tariffs and VRA's, to account for, but the device of letting imports increase to their maximum historical levels is not possible for these products. Their imports were higher in 1986 than in any previous year on both an absolute and a share basis.

Whereas the 201 relief for stainless steel, sheet strip, and plate is a 4 percent tariff, VRA-coverage of these products is a quantitative restriction, typically expressed as market share quotas. Tariffs restrict import quantity through the price mechanism. In response to a tariff-induced increase in

Table G-7.

Stainless steel wire rod: Estimated effects of terminating all import protection on import and domestic prices, domestic production, and employment for stainless steel wire rod from their 1986 levels

Actual 1986 data:

Domestic shipments (quantity in net tons)...	36,931
Domestic shipments (value in dollars).....	\$75,702,000
Total imports (quantity in net tons).....	18,496
Apparent consumption do.....	55,427

<u>Low-elasticity</u>	<u>High-elasticity</u>
estimate	estimate

Present level used in model:

Domestic shipments (quantity in net tons)...	36,920	36,940
Domestic shipments (value in dollars).....	\$82,353,118	\$77,672,991
Total imports (quantity in net tons).....	18,496	18,496
Apparent consumption		
(quantity in net tons).....	55,416	55,435

Quota termination results: 1/Assumed return to 1982 market shares

Total imports		
(quantity in net tons) 2/.....	29,356	29,356
Domestic shipments		
..do 2/.....	28,660	28,660

Other results

Percent decrease in import price.....	31.2	8.1
Percent decrease in domestic price.....	8.8	2.6
Decrease in domestic		
production.....do.....	8,132	8,239
Producers loss in		
sales volume (dollars).....	\$5,888,762	\$1,721,120
Decrease in employment (jobs).....	138	140

1/For the low elasticity estimate, staff estimated the effects of terminating the quota by eliminating an equivalent additional tariff of roughly 39 percent. For the high elasticity estimate, staff estimated the effects of terminating the quota by terminating an equivalent additional tariff of roughly 10 percent.

2/ Staff assumed that total imports would return to approximately their 1982 market shares of consumption in 1986, and that domestic shipments were the residual amount of consumption in 1986. Total apparent consumption in 1986, on which these shares were based, was adjusted upward slightly to reflect the increase in consumption occurring in response to a removal of the quotas. Subsequently, the model produced a level of consumption during the import relief that corresponds closely to actual 1986 consumption.

Table G-8

Alloy tool steel: Estimated effects of terminating all import protection on import and domestic prices, domestic production, and employment for alloy tool steel from their 1986 levels

<u>Actual 1986 data:</u>			
Domestic shipments (quantity in net tons)...		68,459	
Domestic shipments (value in dollars).....	\$323,774,000		
Total imports (quantity in net tons).....		29,099	
Apparent consumption do.....		97,558	
		<u>Low-elasticity</u>	<u>High-elasticity</u>
		<u>estimate</u>	<u>estimate</u>
<u>Present level used in model:</u>			
Domestic shipments (quantity in net tons)...		68,568	68,375
Domestic shipments (value in dollars).....	\$345,614,343		\$329,495,888
Total imports (quantity in net tons).....		29,099	29,099
Apparent consumption (quantity in net tons).....		97,668	97,474
<u>Quota termination results: 1/</u>			
<u>Assumed return to 1982 market shares</u>			
Total imports (quantity in net tons) 2/.....		53,543	53,543
Domestic shipments ..do 2/.....		56,328	56,628
<u>Other results</u>			
Percent decrease in import price.....		43.1	10.9
Percent decrease in domestic price.....		6.6	1.9
Decrease in domestic production.....do.....		11,684	11,667
Producers loss in sales volume (dollars).....	\$19,388,285		\$5,601,495
Decrease in employment (jobs).....		334	333

1/For the low elasticity estimate, staff estimated the effects of terminating the quota by eliminating an equivalent additional tariff of roughly 57 percent. For the high elasticity estimate, staff estimated the effects of terminating the quota by terminating an equivalent additional tariff of roughly 13 percent.

2/ Staff assumed that total imports would return to approximately their 1982 market shares of consumption in 1986, and that domestic shipments would have the residual amount of consumption in 1986. Total apparent consumption in 1986, on which these shares were based, was adjusted upward slightly to reflect the increase in consumption occurring in response to a removal of the quotas. Subsequently, the model produced a level of consumption during the import relief that corresponds closely to actual 1986 consumption.

import price, the quantity of imports declines and U.S. producers gain sales. Quotas, whether fixed, variable, or in the form of export restraint agreements, restrict imports below the quantity that would otherwise enter the country under free market conditions. The decline in import supply, and thus total supply, allows U.S. producers to adjust prices and/or production to levels that will provide them, in the aggregate, with higher revenues or increased market share. In the period 1983-86, the mix of tariffs and VRA's (quotas) make predictions of future behavior highly speculative.

The tariff-equivalent approach used earlier estimated the effects of relaxing import restrictions through a return to benchmark levels of import penetration in 1982 for stainless steel bar, stainless steel wire rod, and alloy tool steel, which were at historic highs for those products and representative of what could potentially be supplied in a free market today. That method cannot be easily applied to stainless steel sheet, strip, and plate in the current period because total import share has increased since 1982 to historically high levels in 1986. Total imports of stainless steel sheet and strip accounted for 13.4 percent of apparent U.S. consumption in 1982, and by 1986 had increased to 18.0 percent of consumption. Total imports of stainless steel plate accounted for 12.4 percent of consumption in 1982 and 12.3 percent of consumption in 1986. There are several factors that may explain a portion of this phenomenon, including the phasing down of the tariffs to a relatively low level, the possibility that importers were able to absorb tariff increases, or an increase in demand for imported flat-rolled products differentiated from U.S.-produced products that resulted in customers being willing to pay higher prices for imported flat-rolled products.

#### Methodology for flat-rolled products

Choice of a methodology appropriate to estimate the effects of the removal of tariffs and termination of the VRA's on stainless steel flat-rolled products is clearly subjective. Accordingly, staff has made estimates using two separate sets of assumptions. These estimates should be viewed only as examples providing ranges of effects, not as forecasts or predictions.

First method for flat-rolled products.—The first example uses a method similar to the treatment of stainless steel bar, wire rod, and alloy tool steel to estimate what would happen to imports from VRA countries should VRA-coverage of stainless steel flat-rolled products expire. The effects of an end to VRA's on VRA imports and the industry is then added to the previous estimates of the effects of a termination of the 4 percent tariff on non-VRA imports and the industry.

To approximate the effects of removing the VRA's quantitative restrictions, staff used the tariff-equivalent approach that has been discussed in detail in earlier sections. <sup>1/</sup> After the effects of removing the VRA's are estimated, these effects are considered together with the earlier

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<sup>1/</sup> The following ranges of elasticity estimates were used in the model: aggregate demand -.3 to -.7, domestic demand -1 to -5, domestic supply 3 to 10, import demand -2 to -8, and import supply 10 to 50. For the purpose of this analysis, the upper limit for import supply was increased to reflect the potential for greater supply responsiveness from total imports than from only non-VRA imports.

estimates the effects of removing the 4 percent tariff from non-VRA imports. Although the individual effects of both exercises are not necessarily additive, their sum presents a reasonable high estimate of the effects on the industry of terminating the 4 percent 201 tariff concurrent with a deterioration of the VRA regime.

Imports from countries that currently have VRA's increased or remained fairly steady from 1982 to 1986. Imports of stainless steel sheet and strip from countries that currently include those products in their VRA's increased from 74,549 tons, or 11.4 percent of consumption, in 1982 to 124,932 tons, or 14.9 percent of consumption, in 1986. Imports of stainless steel plate from countries that currently have VRA's increased absolutely from 12,052 tons in 1982 to 13,714 tons in 1986, but declined as a share of consumption from 11.3 percent to 10.2 percent from in 1982 to 86.

Stainless steel plate.—It appears that VRA's may have restricted VRA imports of stainless steel plate by approximately 1.1 percent from pre-VRA levels of 1982. The following section explores the effects on the stainless steel plate industry of a possible increase in VRA imports to their 1982 market share (11.3 percent) should the VRA-coverage of plate deteriorate.

The estimated effects on the industry of an erosion of the VRA's that would allow imports from countries that currently have VRA's to increase to their market share in 1982 is presented in table G-9. As VRA imports increase, the range of elasticity estimates used here results in a VRA import price decline of 2 to 7 percent. As import sales displace producers' shipments, producers' prices are expected to decline by less than 1 percent as a result of the erosion of VRA's in either elasticity case. Production would fall by an additional 857 to 935 tons, or by nearly 1 percent from the actual 1986 production level. Depending primarily on the extent to which domestic and import prices would fall, domestic producers' sales revenue is estimated to decline by an additional \$196,000 to \$607,000, or by less than 0.5 percent of actual 1986 sales revenue. Estimates of additional declines in employment producing stainless steel plate are 8 to 9 jobs. During the period of import relief, the average number of production and related workers producing stainless steel plate declined from 1,208 workers in 1983 to 1,139 workers in 1986, or by 69 workers. As a result of lower prices for stainless steel plate, consumption is expected to increase by approximately 656 to 722 tons.

The combined probable effects on stainless steel plate of a termination of the 4 percent tariff and an end to VRA-coverage for these products is summarized in table G-10.

Stainless steel sheet and strip.—Imports of stainless steel sheet and strip from countries that currently include those products in their VRA's increased from 74,549 tons, or 11.4 percent of consumption, in 1982 to 124,932 tons or 14.9 percent of consumption, in 1986. Because VRA imports of sheet and strip have never been higher, it is difficult to predict at what level they would be in the absence of 201 relief and VRA's. An alternate but analagous approach to increasing imports to the historic highs of 1982, which was possible for bar, wire rod, and alloy tool steel, is to increase imports of stainless steel sheet and strip to the maximum potential that has been observed. This is the best available indication of what foreign industries

Table G-9

Stainless steel plate: Estimated effects of removing VRA's on import and domestic prices, domestic production, and employment for stainless steel plate from their 1986 levels

Actual 1986 data:

Domestic shipments (quantity in net tons)...	118,271
Domestic shipments (value in dollars).....	\$245,973,000
VRA imports (quantity in net tons).....	13,714
Apparent consumption do.....	134,799

	<u>Low-elasticity estimate</u>	<u>High-elasticity estimate</u>
<u>Present level used in model:</u>		
Domestic shipments (quantity in net tons)...	118,237	118,303
Domestic shipments (value in dollars).....	\$246,542,374	\$246,267,346
VRA imports (quantity in net tons).....	13,714	13,714
Apparent consumption (quantity in net tons).....	134,765	134,831

VRA removal results: 1/Assumed return to 1982 market shares

VRA imports (quantity in net tons) 2/.....	15,310	15,310
Domestic shipments ..do 2/.....	118,237	118,303

Other results

Percent decrease in import price.....	6.7	1.9
Percent decrease in domestic price.....	0.2	0.1
Decrease in domestic production.....do.....	857	935
Producers loss in sales volume (dollars).....	\$606,726	\$195,638
Decrease in employment (jobs).....	8	9

1/For the low elasticity estimate, staff estimated the effects of terminating the quota by eliminating an equivalent additional tariff of roughly 9 percent. For the high elasticity estimate, staff estimated the effects of terminating the quota by terminating an equivalent additional tariff of roughly 2 percent.

2/ Staff assumed that VRA imports would return to approximately their 1982 market share of consumption in 1986, that non-VRA imports would remain at their 1986 level of 2,814 tons, and that domestic shipments were the residual amount of consumption in 1986. Total apparent consumption in 1986, on which these shares were based, was adjusted upward slightly to reflect the increase in consumption occurring in response to a removal of the VRA's. Subsequently, the model produced a level of consumption during the period of import relief that corresponds closely to actual 1986 consumption.

Table G-10

Stainless steel plate: Total estimated effects of a termination of the 4 percent additional tariff on non-VRA imports and a deterioration of VRA-coverage for imports currently covered by VRA's import and domestic prices, domestic production, employment, and imports for stainless steel plate from their 1986 levels

Present level:

Total imports (quantity in net tons)..... 16,528

	<u>Low-elasticity estimate</u>	<u>High-elasticity estimate</u>
<u>Combined results:</u>		
Total imports (quantity in net tons)...	18,274	18,667
Increase in imports (percent).....	10.5%	12.9%
Decrease in domestic production:		
(quantity in net tons).....	971	1,397
(percent).....	0.8%	1.1%
Producers loss in sales volume:		
(dollars).....	\$687,678	\$292,376
(percent).....	0.3%	0.1%
Decrease in employment:		
(jobs).....	9	13
(percent).....	0.8%	1.1%

can supply in the absence of specific data on foreign capacity and production of these products. An approximation of this potential, represented by the volume of imports in 1986, is discussed in the report section on import data as a surge of shipments in anticipation of VRA's. If the full surge in VRA imports did not enter commerce in 1986, then consumption may be overstated in 1986, while importers have demonstrated an ability to increase VRA imports to a market share higher than 14.9 percent. This level of imports as a share of U.S. consumption in 1986 adjusted for this artificially high level of imports could be used as a benchmark approximation of the maximum potential share in a completely free market. Assuming that the full surge of 35,000 tons did not enter commerce, then VRA imports of 124,932 tons in 1986 would account for 15.5 percent of real consumption. Whether this share could be maintained by imports of this magnitude or U.S. consumption would be as low as adjusted under the circumstances is of course problematic. 1/

1/ There are numerous other complications such as how well 1986 imports represent annual supply potential because VRA negotiations extended over more than a year, 201 duties were paid on these imports which must be offset against the apparent incentives to land goods before VRA controls, availability of increased levels of imports had some positive consumption effects in 1986 and the ratio is overstated accordingly, etc.

The following section explores the effects on the stainless steel sheet and strip industry of an increase in VRA imports to their highest constructed market share (15.5 percent) should the VRA-coverage of sheet and strip plate collapse (table G-11). After the effects of removing the VRA's are estimated below, these effects are considered together with the earlier analysis of the effects of removing the 4 percent tariff from non-VRA imports (table G-12).

As the supply of VRA imports increases, given the range of elasticity estimates, VRA import prices decline from 1 to 2 percent. As import sales displace producers' shipments, producers' prices are expected to decline by less than 1 percent as a result of the erosion of VRA's in either elasticity case. Production would fall by an additional 3,363 to 3,743 tons, or by less than 1 percent from the actual 1986 production level. Depending primarily on the extent to which domestic and import prices fall, domestic producers' sales revenue is estimated to decline by an additional \$0.6 million to \$2.0 million, or by less than 0.5 percent of actual 1986 sales revenue. Estimates of additional declines in employment producing stainless steel sheet and strip are 19 to 21 jobs. During the period of import relief, the average number of production and related workers producing stainless steel sheet and strip declined from 5,508 workers in 1983 to 4,012 workers in 1986, or by 1,496 workers. As a result of lower prices for stainless steel sheet and strip, consumption is expected to increase by an additional 1,693 to 2,006 tons.

The combined probable effects on stainless steel sheet and strip of a termination of the 4 percent tariff and an end to VRA-coverage for these products are summarized in table G-12.

Second method for flat-rolled products.—The second approach to estimate the ranges of probable economic effects is based on the fact that section 201 tariffs were in place on most flat products from late 1983 through early 1986. During that time, USTR conducted negotiations with most of the major foreign suppliers of specialty steel. With the major exceptions of Canada, Taiwan, Finland, and Sweden, agreements were reached that would restrict imports to particular market shares. The VRA's that covered imports from the EC, Japan, and Korea went into effect in the second quarter of 1986.

Prior to the completion of these VRA's, there was a surge of imports that appeared to be in anticipation of the impending quantitative restraints. Imports from the EC and Korea in the first quarter of 1986 totaled 54 percent of total 1986 flat-rolled imports. It is reasonable to assume that that surge represents orders from U.S. consumers of these products for much of 1986, and that these consumers were willing to pay the costs associated with early importation when faced with impending quotas. It is also reasonable to assume that in order to meet these orders, foreign suppliers may have diverted their capacity from filling orders for other foreign or domestic markets to filling orders from the United States. If these assumptions are valid, it is possible that the VRA's had little overall effect on total 1986 imports despite having been implemented early in the year. <sup>1/</sup> If true, then the section 201 tariffs on these products were actually the operative restraints on imports during 1986. Accordingly, the approach below assumes that the VRA's were not

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<sup>1/</sup> Implicit in this scenario is that imports would have been at the same record high level in the absence of the VRA's, and that the imports making up the surge actually entered commerce in the United States during 1986.

Table G-11

Stainless steel sheet and strip: Estimated effects of removing VRA's on import and domestic prices, domestic production, and employment for stainless steel sheet and strip from their 1986 levels

<u>Actual 1986 data:</u>			
Domestic shipments (quantity in net tons)...	688,452		
Domestic shipments (value in dollars).....	\$1,193,236,000		
VRA imports (quantity in net tons).....	124,932		
Apparent consumption do.....	839,389		
VRA imports (percent of actual consumption).	14.9		
Consumption in 1986 (less import surge of 35,000 tons (quantity in net tons).....			
	804,689		
Resulting market share of imports (percent)...	15.5		
	<u>Low-elasticity</u>	<u>High-elasticity</u>	
	<u>estimate</u>	<u>estimate</u>	
<u>Present level used in model:</u>			
Domestic shipments (quantity in net tons)...	688,346	688,659	
Domestic shipments (value in dollars).....	\$1,194,910,847	\$1,194,102,489	
VRA imports (quantity in net tons).....	124,932	124,932	
Apparent consumption (quantity in net tons).....	839,283	839,596	
<u>VRA removal results: 1/</u>			
<u>Assumed return to highest market share</u>			
VRA imports			
(quantity in net tons) 2/.....	130,400	130,400	
Domestic shipments...do 2/.....	684,884	684,884	
<u>Other results</u>			
Percent decrease in import price.....	2.5	0.7	
Percent decrease in domestic price.....	0.2	0.1	
Decrease in domestic production.....do.....	3,363	3,743	
Producers loss in sales volume (dollars).....	\$2,001,374	\$654,323	
Decrease in employment (jobs).....	19	21	

1/For the low elasticity estimate, staff estimated the effects of terminating the quota by eliminating an equivalent additional tariff of roughly 3 percent. For the high elasticity estimate, staff estimated the effects of terminating the quota by terminating an equivalent additional tariff of roughly 0.9 percent.

2/ Staff assumed that VRA imports would return to their highest market share of 15.5 percent, assuming that consumption in 1986 is overstated by the amount of the import surge. Non-VRA imports were held constant at their 1986 level of 26,005 tons. Domestic shipments were the residual amount of consumption in 1986. Total apparent consumption in 1986, on which these shares were based, was adjusted upward slightly to reflect the increase in consumption occurring in response to a removal of the VRA's. Subsequently, the model produced a level of consumption during the period of import relief that corresponds closely to actual 1986 consumption.

Table G-12

Stainless steel sheet and strip: Total estimated effects of a termination of the 4 percent additional tariff on non-VRA imports and a deterioration of VRA-coverage for imports currently covered by VRA's import and domestic prices, domestic production, employment, and imports for stainless steel plate from their 1986 levels

Present level:

Total imports (quantity in net tons)..... 150,937

	<u>Low-elasticity estimate</u>	<u>High-elasticity estimate</u>
<u>Combined results:</u>		
Total imports (quantity in net tons)...	152,324	155,950
Increase in imports (percent).....	0.9%	3.3%
Decrease in domestic production:		
(quantity in net tons).....	4,349	7,752
(percent).....	0.6%	1.1%
Producers loss in sales volume:		
(dollars).....	\$2,587,762	\$1,355,044
(percent).....	0.2%	0.1%
Decrease in employment:		
(jobs).....	24	41
(percent).....	0.6%	1.0%

effective during the year (or alternatively that the VRA's and tariffs were exactly equal in their effects and self-supporting) and that the effects of termination of the VRA's concurrent with termination of 201 relief can be shown by removing the tariff alone (on total imports in 1986). <sup>1/</sup>

Stainless steel sheet and strip.—Estimates of the probable economic effect of removing the 4 percent 201 tariff from total imports of sheet and strip are presented in table G-13. In response to a decrease in the tariff, importers are expected to pass through most of the tariff reduction to consumers. As importers' sales displace domestic shipments, total imports are expected to increase by 8,051 to 31,347 tons, or by 5 to 21 percent. Declines in producers' shipments result in an estimated decline in production of 5,246 to 22,953 net tons, or 0.7 to 3.3 percent of 1986 production of stainless

<sup>1/</sup> The following ranges of elasticity estimates were used in the model: aggregate demand -.3 to -.7, domestic demand -1 to -5, domestic supply 3 to 10, import demand -2 to -8, and import supply 10 to 50. For the purpose of this analysis, the upper limit for import supply was increased to reflect the potential for greater supply responsiveness from total imports than from only non-VRA imports.

Table G-13

Stainless steel sheet and strip: Estimated effects of terminating the 4 percent additional tariff on import and domestic prices, domestic production, employment, and total imports for stainless steel sheet and strip from their 1986 levels

Present level:

Domestic shipments (quantity in net tons)....	688,452
Domestic shipments (value in dollars).....	\$1,193,236,000
Total imports (quantity in net tons).....	150,937

	<u>Low-elasticity estimate</u>	<u>High-elasticity estimate</u>
<u>Tariff reduction results:</u>		
Percent decrease in import price.....	3.0	3.1
Percent decrease in domestic price....	0.3	0.3
Total imports (quantity in net tons)..	158,988	182,284
Domestic shipments.....do.....	683,050	665,295
Decrease in domestic production.....do.....	5,246	22,953
Producers loss in sales volume (dollars).....	\$3,117,579	\$4,010,461
Decrease in employment (jobs).....	30	131

steel sheet and strip. Domestic producers' prices decline by approximately 0.3 percent. Sales revenue lost by domestic producers is approximately \$3.1 million to \$4.0 million, for a decline of approximately 0.3 percent from 1986 sales revenue. Estimates of declines in employment producing stainless steel sheet and strip are 30 to 131 jobs. During the period of import relief, the average number of production and related workers producing stainless steel sheet and strip fell from 5,580 workers in 1983 to 4,012 workers in 1986, or by 1,568 workers. In response to the lower prices, net consumption of the U.S.-produced and imported sheet and strip could increase by 2,649 to 8,191 tons if the additional tariff is terminated and VRA's are no longer effective.

Stainless steel plate.—Estimates of the probable economic effect of removing the 4 percent 201 tariff from total imports of plate are presented in table G-14. In response to a decrease in the tariff, importers are expected to pass through most of the tariff reduction to consumers. As importers' sales displace domestic shipments, total imports are expected to increase by 882 to 3,436 tons, or by 5 to 21 percent. Declines in producers' shipments result in an estimated decline in production of 525 to 2,282 net tons, or 0.4 to 1.8 percent of 1986 production of stainless steel plate. Domestic producers' prices decline by approximately 0.2 percent. Sales revenue lost by domestic producers is approximately \$371,000 to \$477,000, for a decline of approximately 0.2 percent from 1986 sales revenue. Estimates of declines in

Table G-14

Stainless steel plate: Estimated effects of terminating the 4 percent additional tariff on import and domestic prices, domestic production, employment, and total imports for stainless steel plate from their 1986 levels

Present level:

Domestic shipments (quantity in net tons)....	118,271
Domestic shipments (value in dollars).....	\$245,973,000
Total imports (quantity in net tons).....	16,528

	<u>Low-elasticity estimate</u>	<u>High-elasticity estimate</u>
<u>Tariff reduction results:</u>		
Percent decrease in import price.....	3.0	3.1
Percent decrease in domestic price.....	0.2	0.2
Total imports (quantity in net tons).....	17,410	19,964
Domestic shipments.....do.....	117,736	115,976
Decrease in domestic production.....do.....	525	2,282
Producers loss in sales volume (dollars).....	\$370,916	\$477,105
Decrease in employment (jobs).....	5	21

employment producing stainless steel plate are 5 to 21 jobs. During the period of import relief, the average number of production and related workers producing stainless steel plate fell from 1,208 workers in 1983 to 1,139 workers in 1986, or by 69 workers. In response to the lower prices, net consumption of the U.S. produced and imported plate could increase by 347 to 1,141 tons if the additional tariff is terminated and VRA's are no longer effective.

APPENDIX H  
SUMMARY OF EXEMPTED PRODUCTS  
AND REQUESTS FOR EXEMPTIONS

### Exempted Products

Razor Blade Steel — This is a stainless steel strip product imported under TSUSA item number 608.2600. It is defined as stainless steel strip not over 0.010 inches in thickness and not over 0.9 inch in width, containing by weight not less than 11.5 percent and not over 14.7 percent chromium, certified at the time of entry to be used in the manufacture of razor blades.

Imports of razor blade steel declined steadily from 785 short tons in 1983 to 633 short tons in 1986, a drop of 19 percent. Principal sources of the imports were Japan (66 percent), Sweden (17 percent), and the United Kingdom (6 percent).

In investigation No. TA-201-5, the Commission noted that razor blade steel was not produced domestically and the President did not include razor blade steel in the import restrictions announced in proclamation No. 4445 (June 11, 1976). In TA-201-48, the Commission once again noted that razor blade steel was not produced domestically and found that razor blade steel should be exempted from any relief. It was exempted by the President from relief granted in July 1983.

Domestic producers argue that although no domestic firms are currently producing razor blade steel, a number of firms are capable of doing so and would if it became economically feasible to resume such production.

Chipper Knife Steel — Chipper knife steel is provided for in items 606.9300, 606.9400, 607.3405, 607.5405, 607.7205, 607.8805, 608.3405, 608.4905, and 608.6405. This product is used to make chipper knives which are used in machines designed to chip wood into pulp and wood.

Imports of chipper knife steel (items 606.93 and 606.94) <sup>1/</sup> increased from 1,914 tons in 1983 to 3,468 tons in 1984 then declined to 2,710 tons in 1985 and 2,759 tons in 1986. Major sources of chipper knife steel in 1986 were Sweden (44 percent), West Germany (19 percent), Austria (16 percent), Japan (12 percent) and Italy (9 percent).

Imports of chipper knife steel were subject to quota restrictions in accordance with Presidential Proclamation 4455 (June 11, 1976). Consistent with the Commission's finding in investigation No. TA-203-3, the President issued Proclamation 4459 (April 5, 1978) modifying the import relief so as to exclude chipper knife and band saw steel from the quotas on alloy tool steel.

In investigation No. TA-201-48 the Commission noted that production of chipper knife steel by U.S. producers was very small and advised the President that chipper knife steel should be exempted from any relief. This product was subsequently exempted from the current relief announced in Proclamation 5074.

In a brief submitted in the present proceeding three of the largest producers of wood chipping knives, Hammaco Knives and Saws, Michigan Knife Co., and Pacific Hoe, Saw & Knife Co. contend that there is no U.S. producer of chipper knife steel.

Counsel for the U.S. industry contends that at least 5 U.S. producers have the capacity to produce chipper knife steel on their current facilities.

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<sup>1/</sup> These items contain only imports of chipper knife steel. The other seven TSUSA numbers provided for both chipper knife and band saw steel. Imports under these numbers increased from 1,106 short tons in 1983 to 5,952 in 1986.

Band Saw Steel — Band saw steel is provided for in TSUSA items 606.9520, 606.9525, 606.3405, 607.5405, 607.7205, 607.8805, 608.3405, 608.4905, and 608.6405. It is used to produce metal-cutting blades for band saws. These saws are used by machine shops and metal fabricators to cut semifinished metal products to a finished size. Imports of band saw steel (TSUSA items 606.9520 and 606.9525) <sup>2/</sup> went from 8 tons in 1983 to 6 tons in 1984 then increased to 52 tons in 1985. There were no imports in 1986. The major sources of imports in 1985 were the United Kingdom (54 percent) and the Netherlands (23 percent).

Band saw steel was exempted from relief by the President in Proclamation 4459 (April 5, 1978), following advice from the Commission. In investigation TA-201-48 the Commission once again advised the President that band saw steel be exempted from any relief, and it was exempted from the relief granted in July 1983.

Counsel for petitioners contend that a number of domestic producers are capable of producing band saw strip steel.

Cladding Grade 434 Sheet — Cladding grade 434 stainless steel sheet is used to clad aluminum. It is provided for in TSUSA item 607.9020 and is imported from France and used by Texas Instruments, Inc. in the production of stainless-steel-clad aluminum strip for use in automotive trim. The specifications of the imported product are as follows:

Stainless steel sheet not under 0.055 inch and not over 0.065 inch in thickness, not under 25.5 inches and not over 26.25 inches in width, which contains in addition to iron, each of the following elements by weight in the amounts specified and which is certified at the time of entry to be imported for use in the manufacture of stainless-steel-clad aluminum automotive trim.

Carbon: none, or not more than 0.12 percent;

Chromium: not less than 16 percent nor more than 18 percent;

Molybdenum: Not less than 0.75 percent nor more than 1.25 percent.

Cladding grade 434 stainless steel sheet was exempted from the relief announced by the President in Proclamation 5074 (July 1983). At that time there were no U.S. producers of the product.

Texas Instruments, the only known domestic purchaser of this product, reports that there are only two sources of the product in the world, one in France, and one in the U.S. (Cashocton) and that the sole U.S. supplier of this product is not able to satisfy all of Texas Instruments' requirements.

Counsel for the domestic industry contends that there is another U.S. producer (Allegheny Ludlum) capable of producing cladding grade 434 sheet to TI specification but is not currently producing because of unfavorable pricing.

Stainless Steel Cold Rolled Sheets Over 71 Inches Wide — Stainless steel cold rolled sheets over 71 inches wide are produced by Avesta in Sweden. Avesta claims to be the only steel producer in the world capable of continuously cold rolling stainless steel sheets to over 60 inches wide. Avesta reports that imports of sheet in this width accounts for 2 percent or less of total U.S. imports of sheet from all sources. This product was exempted by the President from the relief granted in Proclamation 5074 (July 1983).

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<sup>2/</sup> These items contain only imports of band saw steel. See footnote 1 on page 1.

Counsel for petitioners state that while capacity to produce wide cold rolled sheets exists in the U.S.; it is believed that little or no material has been produced domestically in the past several years. They contend that the market for sheet of this width is limited (approximately 10 tons a year); the concern is that the material can be slit into narrower widths.

Grades 254 SMO and 253 MA (all forms) — These two grades are patented in the United States by Avesta. Grade 254 SMO is "a super austenitic stainless steel which resists pitting and crevice corrosion while resisting general corrosion." Grade 253 MA is "an austenitic stainless steel developed to provide exceptional oxidation resistance and high strength for elevated temperature service." Counsel for Avesta claim there are no U.S. produced alloys directly substitutable for these grades. They were exempted by the President from the relief granted in Proclamation 5074.

Counsel for the domestic industry claim that there are U.S. producers who produce grades directly substitutable with these grades. Allegheny Ludlum patented grade AL-6XN competes directly with grade 254 SMO. There are also several U.S. producers of commercial substitutes for grade 253 MA.

Stainless Flapper Valve Steel — This is a stainless steel strip product not over 0.05 inch in thickness, certified by the importer of record or the ultimate consigner at the time of entry, for use in the manufacture of stainless steel flapper valves for compressors.

This product was exempted from the relief granted by the President in July 1983. Counsel for the domestic industry reports that domestic stainless steel producers produce material meeting the specifications of stainless flapper valve steel.

Rotor Steel for Hysteresis Motors — This is a tool steel strip not over 0.05 inch in thickness containing by weight not less than 0.05 percent carbon and not less than 5.5 percent tungsten, certified by the importer of record or the ultimate consigner at the time of entry for use in the manufacture of rotor rings on cups for hysteresis motors.

There are no known U.S. producers of this product; however counsel for the U.S. industry report that a number of producers are capable of making this product.

Additional Products for Which Exemptions Have Been Reported:

In addition to the products already exempted under the current 201 relief, a number of parties to this investigation have also requested exemptions for other products. These are listed below:

- Iron - Chromium Aluminum Resistance Heating Alloys (FeCrAl)
- Stainless-Lummis Strip Steel
- Stainless - Surgical Knife Steel
- Butcher Band Steel
- Stainless Wire Rod - for bare wire and electrode manufacturing
- Continuously cold-rolled KBR Plate - which is greater than 71 inches
- Two types of moldsteels: (1) forged alloy tool steel products of circular cross section of diameter greater or equal to 8" length and of length at least 3 times the diameter; and (2) forged alloy tool steel products of rectangular cross section of thickness greater or equal to 4", by a width.

All of the requested exemptions were based on the contention that the products in question were either not produced in the United States or were not available in the quantities or qualities necessary to meet domestic demand or, in the case of the mild steel products, that demand was increasing in the U.S. and the imports would not injure the U.S. producers.

Counsel for the domestic producers have responded that U.S. producers have the capability to produce all of these products, and currently produce many of them. The only exception is the continuously cold-rolled KBR plate in 71 inch widths. The U.S. industry alleges they produce plates which are "identical to the Swedish KBR plate, in all respects but width."





