STAINLESS STEEL AND ALLOY TOOL STEEL

Report to the President on Investigation No. TA-203-5 Under Section 203 of the Trade Act of 1974

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UNITED STATES INTERNATIONAL TRADE COMMISSION

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COMMISSIONERS ADVISE THE PRESIDENT OF THE PROBABLE ECONOMIC EFFECT OF THE REMOVAL OF IMPORT QUOTAS ON STAINLESS STEEL AND ALLOY TOOL STEEL

Members of the United States International Trade Commission today advised the President of the probable economic effect of the termination of the annual quotas on imports of stainless and alloy tool steel.

Vice Chairman Bill Alberger and Commissioner Paula Stern advised the President that the termination of the current quotas on specialty steel and alloy tool steel on June 13, 1979, will have little, if any, adverse impact on the domestic industry producing like or directly competitive products. The Commissioners based their judgment primarily on two considerations. The Commissioners stated, "the industry has adjusted successfully to import competition through the implementation of a modernization and rationalization of operations program which has made the stainless and alloy tool steel industry highly competitive with foreign producers." The Commissioners also stated that, "the economic health of the industry is exceptionally good and comparable to 1974, which was the industry's historic peak year."

Commissioners George M. Moore and Catherine Bedell advised the President that termination of the quotas would have a serious adverse economic effect on the domestic industry producing such artiles. The

COMMISSIONERS ADVISE THE PRESIDENT OF THE PROBABLE ECONOMIC EFFECT OF THE REMOVAL OF IMPORT QUOTAS ON STAINLESS STEEL AND ALLOY TOOL STEEL

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Commissioners said "the recovery period of less than 3 years has been far too short, the industry has not yet sufficiently adjusted to the new conditions of competition, and the industry, despite much effort and progress during the relief period, needs more time to complete the adjustment process."

All four Commissioners who participated also suggested that if the President should decide to extend the quotas he may wish to, (1) increase the annual quota amounts, (2) provide for an equitable distribution of the quotas for countries that do not now have separate country quotas and, (3) provide for some solution for problems encountered by U.S. consumers of articles under quota that are not produced in the U.S. or are not produced in sufficient quantities in the U.S. to meet demand.

Chairman Joseph O. Parker did not participate in the investigation.

The Commission's investigation was requested November 30, 1978, by the Tool and Stainless Steel Industry Committee and the United Steelworkers of America, AFL-CIO. The Commission was petitioned to determine the probable economic effect on the domestic industry of the termination of import relief provided by Presidential Proclamation 4445 of June 11, 1976, as modified by Presidential Proclamation 4477 of November 16, 1976, 4509 of June 15, 1977, and 4559 of April 5, 1978. A public hearing in connection with the investigation was held in Washington, D.C. on March 6, 1979.

COMMISSIONERS ADVISE THE PRESIDENT OF THE PROBABLE ECONOMIC EFFECT OF THE REMOVAL OF IMPORT QUOTAS ON STAINLESS STEEL AND ALLOY TOOL STEEL

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Stainless steel is used principally in the food, chemical, textile, pollution control, and electric power industries. Alloy tool steel is used in processing and producing other metal products.

In 1978, there were 22 domestic firms employing about 19,000 workers making stainless and alloy tool steel. U.S. production of these products in 1978 amounted to almost 1.2 million tons, and total shipments were valued at \$2.3 billion. U.S. producers' exports were valued at \$49.1 million, and imports, at approximately \$257 million.

Japan, the principal source of U.S. imports of specialty steel from 1970 through 1978, accounted for an average of 57 percent of the total imported quantity of stainless and alloy tool steel. Other important sources of U.S. imports are Sweden, France, Canada, and Spain.

The Commission's public report, <u>Stainless Steel and Alloy Tool</u> <u>Steel</u> (USITC Publication 968), contains the views of the Commissioners in the investigation (No. TA-203-5). Copies may be obtained by calling (202) 523-5178 or from the Office of the Secretary, 701 E Street, NW., Washington, D.C. 20436.

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Note.--The whole of the Commission's report to the President may not be made public since it contains information that would result in the disclosure of the operations of individual concerns. The published report is the same as the report to the President, except that the above-mentioned information has been omitted. Such omissions are indicated by asterisks.

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U.S. International Trade Commission April 24, 1979

To the President:

In accordance with sections 203(i)(2) and (i)(3) of the Trade Act of 1974 (88 Stat. 1978), the United States International Trade Commission <u>1</u>/ herein reports the results of an investigation (investigation No. TA-203-5) conducted under those sections with respect to certain stainless steel and alloy tool steel.

<u>Vice Chairman Alberger and Commissioner Stern</u> advise that the termination of the quantitative restrictions imposed by Proclamation 4445, as modified by Proclamations 4477, 4509, and 4559, on imports of stainless steel and alloy tool steel provided for in items 923.20 through 923.26, inclusive, of the Appendix to the Tariff Schedules of the United States (TSUS), whether considered individually by each TSUS item or collectively with respect to all such items, would have little if any adverse impact on the domestic industry producing such articles. Accordingly, Vice Chairman Alberger and Commissioner Stern are of the view that there is no need to extend import relief.

<u>Commissioners Moore and Bedell</u> advise that the termination of the quantitative restrictions imposed by Proclamation 4445, as modified by Proclamations 4477, 4509, and 4559, on imports of stainless steel and alloy tool steel provided for in items 923.20 through 923.26, inclusive, of the TSUS, whether considered individually by each TSUS item or collectively with respect to all such items, would have a serious adverse economic effect on the domestic industry producing such articles. Commissioners Moore and Bedell are of the view that the import relief relief with respect to such articles should be extended in order that the domestic industry might more fully adjust to import competition. The investigation to which this report relates was undertaken for the purpose of advising the President as to the probable economic effect on the domestic industry concerned of the termination of import relief provided for in items 923.20 through 923.26, inclusive, of the Appendix to the TSUS. Import relief presently in effect with respect to such articles is scheduled to terminate at the close of June 13, 1979, unless extended by the President. The relief is provided for in Presidential Proclamation 4445 of June 11, 1976 (41 F.R. 24101), as modified by Proclamation 4477 of November 16, 1976 (41 F.R. 50960), Proclamation 4509 of June 15, 1977 (42 F.R. 30829), and Proclamation 4559 of April 5, 1978 (43 F.R. 14433).

The investigation was instituted on December 11, 1978, following receipt on November 30, 1978, of a petition filed by the Tool and Stainless Steel Industry Committee and the United Steelworkers of America, AFL-CIO. 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, D.C., and in the Commission's New York Office, and by publishing the notice in the <u>Federal Register</u> of December 22, 1978 (43 F.R. 59914). The public hearing in connection with this investigation was held on March 6-7, 1979, in the Commission's hearing room in Washington, D.C.

The information contained in this report was obtained from field work, from questionnaires sent to domestic manufacturers and importers, from the Commission's files, from other Government agencies, from information received at the public hearing, and from briefs filed by interested parties.

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VIEWS OF COMMISSIONERS ALBERGER AND STERN

On the basis of the information obtained in this investigation, it is our judgment that termination of import relief on certain stainless and alloy tool steel products will have little, if any, adverse impact on the domestic industry producing like or directly competitive products.

Our judgment is based primarily on two basic considerations which were thoroughly developed during the course of the Commission's investigation. First, the industry has adjusted successfully to import competition through the implementation of a modernization and rationalization of operations program which has made the stainless and alloy tool steel industry highly competitive with foreign producers. Second, the economic health of the industry is exceptionally good and comparable to 1974, which was the industry's historic peak year.

During the course of this investigation, questions have arisen as to the Commission's role in Section 203 investigations and what considerations are to be taken into account by the Commission. Therefore, before proceeding to address the substance upon which our views are based, we believe it is useful to devote a section to an analysis of the statutory framework which governs Section 203 investigations by the Commission.

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^{1/} Presidential Proclamation No. 4445 of June 11, 1976 (41 F.R. 2401), as modified by Presidential Proclamations No. 4477 of November 16, 1976 (41 F.R. 50969), No. 4509 of June 15, 1977 (42 F.R. 30829) and No. 4559 of April 5, 1978 (43 F.R. 14433), set forth the import relief for those stainless and alloy tool steel products covered by TSUS items 923.20 through 923.26, inclusive. The import relief presently in effect is scheduled to terminate at the close of June 13, 1979, unless extended by the President pursuant to Section 203(h)(3) of the Trade Act of 1974 ("Trade Act").

Statutory Framework

On November 30, 1978, the Tool and Stainless Steel Industry Committee and the United Steel Workers of America (AFL-CIO), pursuant to Sections 203(i)(2) and (3) of the Trade Act, petitioned the Commission to extend the stainless and alloy tool steel import relief program ("Petition").

Section 203(i)(2) of the Trade Act provides:

Upon request of the President or upon its own motion, the Commission shall advise the President of its judgment as to the probable economic effect on the industry concerned of the extension, reduction, or termination of the import relief provided pursuant to this section.

Section 203(i)(3) of the Trade Act provides:

Upon petition on behalf of the industry concerned, filed with the Commission not earlier than the date which is 9 months, and not later than the date which is 6 months, before the date any import relief provided pursuant to this section or section 351 or 352 of the Trade Expansion Act of 1962 is to terminate by reason of the expiration of the initial period therefor, the Commission shall advise the President of its judgment as to the probable economic effect on such industry of such termination. 2/

Any import relief provided pursuant to this section or section 351 or 352 of the Trade Expansion Act of 1962 may be extended by the President, at a level of relief no greater than the level in effect immediately before such extension, for one 3-year period if the President determines, after taking into account the advice received from the Commission under subsection (i)(2) and after taking into account the considerations described in section 202(c), that such extension is in the national interest. (Emphasis added.)

(footnote continued on next page)

^{2/} The Commission is basing its authority to conduct this investigation not only upon the petition on behalf of the industry concerned, pursuant to Section 203(i)(3), but also on the Commission's own motion, pursuant to Section 203(i)(2). This dual authority is necessary because of a technical drafting error in Section 203(h)(3) of the Trade Act. Section 203(h)(3), which is the operative section of the Trade Act with respect to the extension of import relief provided pursuant to Title II of the Trade Act, provides:

A. The Purpose of Section 203(i)

The purpose of this investigation -- and of these views -- is to develop and transmit a record of advice upon which the President can base his decision to extend or alter the import relief program. While limited in its role to that of an advisor, it is important to note that the Commission's investigation provides the only public opportunity for the interested parties to present their respective cases. While the Commission's advice to the President regarding probable economic effect is important, the information amassed by the Commission and furnished to the President is equally important.

In the case of a Section 203(i)(2) investigation, the Commission's advice to the President is with respect to the Commission's "judgment as to the probable economic effect on the industry concerned of the <u>extension</u>, reduc-<u>tion, or termination</u> of the import relief" (Emphasis added.) In the case of a Section 203(i)(3) investigation, the scope of the Commission's advice to the President is more limited since it is statutorily restricted to the

(footnote 2/ continued)

Thus, the President is required to take into account the advice received from the Commission under an investigation instituted pursuant to Section 203(i)(2). However, there is no provision which specifically requires the President to take into account advice received from the Commission under an investigation instituted pursuant to Section 203(i)(3). In order to provide an opportunity for the "industry concerned" to petition for an extension of import relief, and to assure that the advice of the Commission in connection with such petition is taken into account by the President, the Commission is, pursuant to Section 203(i)(2), also acting on its own motion in this case. Hopefully, this technical drafting error will be corrected so as to eliminate the need for the Commission to rely upon both Sections 203(i)(2) and (i)(3) in order to assure that the President will take into account the Commission's advice in a Section 203(i)(3) investigation. Commission's "judgment as to the probable economic effect on such industry $\frac{3}{2}$ of such termination." (Emphasis added.)

In providing advice pursuant to Section 203(i), the Commission does not make <u>determinations</u> with respect to the extension, reduction, or termination of import relief. Section 203(i) also does not provide authority for the Commission to make specific determinations that certain statutory criteria have or have not been satisfied or that a particular level of relief is or is not required under the circumstances in question. It is clear that statutory determinations to be made under Section 203 with respect to extension, reduction or termination of import relief are solely within the authority of the President. In short, the Commission is strictly limited by Section 203(i) to an advisory role.

4/ The statutory determination to be made by the President and the criteria \overline{he} is required to consider are set forth in Section 203(h)(3), the text of which appears in footnote 2, supra.

^{3/} In view of the fact that this investigation is based upon the authority contained in both sections 203(i)(2) and (3), we believe the Commission has the latitude to also address those issues associated with the extension of the import relief presently in operation and the extension of import relief at a reduced level. If the technical error in Section 203(h)(3) is corrected so as to reference both Sections 203(i)(2) and (i)(3), consideration should be given to amending Section 203(i)(3) so that it tracks Section 203(i)(2) in terms of providing the Commission with the authority to advise the President as to the probable economic effect of "extension, reduction, or termination.'

B. Section 203(i) Statutory Considerations

In advising the President in a Section 203(i) investigation, the Commission has been directed by the Congress in Section 203(i)(4) of the Trade Act to "consider all economic factors which it considers relevant," including "the progress and specific efforts made by the industry concerned to adjust to import competition." Section 203(i)(4) also requires the Commission to consider the factors enumerated in Section 202(c) of the Trade Act:

(1) 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;

(2) 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;

(3) 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;

(4) the effect of import relief on consumers (including the price and availability of the imported article and the like or directly competitive article produced in the United States) and on competition in the domestic markets for such articles;

(5) the effect of import relief on the international economic interests of the United States;

(6) the impact on United States 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;

(7) the geographic concentration of imported products marketed in the United States; (8) 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; and

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

The considerations enumerated in Section 202(c) are essentially straightforward in their meaning and intent. Unfortunately, this is not the case with respect to the other factors set forth in Section 203(i)(4). Neither Section 203(i)(4) nor its legislative history provide any guidance as to what are the relevant other economic factors. Nor does the legislative history define the meaning of the phrase "adjust to import competition."

To ascertain the congressional intent of this Section, it is necessary to view the entire statutory scheme of Title II of the Trade Act. Title II and its legislative history explain clearly that the purpose of import relief is (1) to prevent or remedy injury or the threat thereof and (2) to facilitate the orderly adjustment to new competitive conditions by the industry in question. In view of these clear statements of purpose, it is reasonable for the Commission to consider relevant the same economic factors taken into account by the Commission when making a determination as to "serious injury" under Section 201

6/ See Section 203(a). See also S. Rept. at p. 126.

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^{5/} See Trade Reform Act of 1973: Report of the Committee on Ways and Means ..., H. Rept. No. 93-571 (93rd Cong., 1st Sess.), 1973, p. 52 (H. Rept.); and Trade Reform Act of 1974: Report of the Committee on Finance ..., S. Rept. No. 93-1298 (93rd Cong., 2d Sess.), p. 128 (S. Rept.).

of the Trade Act. These factors include, but are not limited to:

With respect to serious injury, the significant idling of productive facilities in the industry, the inability of a significant number of firms to operate at a reasonable level of profit, and significant unemployment or underemployment within the industry. 7/

With respect to threat of serious injury, a decline in sales, a higher and growing inventory, and a downward trend in production, profits, wages, or employment (or increasing underemployment) in the domestic industry concerned. 8/

In fact, these factors were among those set forth in Section 351(d) of the Trade Expansion Act of 1962, the predecessor of Section 203(i). Both sections deal with Commission investigations and advice with respect to the probable economic effect on the industry concerned of the reduction or termination of import relief. The earlier statute, in Section 351(d)(4), specifically required the Commission, in advising the President, to --

. . . take into account all economic factors which it considers relevant, including idling of productive facilities, inability to operate at a level of reasonable profit, and unemployment or underemployment.

With respect to the other undefined factor, "the progress and specific efforts made by the industry concerned to adjust to import competition," there is also no specific statutory or legislative guidance. However, the legislative history of Section 201 of the Trade Act again sheds light on this issue:

 $\frac{7}{1}$ Section 201(b)(2)(A) of the Trade Act.

8/ Section 201(b)(2)(B) of the Trade Act.

The escape clause is not intended to protect industries which fail to help themselves become more competitive through reasonable research and investment efforts, steps to improve productivity and other measures that competitive industries must continually undertake. 9/

In view of this declaration of congressional intent, it is reasonable for the Commission, when taking into account adjustment in the context of a Section 203(i) investigation, to evaluate the health and competitiveness of the industry in terms of the progress and specific efforts made by the industry to help themselves become more competitive.

Finally, Petitioners have urged the Commission, in evaluating the probable economic effect of termination of import relief, to use a standard of "full recovery" to 1974 economic levels in assessing the health and adjustment of the domestic industry. We do not believe that the statute contemplates such a standard. As pointed out throughout this statement of views, the objectives of the statute are the (1) prevention or remedy of <u>serious injury</u> and (2) <u>adjustment</u> of the industry to import competition. Attainment of these objectives does not require "full recovery" to an economic level achieved by an industry only in its best year.

9/ Senate Report at p. 122.

^{10/} Petitioners stated on page 16 of their petition: "/W/hile deterioration of the domestic industry has halted, <u>full recovery</u> will remain uncertain unless restraints are extended and a long term solution of the nation's international trade problems in specialty steel is implemented." (Emphasis added.)

See also Petitioners' Prehearing Brief at pp. 1-2, 12-18, and 61; Transcript at pp. 116, 119, 134, 152, and 157; and Petitioners' Post-Hearing Brief at pp. 9 and 14.

In short, in order to merit extension of import relief under the escape clause, it must be clear that an industry is either still experiencing serious injury or has not adjusted to import competition, or both.

Health of the Industry $\frac{11}{2}$

By any standard of evaluation and analysis, it is evident that the domestic specialty steel industry is not suffering injury of any degree at the present, let alone "serious injury." In fact, not only is the industry exceptionally healthy, but its indices of health are comparable to those in 1974 -- the industry's record year. In this regard, it can be said that the industry has even satisfied its own standard of "full recovery," particularly when viewed in connection with the industry's high degree of competitiveness vis-a-vis its foreign competitors.

Production of stainless and alloy tool steel has increased steadily since the 1975 recessionary low level of 722,900 tons to 1.253 million tons in 1978, an increase of more than 73 percent. The 1978 level of production is only 5.6 percent below the level achieved in 1974 -- the historic peak of U.S. specialty steel production.

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^{11/} The data utilized in this section reflects the two distinct cycles which the Commission staff employed in analyzing market trends in the United States with respect to specialty steel. (See p. A-20 of the Commission Report for a complete explanation of the Commission's cyclical analysis.) The first cycle began in 1970 and ended in 1974. The domestic industry grew in each year of the cycle. The second cycle encompasses the period 1975-1978. During that cycle, the industry suffered a decline in 1975, and then resumed its long-term growth in 1976, 1977 and 1978. It is also important to note that the industry's performance in 1975 apparently constituted the basis upon which import relief was granted. Thus, 1975 is the base upon which to evaluate the industry's progress in terms of (1) remedying the serious injury suffered by the industry and (2) the industry's adjustment to import competition.

Shipments of stainless and alloy tool steel by domestic producers have also increased steadily since the low level reached during the 1975 recession. In 1978, shipments increased to 1.2 million tons from a low of 743,900 tons in 1975. Total shipments for 1978 exceeded the 1975 levels by more than 60 percent, and were only 4.4 percent below the 1974 peak.

Current levels of employment and worker-hours also demonstrate the exceptional health of the domestic steel industry. Employment has increased by about 18 percent since the recessionary low level of 1975. In addition, although the 1978 employment level is below that of 1974, much of the difference is directly accounted for by productivity increases of more than 30 percent since 1975.

Producers' inventories have increased by about 34 percent between January 1, 1976 and January 1, 1979. Most of this is attributable to increases in inventories of stainless steel sheets and strips. This is due to the health of the industry with respect to these two product lines, since producers' shipments sharply increased and producers increased their inventories in order to properly serve their customers. With respect to alloy tool steel, producers have large inventories relative to other types of stainless steel. However, such relatively high inventory levels are to be expected for this segment of the industry, since economies of scale require that tool steel be produced in runs that yield far more than is needed for immediate consumption. What is most significant is that in 1978, producers had on hand 110 days supply of all specialty steel products. This level compares favorably with the Commission's estimate of normal inventory levels for the industry. $\frac{12}{}$

12/ See p. A-24 of the Commission Report.

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Capacity utilization has increased during the period of import relief. While it is not as high as the levels attained in 1974, it is as high or higher for most products in 1978 than any other year since 1970. Based upon the Commission's method of calculating capacity utilization rates, we are convinced that the domestic industry is currently operating at a level more than adequate to produce sufficient profits.

Net operating profits before taxes on all specialty steel products increased from \$15.8 million in 1970 to \$274.3 in 1974, declined to \$53.4 million in 1975, and then increased in each of the next three years to \$202.7 million in 1978 -- an increase of approximately 280 percent since 1975. In terms of profit-to-sales, for the cyclical period 1975-78, the industry's ratio was 6.6 percent, substantially greater than the 5.9 percent return reported for the cyclical period 1970-74. For stainless steel alone, during the period 1975-78, the return on sales was 6.1 percent, compared to 6.2 percent during the period 1970-74. For alloy tool steel, the industry's return was 9.0 percent for the period 1975-78, more than double the 4.3 percent return experienced during the period 1970-74. These strong operating profits have given the domestic producers a sound financial base upon which to plan and implement the modernization and expansion programs which have resulted in the industry becoming the world's most technologically advanced and efficient producers of specialty steel.

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^{13/} For further discussion of the issue of capacity utilization and its significance in terms of profits, see A 39-40 of the Commission Report and pp. 243-245 of the Transcript. Industry representatives claim they must sustain a capacity utilization rate in excess of 80 percent in order to maintain their financial health. Commission data indicate they are currently attaining that goal. Given the industry's current melt capacity and individual company decisions as to the grades, sizes and types of products to be produced, the industry's finishing capacity is currently at its optimal utilization level even though the actual rates are below 80 percent.

Adequate data upon which to make a complete historical comparison of return on investment does not exist, but the limited data we have indicates that the rate of return on the industry's investment has increased since 1976. Significant investments have been and continue to be made. This situation suggests that the rate of return on investment is at least sufficient.

Most important, apparent domestic consumption is strong. After a decline in 1975, consumption of specialty steel has increased for the past three years. In 1978, apparent domestic consumption was only 1.2 percent less than the record high in 1974.

Progress And Specific Efforts Made By The Industry To Adjust To Import Competition

There is persuasive evidence that the domestic industry is now fully competitive with foreign producers. Indeed, the industry does not dispute this conclusion. In testimony before the Commission, Richard P. Simmons, President of Allegheny Ludlum Steel Corporation, said:

> This is a unique case, because we are not here today as a declining industry. We are not here as an industry that is technologically obsolete and unproductive and unable to compete on the basis of those concepts of comparative advantage that my economic friends tell me about so frequently, indeed, to the contrary, as we stated in 1975 in our testimony, we are here to state unequivocally that virtually every technological advance that has occurred in specialty steel production for the products covered by this restraint program in the last 30 years, has been born in the United States. 14/

14/ Transcript at p. 61. Mr. Simmons has stated his view that the industry is competitive on more than one occasion. As early as August 10, 1977, Mr. Simmons stated, in an address to the National Association of Business Economists:

Let me deal with the issue of competitiveness of the American Specialty Steel Industry. The facts are clear. We are competitive. The domestic industry's prehearing brief stated:

Virtually every neutral observer, and the International Trade Commission itself, has found the American specialty steel industry to be among the most technologically advanced and productive in the world. Foreign steel makers have no advantage over the American specialty steel industry in the field of technological innovation or application . . . 15/

The domestic industry has probably achieved its present high level of competitiveness and health at least in part due to the success of the import relief program. Import relief provided shelter under which the industry successfully completed its modernization and rationalization programs. However, it should be noted that the programs were started prior to the imposition of $\frac{16}{1}$

Since the imposition of import relief, the industry has continued to increase its use of the more efficient Argon-Oxygen-Decarbonization process (AOD) for stainless steel production. As a result, AOD production in 1978 accounted for over 95 percent of the tonnage of steel produced in comparison to less than 60 percent in 1975. The resulting substantial savings in the industry's operating costs will enable domestic producers to compete effectively with foreign producers in the absence of import relief. In conjunction with this and other technological changes, the domestic producers have, on an individual basis, undertaken to rationalize their operations in order to become more efficient and competitive.

- 15/ Petitioners' Pre-Hearing Brief at pp. 10-11.
- 16/ See p. A-18 of the Commission Report.
- 17/ Id. at p. A-17.
- 18/ Id. at pp. A 16-17.

Evidence of the domestic industry's adjustment to import competition is highlighted by the fact that domestic prices for a significant number of stainless and alloy tool steel products are so competitive that foreign producers are unable to sell these items profitably in the U.S. market. Furthermore, exports have increased by approximately 25 percent since 1975, with particular strength in stainless steel plates and bars. The performance of bar exports particularly demonstrates the industry's new competitiveness since it is in this product line particularly that new foreign capacity has developed. Even with a worldwide increase in supply of bars, the domestic product is $\frac{20}{}$ competitive in foreign markets.

Despite these indications of successful adjustment to import competition, industry spokesmen have stated that the industry will not be able to sustain a high level of capital expenditures for modernization without further improvement in the industry's earnings and rate of return on investment. As noted above, the high level of the industry's profitability with respect to return on sales is unprecedented. In addition, its rate of return on investment is healthy in terms of both original cost and net book value. However, the industry claims that its rate of return on estimated replacement cost in 1978 of 5.4 percent is insufficient to sustain as high a level of capital investment as in the past.

20/ See A 90-A 97 of the Commission Report.

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^{19/} See A 117-A 127 of the Commission Report.

This claim must be evaluated in light of two major considerations. First, capital expenditures by the industry are leveling off and in some areas actually declining. Since 1976, environmental regulations have been complied with and the AOD conversions completed. As a result, environmental expenditures have declined by 30 percent while machinery and equipment expenditures have declined by almost 35 percent. Further, high levels of capital expenditures are neither mandated by law nor necessarily required to improve production efficiency.

A high level of capital expenditures is apparently budgeted for 1979 to modernize, among other things, finishing operations. However, it is our understanding that the magnitude and duration of capital expenditures required in this modernization phase will not equal that of the earlier phase of more basic capital investment which has made the domestic industry the most efficient and competitive in the world.

Second, the industry has stated that the rate of return on investment it achieved in 1978, during the highest level of quotas, is insufficient. If the industry is expecting the <u>extension</u> of import relief <u>to increase</u> its rate of return, it is pursuing the impossible. Section 203(h)(3) of the Trade Act states clearly that import relief may be extended "at a level of relief <u>no</u> <u>greater</u> than the level in effect immediately before such extension." (Emphasis added.)

21/ See p. A-18 of the Commission Report.

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Section 202(c) Considerations

Under Section 203(i)(4), the Commission must take into account the considerations set forth in Section 202(c). These factors guided the President in his initial decision to grant relief, and they must be carefully analyzed before relief is extended, modified or terminated. Taking such factors into account supports our judgment that the termination of import relief will have $\frac{22}{}$

In the period following the termination of relief, there may be occasional import-related dislocations. While such dislocations may lead to minor economic and social costs, we believe the domestic industry is healthy enough to sustain such disruptions. Moreover, the beneficial aspects of termination far outweigh the risks.

Given the health of the domestic industry, the principal impact of termination will be to improve the competitive environment and thereby result in better service to domestic consumers who have experienced difficulty in obtaining adequate supplies on a timely basis. We have discussed the adjustments made by the domestic industry during the period of import relief and believe that continued relief would not promote further adjustment to import competition. In effect, the domestic industry is as competitive as import relief can make it.

Termination of import relief will undoubtedly have a positive effect on our international economic relations. While none of the affected countries have sought compensation under the GATT, they have reserved their rights to do so. Moreover, unilateral termination of import relief by the U.S. may diminish the pressure for trade restrictions in other countries. This would reduce the likelihood of our market becoming the focal point for exports diverted by such trade restrictions.

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 $[\]frac{22}{\text{of}}$ For a full discussion of the Section 202(c) criteria, see pp. A64-68 of the Commission Report.

Unfair Import Competition and Long Term Relief

Petitioners contend that import relief should be extended because (1) the domestic specialty steel industry is threatened with a future invasion of dumped or subsidized imports $\frac{23}{}$ and (2) the international sectoral agreement on steel envisioned by the Executive Branch has not been forthcoming. Both of these arguments are irrelevant with respect to a Section 203(i) investigation. In fact, both these arguments contravene the objectives and purposes of import relief under Title II of the Trade Act.

First, Section 201(b)(6) requires the Commission to refer allegations of unfair trade practices to the appropriate agency or department for remedial action under the relevant unfair trade statutes. As the Senate Finance Committee explained:

> Action under one of these provisions when appropriate is to be preferred over action under this chapter. This provision is designed to assure that the United States will not needlessly invoke the escape-clause (Article XIX of the GATT) and will not become involved in granting compensatory concessions or inviting retaliation in situations where the appropriate remedy may be action under one or more U.S. laws against unfair competition for which no compensation or retaliation is in order. 25/

23/ See Petitioners' Pre-Hearing Brief at pp. 9-11, 18, 44-47 and 62; Transcript at pp. 132-133, and 231-232; and Petitioners' Post-Hearing Brief at pp. 2 and 5.

24/ See Petition at p. 16; Petitioners' Pre-Hearing Brief at pp. 62-63; and Transcript at pp. 60, 80, 113-114, 121, 159, 229-230.

25/ S. Rept. at p. 123. See also H. Rept. at p. 47.

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In short, under the circumstances described by the petitioner, its recourse would appear not to be extension of import relief under the escape clause, but rather the application of the Antidumping Act, the countervailing duty statute (Section 303 of the Tariff Act of 1930), the unfair import practices statute (Section 337 of the Tariff Act of 1930), or other remedial provisions of law.

Second, during its consideration of the Trade Act, the Senate Finance Committee explained:

The 'escape clause' is aimed at providing temporary relief for an industry suffering from serious injury, or the threat thereof, so that the industry will have sufficient time to adjust to the freer international competition. 26/

The House Ways and Means Committee made a similar analysis:

These changes are consistent with the fundamental purpose of import relief under this title, namely to give additional time to permit a seriously injured domestic industry to adjust and to become competitive again under relief measures and, at the same time, to create incentives for the industry to adjust, if possible, to competitive conditions in the absence of long-term import restrictions. 27/

26/ S. Rept. at 119.

27/ H. Rept. at 44.

Thus, Congress clearly intended import relief under the escape clause to be temporary in nature. Moreover, the status of international sectoral negotiations is not relevant in determining whether import relief should be extended. If the Congress had intended to link the duration of import relief under the escape clause to the status of internationally-negotiated sectoral agreements, it could have explicitly created this linkage by listing the status of such agreements among the criteria to be considered in Section 203 proceedings. Congress, however, did not do so. Creation of an international sectoral agreement on steel may have merit, but the status of such an agreement is not pertinent to the issue of extending import relief under the governing statute.

Probable Economic Effect

During the last three years in which quotas have been in effect, imports have continually lost a greater share of the U.S. market, particularly as U.S. consumption grew in excess of the three percent growth allowed imports. The ratio of imports to consumption fell from 18.1 percent of the U.S. market in $\frac{28}{29}$ /1975 to 15.2 percent in 1976 to 12.2 percent in 1978.

The Commission Report includes estimates for 1979 that in a low growth period and in the absence of quotas, imports will increase to 16.7 percent of apparent domestic consumption. In a recession scenario, without quotas, 1979 imports would increase to 17.9 percent of consumption. However, in evaluating

28/ See p. A-63 of the Commission Report.

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the impact of these estimates, it must be borne in mind that the underlying forecasts and data used by the Commission staff were supplied by the domestic $\frac{29}{}$ industry. It is also important to note that the industry testified it expects a substantial influx of <u>unfair</u> imports. If the domestic industry resorts to the proper remedial statutes and its position is upheld by U.S. authorities, it is conceivable that the actual levels of imports might be lower than projected.

Although significant foreign capacity increases have taken place since the imposition of quotas, there is no indication that a significant portion of this new capacity will be exported to the United States. Some of the new capacity appears to be directed toward either recapturing lost shares of home markets or third country export markets. The bulk of this new capacity is in countries with expanding home markets. These factors minimize the possibility of sharply increased imports entering into the United States as a result of new foreign capacity.

29/ See p. A-57 of the Commission Report.

30/ See footnote 24, supra.

31/ In connection with this investigation the Commission attempted to obtain information on past and projected production, capacity and exports of foreign specialty steel industries which export to the United States. In order to obtain the information, the Department of State cabled the U.S. Embassy in each supplying country; foreign embassies in Washington and consulates in New York were contacted; representatives of foreign suppliers that testified before the Commission were given questionnaires; and a number of international organizations were contacted. Unfortunately, the response to requests for information was not nearly as comprehensive as desired. In some instances, particularly from the Department of State, we received no information at all. Given better information on foreign export capacity and likelihood of expanded exports to the U.S., we could have made a more thorough analysis and projection of the probable effects on various economic scenarios on the U.S. market. We hope that steps can be taken to assure better cooperation in the future. However, the information received was useful and gave us sufficient indications upon which to draw our conclusions. Further, if in 1979 the U.S. economy enters a period of low growth, which most economic forecasters expect, the impact of import relief termination could conceivably be alleviated by the relatively better industrial performance of the other major producing countries. Some economic forecasts call for a higher growth rate in Japan and the European Community than in the United States. Such a differential in rates of growth will tend to reduce the import pressure on the United States market for specialty steel as foreign producers supply the more rapidly increasing needs of their home markets.

Most significantly, the United States specialty steel industry is today the world's most technologically advanced and efficiently operated. In view of this newly developed competitiveness, we believe that the domestic industry will be more than able to compete successfully with foreign imports.

Allocations of Extended Quotas

We are cognizant of the fact that the President might choose to continue the quantitative restrictions now in effect. Should this be the case, we suggest the following means of alleviating some of the disruptive effects of the quota system on consumers:

(1) In view of the fact the increase in consumption has far outstripped the increase in imports allowed by the quotas, quotas should be

32/ See p. A-47 of the Commission Report.

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substantially increased. Individual product categories should be closely examined. Plate quotas have never been filled. Sheet and strip shipments have even exceeded 1974 levels. Profits on bars are excellent and success is being achieved in export markets for bars. Such considerations suggest logical areas of modification of existing levels of product quotas.

(2) Present basket categories for the European Community ("EC") and all other countries should be made on a country-by-country basis to the extent possible. This procedure will alleviate supply disruptions to consumers who want assurance that orders can be entered in a given period. Specifically, EC imports should be allocated by product category among supplying EC countries on the basis of their average annual historical market share during the pre-quota period 1971-75.

With regard to the "all other countries" category, half of each country's quota should be allocated on the basis of its average annual historical market share during the pre-quota period 1971-75, and the remaining half of the quota should be allocated on the basis of each country's relative capacity to export stainless and alloy tool steel.

(3) Finally, an additional annual 1,000-ton special reserve should be created by the Office of the Special Trade Representative for extraordinary circumstances which may arise during any quota year with respect to certain grades and sizes of specialty steel not produced in sufficient quantities in the

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United States to satisfy consumer demand. This would alleviate supply distortions caused by quotas for a number of specific grades of steel imported in small quantities. This approach is also preferable to the creation of specific exemptions for these special situations and is flexible enough to deal with unforeseen problems which may arise over the remaining period of import relief.

Conclusion

The health of the industry is comparable to that which it enjoyed in 1974, the industry's record year. In addition, the industry has adjusted to foreign competition through development and implementation of a modernization and rationalization program. Relief should not be extended unless the industry is seriously injured or has failed to adjust to import competition. Therefore, the extension of import relief in this case would be inconsistent with the policies underlying Title II of the Trade Act and is unwarranted.

^{33/} Examples of the specific grades and sizes for which special exemptions have been requested are stainless steel sheet (grades 420 and 440A) used in making certain types of knives produced by Pacific Saw and Knife Co. and California Saw and Knife Co.; tungsten tool steel in all grades, ground flat stock and drill rod in AISI grade 01, prefinished tool steel in AISI grades 01, D2, and A-2, exemption for which was requested by Mundix Metals Corp. and the Ground Flat Stock Export Association; colored stainless steel, exemption for which was requested by Buskin Enterprises and Stainless Steel Surfaces, Ltd., and certain solid high speed tool steel in grade M2 and intermediate high-speed tool steel in grade HM1 used to produce band saw blades produced by the Henry G. Thompson Co.

VIEWS OF COMMISSIONERS GEORGE M. MOORE AND CATHERINE BEDELL

In our opinion the termination of the quantitative restrictions imposed by Presidential Proclamation No. 4445, as modified by Proclamations Nos. 4477, 4509, and 4559, on imports of stainless and alloy tool steel provided for in items 923.20 through 923.26, inclusive, of the Appendix to the Tariff Schedules of the United States (TSUS), whether considered individually by each TSUS item or collectively with respect to all such items, would have a serious adverse economic effect on the domestic industry producing such articles.

The domestic specialty steel industry has made significant progress in its effort to recover from the state of serious injury in which we found it in 1976. However, the recovery period of less than 3 years has been far too short, the industry has not yet sufficiently adjusted to the new conditions of competition, and the industry, despite much effort and progress during the relief period, needs more time to complete the adjustment process.

The improvement in the U.S. producers' current situation is attributable, in our view, to at least three factors--the quotas, the upturn in the U.S. economy, and new efficiency-enhancing investment in plant and equipment by the domestic industry. First, the quotas have for the most part been filled, and imports would have continued at levels injurious to the industry without them. We feel that the apparent increased production capacity of foreign industries would result in sharply increased imports and import penetration of the U.S. market, with concomitant declines in U.S.

production, domestic producers' shipments, profits, and employment during a period in which many economists predict a slowdown in the U.S. economy. Allowing the quota protection to terminate at this time, therefore, would have a serious adverse economic impact upon the domestic specialty steel industry.

Second, the upturn in the U.S. economy during the last several years has resulted in a considerable increase in demand for most kinds of stainless and alloy tool steel. The domestic industry has benefited from this upward trend, especially since it occurred during the quota period. Industry profit, employment, and other statistics, particularly for 1978, reflect the benefits of this upturn. However, if economic predictions of a slowing of the U.S. economy come true, it is unlikely that the industry will perform as well in 1979 as in 1978 even if the quotas are not terminated.

Third, the industry has made important new investments in plant and equipment during the quota period. As a result of this new investment, by 1978 more than 90 percent of the specialty steel produced in the United States was produced by the much more efficient Argon-Oxygen-Decarbonization (AOD) process. Additional investment, especially in finishing equipment, is necessary to complete the overall modernization program. The ability to sustain reasonable profit levels is necessary to finance this moderization. Additional investment is unlikely to be forthcoming if it appears that a large increase in imports is in the offing. The termination of the quotas at this time, therefore, is likely to hamper the moderization program and have a negative impact on many aspects of the domestic industry's recovery efforts, not only in the short run, but also, more importantly, in the long run.

Having given our advice on this matter, we make the following suggestions in the event that the President decides to extend the quotas. In our opinion, the President may wish to consider enlargement of the quotas over and above the annual 3-percent increase permitted during the past 3 years. In this regard, we note that domestic consumption of such stainless steel and alloy tool steel has been increasing at considerably more than the annual increase rate of 3 percent in the quotas, in part because of the upturn in the economy.

Further, several foreign industries asserted that the existence of multi-country basket quotas has hampered their supplying of the U.S. market. It was alleged that the nations in the basket category would fill such quotas early in the time period in order to obtain their share. This has excluded some nations in the basket quotas from obtaining an equitable share of the quotas. If quotas are extended, the President may wish to break up these basket categories to some extent and provide for more country-by-country quotas.

Several producers of stainless and alloy tool steel in developing countries asserted that the quotas have largely excluded them from the U.S. market because they were not substantial suppliers in 1971-75, the base period for determining the quotas. If the President extends the quotas, he may wish to consider providing a separate and larger quota for these countries or a larger basket quota for them.

A number of special grades and kinds of stainless steel and alloy tool steel covered by the quotas are not produced in the United States or are

not produced in the United States in sufficient quantities to supply U.S. demand. Orders for such steel are generally for small amounts, often for less than a ton, and demand may be too small to warrant a special product exemption of the kind accorded bearing steel or razor blade steel, for example. To alleviate such problems, if the President extends quotas, he may wish to set aside a special reserve, perhaps in the amount of 1,000 tons, to be allocated by the Special Trade Representative to importers of small quantities of such specialty steels.

Some of the specific grades and sizes for which special exemptions have thus far been requested are AISI grades 420 and 440A stainless steel sheet, tungsten tool steel in all grades, ground flat stock and drill rod in AISI grade 01, prefinished tool steel in AISI grades 01, D2, and A-2, colored stainless steel, certain solid high-speed tool steel in grade M2, and intermediate high-speed tool steel in grade HM1.

Because of certain problems that have come to our attention in the course of this investigation, the above comments are provided in an effort to assist the President in the event he decides to extend the quotas.

INFORMATION OBTAINED IN THE INVESTIGATION

Summary

On November 30, 1978, the Tool and Stainless Steel Industry Committee and the United Steelworkers of America, AFL-CIO, requested the Commission to institute an investigation under section 203(i)(2) and (i)(3) of the Trade Act of 1974 in order to advise the President of its judgment as to the probable economic effect on the domestic industry concerned of the termination of the quotas currently in effect on stainless steel and alloy tool steel. The petitioners further requested that the Commission recommend a 3-year extension of these quotas. On December 11, 1978, the Commission instituted the instant investigation, No. TA-203-5.

The Commission has conducted two previous section 203 investigations on the specialty steel quotas. Following receipt of Commission advice in connection with the first investigation, No. TA-203-2, the President, on June 15, 1977, terminated the quotas on bearing type alloy tool steel and following receipt of Commission advice in the second investigation, No. TA-203-3, the President, on April 5, 1978, terminated relief with respect to chipper knife blade steel and band-saw steel.

Effects of present quota program

The aggregate quota limits, imports charged against the quotas, and percent of quotas filled are shown in the following tabulation:

	Quota year								
Item :	lst (1976-77)	2nd (1977-78)	:	3rd <u>1</u> / (1978-79)					
All countries:		:	:						
Quota limit (in tons):	147,013	: 151,511	:	93,039					
Imports (in tons):	138,266	: 147,551	:	77,572					
Short fall (in tons):	8,747	: 3,960	:	15,467					
Imports as a percent of limit:	94.1	: 97.4	:	83.4					
		•	:						
1/ First 6 months.									

Special quota problems

The specialty steel quota program has created a number of changes in trends and patterns of supply and distribution both here and abroad. Domestically, the quotas have caused distortions in normal supply patterns and product availability problems for certain consumers. Internationally, suppliers have in some cases changed the product mix of their exports to the United States. In addition, the lack of country-by-country breakouts has led to shipments in excess of quota limits by these countries. The resulting stocks must be held in bonded warehouses until the opening of the next quota period.

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Producers' efforts to compete with imports

The stainless steel and alloy tool steel industry has made a number of substantive changes, many of which occurred subsequent to the granting of import relief on June 14, 1976, to meet import competition. These changes are evident in various aspects of the industry's operations, including organizational structure, implementation of more efficient technology, and increases in capital expenditures.

Domestic market conditions

<u>Demand factors</u>.--The demand for stainless steel and alloy tool steel is derived from the demand for their end-product uses, such as automobiles, machinery, industrial equipment, appliances, electrical equipment, foodprocessing equipment, utensils, cutlery, LNG 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, cyclical fluctuations in the overall U.S. economy usually result in changes in demand for stainless steel articles which are much sharper than the changes that are applicable to nondurable goods and to most other types of durable goods.

<u>Aggregate market trends.</u>—The cyclical nature of the specialty steel industry can readily be seen by examining the following data. Two distinct cycles can be observed. The first upward cycle began in 1970 and ended in 1974, with total apparent U.S. consumption of specialty steel increasing in each year of the cycle. After a decline in apparent U.S. consumption in 1975, <u>1</u>/ the industry resumed its long-term growth by experiencing an increase in consumption in 1976, 1977, and 1978. Apparent U.S. consumption in 1978 was only 1.2 percent less than the record high in 1974. In addition to apparent consumption, data is presented in the following tabulation on U.S. producers' shipments, exports, U.S. imports, average number of production and related workers, and total operating profits:

1/ The downward cycle actually began in the second half of 1974; recovery did not begin until the second half of 1976.

Year	U.S. producers': shipments	U.S. exports	:	U.S. mports	:	Apparent consumption	Average : number of : production: and related:	Total operating profit
	::	·	:		:		workers :	
:	: :		:		:	:	:	Million
:		<u>1,000</u>	to	<u>ns</u>			:	dollars
:	: :		:		:		: :	
1970	651.5 :	73.5	:	143.6	:	721.6	: 17,432 :	15.8
1971	: 680.5 :	46.8	:	159.7	:	793.4	: 16,374 :	4.6
1972	821.5 :	47.1	:	123.1	:	897.5	: 16,898 :	38.9
1973	: 1,091.6 :	75.6	:	115.9	:	1,132.9	: 20,859 :	127.4
1974	: 1,264.3 :	90.5	:	151.1	:	1,324.9	: 23,824 :	244.3
1975	743.9 :	47.4	:	153.7	:	850.3	: 16,102 :	53.4
1976	993.5 :	59.5	:	166.9	:	1,100.9	: 18,624 :	73.4
1977	: 1,057.0 :	• 55.9	:	141.4	:	1,142.6	: 18,473 :	135.3
1978	: 1,208.2 :	58.7	:	159.2	:	1,308.8	: 19,016 :	202.7
	::		:		:		:	

Prices

Average domestic and import prices for selected classes of stainless steel sheets and strip, bars, rods, and plates were collected for 1970-78. Although prices of all products have increased throughout the past 9 years, the rates of increase have varied significantly during different years and across product lines.

Over the long term, alloy tool steel prices have risen more rapidly than stainless steel prices. This has been partly the result of the sharp increase in the cost of alloys used in producing tool steel. In addition, since production of alloy tool steel is labor intensive, rising wage rates have also contributed significantly to the rise in production costs and prices.

Probable economic effects of terminating import relief

The impact on the domestic specialty steel industry of terminating the import relief program will depend upon two principal factors:

- (1) the level and structure of U.S. domestic demand for specialty steel, and
- (2) the level of imports subsequent to termination of the quotas.

Other important factors include the level of demand for these products in markets outside of the United States, the relative prices of imported and domestically produced specialty steel, anticipated increase in imports from nontraditional supplying countries, and the ability of the domestic industry to meet any increased import competition in the absence of quotas. In order to estimate 1979 apparent consumption, imports, and U.S. producers' shipments, the following sources were used: (1) forecasts by a leading specialty steel firm, (2) a composite forecast by the specialty steel industry, (3) a composite forecast by the steel service center industry, and (4) a forecast by a major supplier of raw material to the specialty steel industry. <u>1</u>/ The low figures in the range of responses were characterized as recession forecasts; the high figures as low-growth forecasts. The following table summarizes the data supplied by respondents.

Stainless	steel	and	alloy	tool	steel:	Forecasts	of	U.S.	producers'
	shipmen	ts,	import	:s, ar	nd appare	ent consump	oti	on, 19	979

	: U.S.	prod	lucers':		norte	:	Annaroni	:1	Ratio of	imports
Ttom	: <u>s</u> l	nipme	ents :	1 III	ports	:	Apparen	:	to const	umption
Псеш	: With	: W	lithout:	With	: Withou	t:	consump-	:	With :	Without
	:quota	3 :	quotas:	quotas	: quota	s:	CION	:	quotas:	quotas
	:		1	,000 to	ns			-:	Per	cent
	:	:	:		:	:		:	:	
Low growth	: 1,174	4 :	1,134 :	175	: 215	:	1,289	:	13.6 :	16.7
Recession	: 1,09	5:	1,054 :	175	: 216	:	1,210	:	14.5 :	17.9
	:	:	:		:	:		:	:	
Source: Compile	d from	data	submit	ted to	the U.S.	Т	nternatio	on.	al Trade	Commis-

sion.

Note.--Apparent consumption was unchanged whether or not quotas were terminated. Exports were projected to be 60,000 tons under all conditions.

If the import restraint program is terminated and apparent consumption is at the low end of the forecasted range (recession), then it is estimated that U.S. producers' shipments in 1979 will fall by 13 percent to 1,054,000 tons and imports are estimated to increase by 36 percent to 216,000 tons. If, on the other hand, apparent consumption is at the high end of the forecast range (low growth), then U.S. producers' shipments are estimated to decrease by 6 percent to 1,134,000 tons, with imports rising by 35 percent to an estimated 215,000 tons.

1/ Forecasts were supplied by (1) * * *; (2) * * *; (3) * * *; and
(4) * * *.

Introduction

On December 11, 1978, the United States International Trade Commission instituted an investigation 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 concerned of the termination of import relief presently in effect with respect to the stainless steel and alloy tool steel provided for in items 923.20 through 923.26, inclusive, of the Appendix to the Tariff Schedules of the United States (TSUS). Import relief presently in effect with respect to such articles is scheduled to terminate at the close of June 13, 1979, unless extended by the President. The relief is provided for in Proclamation No. 4445 of June 11, 1976 (41 F.R. 24101), as modified by Proclamation No. 4477 of November 16, 1976 (41 F.R. 50969), Proclamation No. 4509 of June 15, 1977 (42 F.R. 30829), and Proclamation No. 4559 of April 5, 1978 (43 F.R. 14433).

The Commission instituted this investigation after receipt of a petition on November 30, 1978, filed by the Tool and Stainless Steel Industry Committee <u>1</u>/ and the United Steelworkers of America, AFL-CIO. 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, D.C., and in the Commission's New York office, and by publishing the notice in the Federal Register of December 22, 1978 (43 F.R. 59914). 2/

A public hearing in connection with this investigation was held on March 6-7, 1979, in the Commission's hearing room in Washington, D.C.

The information contained in this report was obtained from fieldwork, from questionnaires sent to domestic manufacturers and importers, from the Commission's files, from other Government agencies, from information received at the hearing, and from briefs filed by interested parties.

Previous Commission Investigations and Presidential Action

On January 16, 1976, the Commission reported to the President its determination in investigation No. TA-201-5, Stainless Steel and Alloy Tool Steel. 3/ The Commission determined that bars, wire rods, plates, and sheets and strip of stainless steel and alloy tool steel in the aforementioned forms were being imported into the United States in such increased quantities as to be a substantial cause of serious injury, or the threat thereof, to the domestic industry producing articles like or directly competitive with the imported articles.

1/ The Stainless Steel Industry Committee is composed of 21 companies which accounted for approximately 80 percent of U.S. production of stainless steel and alloy tool steel in 1978.

2/ A copy of the Commission's notice of investigation and hearing is presented in app. A.

3/ Stainless Steel and Alloy Tool Steel: Report to the President on Investigation No. TA-201-5, USITC Publication No. 756. The Commission recommended to the President that import relief in the form of quantitative restrictions was necessary to prevent or remedy the injury. The Commission made a negative determination with respect to the imported ingots, blooms, billets, slabs, and sheet bars under investigation and accordingly made no recommendation with respect to import relief for such articles.

The President determined that import relief should be provided and on June 11, 1976, issued Proclamation No. 4445. The proclamation provided for import relief in the form of quantitative restrictions for a 3-year period on (1) stainless steel sheets and strip, (2) stainless steel plates, (3) stainless steel bars, (4) stainless steel wire rods, and (5) alloy tool steel. 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 country-bycountry basis with respect to the larger source countries. 1/ Table 1 in appendix B compares the quota recommendations of the U.S. International Trade Commission with those implemented by the President.

Prior to proclaiming such relief, the President sought to negotiate orderly marketing agreements with the leading supplying nations of stainless and alloy tool steel. Only Japan expressed a willingness to negotiate such an agreement. The quantitative restrictions proclaimed with respect to the imports from Japan reflect the terms of an agreement signed with the Government of Japan on June 11, 1976. 2/ The Agreement provided for the limitation of imports from Japan for a 3-year period beginning June 14, 1976 (section 1(a)). Thus, the agreement terminates at the close of June 13, 1979. The quota quantities for the first year of the Agreement were based on import levels during the period 1971-75 and quotas were to be adjusted upward 3 percent annually in subsequent years. The method for calculating quotas agreed to by Japan was the basis for calculating quotas with respect to other countries.

The agreement provided that no more than 60 percent of the imports from Japan could enter during the first half of a restraint period (section 1(d)); and that in the event of a shortfall in a category for a quota year a carryover of up to 4 percent of the base limit would be permitted within the first 30 days of the next quota year, with such carryover not to be counted against the next year's quota, but such carryover could not exceed the amount of shortfall and a shortfall in one category could not be applied to another category (section 4(a)). The agreement also provided for consultations between the two governments at the request of either government (section 8(a)), that either government could terminate the provisions by giving 60-days' written notice to the other (section 8(c)) and that the reciprocal rights and obligations of the two governments under the G.A.T.T. would be reserved (section 9).

1/ There were six basic country or source quota 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.

^{2/} See Agreement on Speciality Steel Imports, Jun. 11, 1976, United States-Japan, T.I.A.S. No. 8442.

Proclamation No. 4445 was modified by Proclamation No. 4477 of November 16, 1976, which provided a separate quota for that alloy tool steel known in the trade as bearing steel.

On October 14, 1976, the Commission received a request from the Special Representative for Trade Negotiations (STR) 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 No. 4445 (as modified by Proclamation No. 4477) by excluding from the quantitative restrictions bearing steel covered by item 923.25 of the Appendix to the TSUS. 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 No. 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 No. 4445, as modified by Proclamations Nos. 4477 and 4509, were to be terminated or reduced by--

- excluding from the quantitative restrictions imposed thereby any of the steel covered by TSUS items 923.20, 923.21, 923.22, 923.23, and 923.26; or
- (2) increasing the quantitative restrictions for the second and third restraint periods for any of the steel covered by the aforementioned five TSUS items.

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, 1978, that the 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 without an adverse economic impact and that the quotas on the remaining articles could be increased by 6.7 percent but should not be further increased or terminated, and 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 No. 4559 on April 5, 1978, modifying the import relief score to exclude from the quotas on alloy tool steel covered in TSUS appendix ite, 923.26 so-called chipper knife steel and band saw steel. The quotas applicable to the remaining articles provided for 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.

Description and Uses 1/

Stainless steel is an alloy steel containing, by weight, less than 1 percent of carbon and over 11.5 percent of chromium. Generally manufactured from scrap by means of electric furnaces, stainless steel includes nickel, molybdenum, and manganese, all of which are (1) added to the melt when the furnance is being charged, (2) added during melting, or (3) added after tapping but before pouring from ladle to ingot mold. The alloying ingredients 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 many times the strength of ordinary carbon steel. It has an attractive silvery color and is produced in dull, brushed, or polished finishes. It is used extensively in the food, chemical, textile, pollution control, and electrical power industries in applications that require exceptional strength and resistance to oxidation. Significant quantities of stainless steel are used in mass transportation systems, as well as in contemporary furniture, modern sculpture, and building construction.

Tool steel is defined as alloy steel containing, by weight, any of the following combinations of elements: (1) not less than 1.0 percent carbon and over 11.0 percent chromium; or (2) not less than 0.3 percent carbon and 1.25 percent to 11.0 percent, inclusive, chromium; or (3) not less than 0.85 percent carbon and 1.0 percent to 1.8 percent, inclusive, manganese; or (4) 0.9 percent to 1.2 percent, inclusive, chromium and 0.9 percent to 1.4 percent, inclusive, molybdenum; or (5) not less than 0.5 percent carbon and not

^{1/} Supplementary information on the various forms of stainless steel and the production methods employed by the industry can be found in <u>Stainless Steel</u> and Alloy Tool Steel: Report to the President on Investigation No. TA-201-5, USITC Publication 756, pp. A-3 to A-7.

less than 3.5 percent molybdenum; or (6) not less than 0.5 percent carbon and not less than 5.5 percent tungsten. Tool steels, which are produced in the form of rods or bars, are noted for their hardness and heat and abrasion resistance. They are used primarily to make tools capable of cutting, forming, or otherwise shaping other materials during the manufacture of industrial products.

U.S. Tariff Treatment

The imported stainless steel and alloy tool steel articles covered by the notice of this investigation are classified under TSUS items 608.52, 608.76, 608.78, 608.85, 608.88, 609.06, 609.07, and 609.08 and the quotas applicable to them are provided for in appendix to the TSUS, items 923.20 through 923.26, inclusive. The present column 1 rates of duty range from 0.25 cents per pound plus 4 percent ad valorem (certain wire rods) to 11.5 percent ad valorem (stainless steel strip over 0.05 inch in thickness). All of the products are subject to additional duties on their alloy content under the provisions of items 607.01, 607.02, 607.03, and 607.04. The additional duties range from 0.75 cents per pound on chromium content in excess of 0.2 percent to 25 cents per pound on tungsten content in excess of 0.3 percent.

All column 1 rates of duty applicable to products covered in the investigation, except those on stainless and tool steel rod, were reduced pursuant to the Kennedy round of trade negotiations under the General Agreement on Tariffs and Trade and are shown in the following table. Stainless steel and alloy tool steel in specified forms: Col. 1 (most-favorednation) rates of duty applicable to U.S. imports as of Dec. 31, 1967, and Dec. 31, 1978, and column 2 rates of duty as of Dec. 31, 1978

(centes per p	ound, percent		
Product form and TSUS item No.	: Col. 1 rate :on Dec	applicable	Col. 2 rate
	: 1967 <u>1</u> /	1978 <u>1</u> /	Dec. 31, 1978 <u>1</u> /
Bars (608.52)	: : 14.5%	: : 10.5%	: : 28%
Wire rods:	:	:	: .
Not tempered, treated, or partly	:	:	: ·
manufactured (608.76)	:0.25¢ + 4%	:0.25¢ + 4%	: 0.6¢ + 8%
Other (608.78)	:0.375c + 4%	:0.375c + 4%	: 0.85c + 8%
Plates and sheets:	:	:	:
Not pickled or cold rolled	:	:	•
(608.85)	:12%	: 9.5%	: 28%
Other (608.88)	:0.1c + 12%	: 10%	0.2c + 28%
Strip, in thickness	:	:	•
Not over 0.01 inch (609.06)	: 10%	: 8%	: 33%
Over 0.01, but not over 0.05 inch	:	:	:
(609.07)	· : 12.5%	: 10.5%	. 33%
Over 0.05 inch (609.08)	: 13.5%	: 11.5%	: 33%
	:	:	•

(Cents per pound; percent ad valorem)

1/ Imports are also subject to duty on alloy content as follows:

Item	:_	Col. 1 rate on Dec.	applicable 31	Col. 2 rate
	:	1967	1978	Dec. 31, 1978
Chromium content in excess of 0.2	:	1.5	0.75	: 3
Molybdenum content in excess of 0.1 percent (607.02)	:	35	17.5	: : 65
Tungsten content in excess of 0.3 percent (607.03)	:-:	50	25	: : 72
percent (607.04)	-:	40	20	100

(Cents	per	pound)

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Domestic Producers

Producers of stainless steel and alloy tool steel are often referred to as specialty steel producers. While the great bulk of their production is represented by the articles under investigation, they also produce a wide variety of silicon electrical steels, magnetic materials, high-temperature and high-strength metals, valve and bearing steels, super alloys, and other exotic metals, as well as the bearing steel, chipper knife and band-saw steels previously subject to quotas but removed from quotas as a result of Presidential Proclamations since June of 1976.

Most domestic producers manufacture a narrow product line dividing their operations into a flat-rolled division, producing plates, sheets, or strip, and a bar-and-rod division, producing either stainless bars and rods, alloy tool steel bars and rods, or both. Currently, 22 domestic firms produce stainless steel or alloy tool steel; 11 of the firms produce only stainless steel, 5 produce only alloy tool steel, and 6 produce both. Most producers are located in the northeastern region of the United States, principally in Pennsylvania. 1/

Allegheny Ludlum Steel Corp., a division of Allegheny Ludlum Industries, and Crucible Specialty Metals, a division of Colt Industries, Inc., are, by far the largest domestic producers of stainless steel, accounting for *** percent of total production in 1978. Bethlehem Steel Corp. is the largest domestic producer of alloy tool steel. 2/

> Effects of Specialty Steel Quotas and the Orderly Marketing Agreement With Japan on the U.S. Market

Analysis of the quota program

<u>Import levels.</u>--The specialty steel quotas affected both the overall level of imports and the relative share of the U.S. market held by supplying countries. The quotas caused a 5-percent reduction in imports during the first quota year. However, subsequent quota increases have resulted in imports for 1978 being at approximately the same level which prevailed prior to quota implementation. The quotas essentially froze each supplying country's share of the U.S. market and allowed U.S. producers to increase their market share as consumption steadily increased from 1976 to 1978. At the same time, the quotas protected the U.S. market from the impact of substantial new foreign specialty steel capacity.

The quota levels by country or groups of countries and an analysis of the actual imports against these levels are shown in tables 2-7.

 $\frac{1}{2}$ A list of domestic producers is presented in app. C.

2/ Supplemental information on producer's individual product lines and industry production techniques can be found in <u>Stainless Steel and Alloy Tool</u> <u>Steel: Report to the President on Investigation No. TA-201-5...</u>, USITC Publication 756, pp. A-10 to A-13.

_	Quota year							
Item	lst (1976-77)	2d (1977-78)	:	3d <u>1/</u> (1978-79)				
All countries:	:		:					
Quota limit (tons):	147,013	151,511	:	93,039				
Imports (tons):	138,266	147,551	:	77,572				
Short fall (tons):	8,747	3,960	:	15,467				
Imports as a percent of limit:	94.1	97.4	:	83.4				
		:	:					

The aggregate quota limits, imports charged against the quotas, and percent of quotas filled are shown in the following tabulation:

The following tabulation details the percentage of total quota filled on both a product line and country basis (in percent):

:	Percent of quota filled							
Thom :	by quota year							
I Cem :	lst	: 2d	: 3d 1/					
	(1976-77)	: (1977-78)	<u>: (1978–79)</u>					
:		:	:					
Product line: :		:	:					
Stainless steel: :		:	:					
Sheets and strip:	93.4	: 99.9	: 82.7					
Plates:	78.8	: 77.1	: 59.2					
Bars:	95.0	: 97.2	: 90.9					
Rods	100.0	: 99.6	: 92.6					
Tool steel:	99.7	: 99.8	: 84.9					
Total::	94.1	: 97.4	: 83.4					
Country or group: :		:	:					
Japan	92.9	: 97.5	: 82.1					
EC	91.8	: 96.8	: 100.0					
Canada	97.0	: 98.2	: 72.0					
Sweden:	99.2	: 97.2	: 66.5					
Other	94.8	: 97.7	: 97.4					
Total::	94.1	: 97.4	: 83.4					
:		:	:					

1/ First 6 months.

Factors responsible for the failure to fill completely the sheets and strip and bars product categories relate primarily to shipment sizes, 1/ storage costs, and lack of knowledge on the part of certain foreign suppliers

1/ Certain products, such as sheets, are shipped in coils of 10 tons each which cannot be cut to fill the remaining available quota.

as to when a product quota would be filled. In the case of stainless steel plates, however, weakness in domestic demand appears to have been a primary consideration.

Storage costs and lack of knowledge as to when quotas would be filled are interrelated considerations which have had their greatest impact upon the EC and "other countries" categories. Without knowledge of the amount of the product shipped by each supplying country within these categories, suppliers are required to weigh the advantages of having their shipments presented for formal entry into the United States 1/ against the disadvantages of having them arrive only to find the quota filled. In the latter instance, the product is placed in bonded warehouses and the titleholder incurs costs associated with storage until such time as the product is allowed entry.

<u>Import market shares.</u>--The stabilizing effects of the specialty steel quotas can be seen by examining imports by product line and by country, as shown in tables 8-13. Japan, the largest U.S. supplier of stainless steel, ranged in the 1970-75 prequota period from a high of 68 percent of total imports in 1970 to a low of 37 percent in 1973. During 1976-78, Japan's share of total imports averaged 51 percent, with a variance of only 1 percent during that period. A similar consistency in other countries shares of total U.S. imports can be seen during the quota period. However, comparison of the stabilizing effects of the quota is less dramatic for these countries because of their relatively small shares.

Special quota problems

The specialty steel quota program has created a number of changes in trends and patterns of supply and distribution both here and abroad. Domestically, the quotas have caused distortions in normal supply patterns and product availability problems for certain consumers. Internationally, suppliers have, in some cases, changed the product mix of their exports to the United States.

Distortions in normal supply pattern. -- The most apparent problem created by the imposition of specialty steel quotas is the rush by foreign suppliers to fill quickly a substantial percentage of their quota at the start of the quota year. The most recent example of this situation occurred during April-June 1978, when almost 56,000 tons of specialty steel were imported. This 3-month import level was almost double the amount imported in the other three calendar quarters of 1978. A substantial portion of this increase in imports entered during the last 2 weeks of June, the start of the third quota year. A contributing factor to the increase in imports was the reallocation of unfilled second year quotas to countries which had material stored in bonded warehouses for entry at the beginning of the third quota year.

1/ Imports can be unloaded at U.S. ports without being formally entered. Such imports are placed in bonded warehouses and are not counted against the quota until presented to customs for formal entry. Individual supplier country problems. -- The quotas have adversely affected imports from certain countries, particularly smaller source countries with relatively new production facilities, such as Finland (sheets and strip), the Republic of Korea (Korea) (bars), Brazil (bars), Argentina (tool steel), and Spain (bars). In most cases these countries did not begin to export the subject articles to the United States until late in the 5-year 1971-75 period generally used to determine quota levels. Thus, quota allocations did not take into account the annual export potential of countries that had only recently entered into the U.S. market, forcing them to compete for the relatively small "other countries" quota.

In addition, the President did not establish individual country quotas for member nations of the EC. Consequently, the EC was provided the opportunity of either allocating quotas for its members or allowing each member country to compete for its share of the EC quota. The EC chose the latter course, and, as a result, quotas on certain product categories have been rapidly filled as each country has attempted to maintain at least its traditional market share. At the start of the second quota year on June 14, 1977, quotas for the EC on rods and alloy tool steel were filled in 1 to 4 days. In the third quota year starting June 14, 1978, the EC filled all product category quotas very rapidly. Similar problems have been encountered by those countries competing for the "other countries" quota. Counsel for foreign manufacturers from both the EC and "other countries" requested that the Commission recommend separate country breakouts for their clients if the quotas are to be extended. 1/ The EC, however, has declined to intervene officially in the question of whether or not the EC quota should be allocated.

U.S. consumer quota problems. -- The surge of imports at the beginning of each quota year has caused consumers of the articles under quota to make adjustments which reportedly reduce the competitiveness of their end products with similar imported articles in the domestic marketplace. Consumers' inventories of specialty steel raw materials have sharply increased; this, in turn, increases financing and storage costs. The uncertain availability of an even flow of imports during the quota year forces the consumers to make purchasing decisions which result in raw material inventories of specialty steel which either exceed or fall short of the demand for their end products.

There are also indications that foreign suppliers have upgraded their product mix to export as many high-valued products as possible, to maximize their earnings on quota-restrained articles, and to dampen the impact of quota categories which are rapidly filled. This upgrading of product mix has led to a reduction in their exports to the United States of steels used in the manufacture of cutting blades, one of the many items exported to the United States as alloy tool steel. As a result, some consumers of this product buy higher priced tool steels from domestic sources; and U.S.-produced knives, their end products, are less competitive with imported knives. The difficulty experienced by certain tableware manufacturers in obtaining sufficient stainless steel in the grade 400 series is a further example of product upgrading and its effect upon stainless steel consumers. A similar situation appears to be occurring in the case of independent producers of stainless

1/ See hearing transcript, pp. 309-310, 340-341, 347, 352-354, 389-392, and 448.

steel pipe and tube. These producers often must bid on pipe and tube production contracts without any certainty that the necessary raw material (stainless steel sheets and strip) will be available because of the quotas. The availability of domestically produced sheets and strip for the independent pipe and tube producers is limited by the fact that the sheets and strip producers also manufacture stainless steel pipes and tubes and therefore internally consume substantial quantities of sheets and strip and compete with the independent pipe and tube producers in marketing the end products. 1/

A change in product mix has also occurred wherein the foreign supplier of specialty steel items under quota reduces exports of these items and increases exports of end products made from specialty steel. The U.S. stainless-steelwire-producing industry has been severely affected by this response from foreign suppliers. Wire is drawn from stainless steel rods, which are under quota. The annual rod quota has rapidly been filled, yet there is some indication that rod consumers have been unable to obtain sufficient raw materials. In addition, wire imports have increased, and price increases of imported wire have not kept pace with the price increases for imported rods. The result is that the U.S. stainless-steel-wire-producing industry is caught between tight supplies and rising prices of its raw material, which is under quota, and increased availability and more favorable prices of the imported end product, stainless steel wire, which is not under quota.

Information developed in previous Commission section 203 investigations has led to the eventual elimination of certain types of steel from the quota program. These steels include alloy tool steel grade 52100 (bearing grade), alloy tool steel for band-saws (RM81), and alloy tool steel for chipper knives. Information developed during this investigation has raised the possibility that an additional type of steel, stainless steel sheets (grade 420) used in making certain types of knives, may also warrent exclusion from the quotas. Limited domestic production and consumption and requirements for unusual sizes and shapes are factors common to grades 420 and 440A sheets and other types of steel previously excluded. 2/ The Commission has also received requests from importers and consumers of various grades of speciality steel asking for exemption of their products from any extended quota system. Requested exemptions included all grades of tungsten tool steel, ground flat stock and drill rod in AISI grade Ol, prefinished tool steel in AISI grades 01, D2, and A2, 3/ colored stainless steel, 4/ and certain solid high-speed tool steel grade M2, intermediate high-speed tool steel in grade HM1. 5/

A final problem which has resulted from the quotas concerns small U.S. distributors which import limited quantities of specialized stainless steel and alloy tool steel products. These distributors must compete with large importers in trying to clear customs before country and/or product quotas are

- 1/ See hearing transcript, pp. 294-299.
- $\overline{2}$ / See hearing transcript, pp. 327-337 and submission of Pacific Saw and Knife Co.
- 3/ See submissions of Mundix Metals Corp. and the Ground Flat Stock Export Association.
 - 4/ See submissions of Buskin Enterprises and Stainless Steel Surfaces Ltd.
 - 5/ Requested by the Henry G. Thompson Co., Branford, Conn.

filled. As discussed previously, in many cases, quotas are oversubscribed 1/ the first day of the quota year. In these instances, Customs only allows a fixed percentage of the tonnage presented for entry to enter. As a result those parties which have presented the largest initial entries are permitted to enter the largest quantities under the quota. Small companies may actually receive an allocation but may be unable to use it because their shipment cannot be broken down into small enough lots to fit Customs' allocations. These companies have proposed a number of solutions to this quota problem, such as an exemption of the quota for small quantities--small entries being allowed full 100-percent entry even when the quota is oversubscribed--and full entry of an order if it cannot be broken down to meet the allowable entry tonnage.

Producers' efforts to compete with imports

The stainless steel and alloy tool steel producers have made a number of substantive changes in recent years, many of which occurred subsequent to the granting of import relief on June 14, 1976. These changes are evident in various aspects of their operations, including organizational structure, implementation of more efficient technology, and increases in capital expenditures. The industry and individual firms report that these changes have been made to increase their competitiveness with imports; however, it is apparent that many of the changes have also enhanced the competitiveness of domestic firms with each other.

<u>Organizational changes.</u>--One of the most dramatic organizational changes occurred on August 2, 1976, when Allegheny Ludlum Steel Co. sold its Bar Products Division to a group of the division's management employees for \$25 million, a figure reportedly far below either book or replacement value. The new company--Al Tech Specialty Steel Corp.--appears to have benefited from its status as a separate company by operating with lower costs and more flexibility as a result of direct managerial control. In addition, the subject sale allowed Allegheny Ludlum to concentrate its remaining assets and management on flat-rolled stainless products. Thus, Allegheny Ludlum appears to have improved its competitive position in flat-rolled products as the result of the sale while also establishing a viable new domestic steel producer.

On December 7, 1976, Jones & Laughlin Steel Corp. announced that it would no longer produce stainless steel bars, rods, and wire in order to concentrate on flat-rolled stainless steel products. The company cited low-priced imports, and increased labor, raw material, and energy costs as reasons for its action. Approximately 550 job opportunities were affected by the firm's decision. Elimination of the above-mentioned product lines contributed to improvement in the profitability of Jones & Laughlin's remaining stainless steel operations and indirectly contributed to improvement in the financial performance of other U.S. firms producing the discontinued items.

1/A quota is oversubscribed when the total tonnage of steel presented for formal entry exceeds the available quota.

Other firms in the industry, such as Armco, Republic, and McLouth, have consolidated their specialty steel operations into separate divisions, permitting increased coordination and the ability to respond more readily to changing market conditions.

In addition to changes described above, most firms have improved their product mix by eliminating seldom ordered products and converting customers of such products to more standard items through increased customer education of the new products' engineering applications. The industry has further adjusted its production capacity in both the melting and manufacturing areas. McLouth Steel has eliminated its stainless steel melt facility and has begun to purchase hot-rolled stainless steel sheets for rerolling with a net reduction in total manufacturing costs. The sale of excess hot-rolled stainless steel sheets by the supplying company has also benefited this concern by increasing its capacity utilization rate and thus lowering fixed costs per unit of steel shipped. A large reduction in the capacity of one alloy tool steel producer (Bethlehem Steel) resulted in a significant writeoff in 1978, but will eliminate the carrying cost penalties to future earnings of this unused capacity.

Further examples cited by U.S. producers concerning their efforts to compete with imports include the construction of a consolidated and expanded shipping facility by Carpenter Technology in November 1977. Another firm, Eastern Stainless Steel Co., announced plans in early December 1978 to spend \$22 million rebuilding and modernizing a seldom used rolling mill and installing supporting equipment. This project will allow the company to enter new markets for light gauge plate and heavier gauges of sheets and strip. The company hopes to add \$40 to \$45 million a year in additional sales through this incremental expansion. These changes, as well as those previously described, have contributed to the improvement in the financial health of the industry as a whole.

<u>Technological changes</u>.--Increased use of the Argon-Oxygen-Decarburization process (AOD) for stainless steel production represents an example of industry investment in technology, reportedly taken to compete with imports. The industry has increased its use of AOD-type technology from less than 60 percent of tonnage produced in 1975 to more than 90 percent in 1977. Increased utilization of AOD technology has resulted in substantial savings in industry operating costs. In addition, investments have been made by numerous U.S. firms in new continuous casting systems, in new computer controls for production processes, in the development of a new, more economical dolomite refractory brick, and in new induction heating for stainless steel slabs. The industry also reports increased use of scrap, flue dust, grinding swarf, and mill scale, previously considered waste products, as new raw material for future melts.

In June 1978, Carpenter Technology began production at a new shaped bar and wire facility. This plant produces a bar/wire product shaped to customers' wishes. According to the company, there is an increasing demand from customers for such "new shaped forms." According to Carpenter, these new products allow the customer to achieve savings in material and energy costs and in intermediate processing operations, such as the machining of conventional bar steel to achieve the same shaped forms.

Capital expenditures. -- Implementation of the operating improvements previously discussed has required substantial capital expenditures. These expenditures are shown in the following table for the period 1974-78 and budgeted for 1979. Total capital expenditures averaged \$87.2 million per year in the 1974-76 prequota period and \$84.9 million per year for the 1977-79 quota period. This latter figure represents about a 3 percent decrease. Background discussions with domestic producers and hearing testimony indicated that from 30 to 42 percent of the capital expenditures made during the guota period, however, would not have been made without the existence of the quota program. 1/ The higher investment in the prequota period, particularly in 1976, was due to the industry's conversion to the AOD process and substantial expenditures to comply with environmental regulations. The increased expenditures on building and leasehold improvements in 1978 are characterized by the industry as a prerequisite to increased machinery and equipment expenditures in 1979. Such expenditures may well result in increased production capacity.

Stainless steel and alloy tool steel: U.S. producers' capital expenditures for facilities used in the manufacture, warehousing, and marketing of stainless steel and alloy tool steel, 1974-78 and budgeted figures for 1979

Item :	1974	1975	1976	1977	1978	: Budgeted : 1979
	:		:	}	•	•
improvements:	: 563 :	567	795 :	1,147	: 2,073	: : 954
Building and :	:		: :		:	:
leasehold :	:		: : : : :		:	:
improvements:	7,227 :	6,723	: 9,493 :	4,443	: 14,271	: 12,225
Machinery, equip- :	:				:	•
ment, and :	•		: :		:	:
fixtures:	59,522 :	55,670	: 86,861 :	62,557	: 57,805	: 71,225
Environmental :	:	:	: :		:	:
expenditures:	13,854 :	7,998	: 12,305 :	14,702	: 8,670	: 4,628
Total:	*81,166 :	70,958	: 109,454 :	82,849	: 82,819	: 89,032
:	:		:		.	:

(In thousands of dollars)

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

According to industry spokesmen, a high level of capital expenditures will not be sustained without further improvement in the industry's earnings and rate of return. 1/2/ The expenditures shown in the preceding table are equivalent to 33 percent of the industry's net operating profit in 1974, 133 percent in 1975, 163 percent in 1976, 75 percent in 1977, and 41 percent in 1978. 3/

 $\frac{1}{2}$ See hearing transcript, pp. 104-105, 117-119, 157, 193-195, and 210-212. $\frac{2}{2}$ Commissioners Alberger and Stern believe that in order to present a balanced view of the industry's capital expenditure position, it should be pointed out that capital expenditures are going to be leveling off since environmental regulations have been complied with and the AOD process conversions completed. Environmental expenditures declined by 30 percent since 1976 while machinery and equipment expenditures declined by almost 33 percent. There may be a short term rise in capital expenditures for modernization of finishing operations, but these expenditures should not approach earlier expenditures in either amount or duration.

3/ The net operating profit for the industry amounted to \$244.3 million in 1974, \$53.4 million in 1975, \$73.4 million in 1976, \$135.3 million in 1977, and \$202.7 million in 1978.

Recent Trends in the U.S. Market

Domestic market conditions

<u>Demand factors.</u>--The demand for stainless steel and alloy tool steel is derived from the demand for the end products in which such steels are used, such as automobiles, machinery, industrial equipment, appliances, electrical equipment, food processing equipment, utensils, cutlery, LNG tankers, tools, dies, and other durable goods. The automotive market, one of the largest, has also been one of the fastest growing markets.

The durability of many articles made from stainless steel is a factor that permits discretion in the timing of purchases of replacement articles; consequently, cyclical fluctuations in the overall U.S. economy usually result in changes in demand for stainless steel articles which are much sharper than the changes that are applicable to nondurable goods and to most other types of durable goods. Furthermore, cyclical declines in the demand for stainless steel and alloy tool steel have been of longer duration than the declines generally experienced by other types of durable goods industries.

Aggregate market data. -- The cyclical nature of the specialty steel industry can readily be seen by examining the data presented in table 14. Two distinct cycles can be observed. The first upward cycle began in 1970 and ended in 1974, with total apparent U.S. consumption of specialty steel increasing in each year of the cycle. After a decline in apparent U.S. consumption in 1975, <u>1</u>/ the industry resumed its long-term growth by experiencing an increase in consumption in 1976, 1977, and 1978. Apparent consumption in 1978 was only 1.2 percent less than the record high in 1974. U.S. producers' shipments followed exactly the same trend as outlined above for aggregate apparent U.S. consumption (table 14).

Aggregate U.S. exports have exhibited no apparent trend over the 9-year period, 1970-78. U.S. imports however, increased from 1970 to 1971, declined in 1972 and 1973, and then increased in each of the next 3 years, 1974-76. The import restraint program, resulting from the Commission's section 201 determination, was implemented on June 14, 1976. At least partly as a result of the program, imports fell in 1977, the first full year under this program, and increased modestly (as permitted under the restraint program) in 1978.

The following table presents annual changes in U.S. producers' shipments, U.S. imports, and apparent U.S. consumption; data for the two cyclical periods 1970-74 and 1975-78 are also shown.

1/ The downward cycle actually began in the second half of 1974; recovery did not begin until the second half of 1976.

A-20

	: Pr : sh:	oducers' ipments	:	Imp	001	rts	:	Consu	ımp	tion
Period	: Quantity	:Percentag	e:	Quantity	:1	Percentage	:	Quantity	:P	ercentage
	: change	: change	:	change	:	change	:	change	:	change
	: <u>1,000</u>	:	:	1,000	:		:	1,000	:	
	short ton	s :	:	short tons	3:		: 5	short tons	3:	
	:	-:	:		-:		:		:	
1971 over 1970	: 28.7	: 4.4	:	16.1	:	11.2	:	71.8	:	10.0
1972 over 1971	: 141.0	: 20.7	:	-36.6	:	-22.9	:	104.1	:	13.1
1973 over 1972	: 270.1	: 32.9	:	-7.2	:	-5.8	:	235.4	:	26.2
1974 over 1973	: 172.7	: 15.8	:	35.2	:	30.4	:	192.0	:	16.9
1975 over 1974	-520.4	: -41.2	:	2.6	:	1.7	:	-474.6	:	-35.8
1976 over 1975	: 249.6	: 25.1	:	13.2	:	8.6	:	250.6	:	29.5
1977 over 1976	: 63.5	: 6.4	:	-25.5	:	-15.3	:	41.7	:	3.8
1978 over 1977	: 151.2	: 14.3	:	17.9	:	12.6	:	166.3	:	14.6
Cyclical period:	:	:	:		:		:		:	
1970-74	: 612.8	: 94.1	:	7.5	:	5.2	:	603.3	:	83.6
1975-78	: 464.3	: 62.4	:	5.5	:	3.6	:	459.0	:	54.0
	:	:	_:	· · · · · · · · · · · · · · · · · · ·	:		:		:	

Stainless steel and alloy tool steel: Changes in U.S. shipments, imports, and apparent consumption, 1970-78, and cyclical periods 1970-74 and 1975-78

As shown in the preceeding table, during the first cycle (1970-74), there were large increases in both aggregate U.S. consumption (603,300 tons or 83.6 percent) and shipments (612,800 tons or 94.1 percent) of specialty steel as the U.S. economy expanded. In contrast, U.S. imports during 1970-74 grew only slightly (7,500 tons or 5.2 percent). The growth in consumption ended in 1974; with the biggest 1 year decrease in consumption (474,600 tons or 35.8 percent) and shipments (520.400 tons or 41.2 percent) ever experienced by the specialty steel industry occurring in 1975. In this year, imports again acted contrary to the overall trend by increasing slightly (2,600 tons or 1.7 percent). This aberration in imports was due in part to the arrival of steel ordered before the downturn became apparent and the efforts of foreign producers to dispose of their output in a market that was still relatively healthy. The second cyclical period (1975-78) resulted in almost identical percentage changes in shipments, imports, and consumption as had occurred in the first cycle after adjusting for the length of the first and second cycles.

Aggregate data on shipments, exports, imports, and consumption by quarter for the period 1976-78, when import restraints were in effect, are also shown in table 14. In almost every quarter, shipments and consumption increased when compared with those in the same quarter of the preceding year. Quarterly comparisons of U.S. imports are not meaningful, however, because of the distortion effects of the quota program.

Individual product line data. -- Aggregate data on U.S. producers' shipments, exports, imports, and apparent consumption of the stainless steel articles subject to import restraint are shown in table 15. The value of U.S. producers' shipments alone are shown in table 16. The trends shown in these data are discussed in the preceding section. Tables 17-21 show similar data by product line, for stainless steel sheets and strip, stainless steel plates, stainless steel bars, stainless steel rods, and all forms of alloy tool steel. All product lines except stainless steel plates followed the overall cyclical trends with only minor exceptions. Domestic producers' stainless steel plate shipments and U.S. consumption, in contrast to the overall trend, declined in both 1971 and 1976. The construction and capital goods industries, the principal consumers of plates, lagged behind the growth in the overall economy in both of these years.

The following tabulation displays the average distribution of U.S. shipments, imports, and apparent consumption by product line in relation to the total of all product lines (in percent):

:	Average 1970-78 distribution of										
Product -	Producers' shipments	:	Imports	:	Apparent consumption						
:		:		:							
Stainless steel: :		:		:							
Sheets and strip:	65.8	:	50.0	:	63.0						
Plates:	9.6	:	8.8	:	9.6						
Bars:	14.2	:	15.5	:	14.5						
Rods:	1.8	:	11.5	:	3.2						
Total:	91.4	:	85.7	:	90.4						
Alloy tool steel:	8.6	:	14.3	:	9.6						
Tota1:	100.0	:	100.0	:	100.0						
:		:		:							

Capacity and capacity utilization 1/

<u>Capacity</u>.--Total capacity to melt stainless steel and alloy tool steel 2/ was virtually unchanged in 1978 (2,497,600 tons) compared with the capacity in 1970 (2,461,200 tons), representing an increase of only 1.5 percent (table 22). The two components of the total figure (stainless steel and alloy tool steel) moved in opposite directions during this period. Stainless steel capacity increased from 2,168,200 tons in 1970 to 2,276,500 tons in 1978, after peaking at 2,480,000 tons in 1977, an increase of 108,300 tons or 5 percent from 1970 to 1978. The decline in capacity in 1978 resulted from the removal by McLouth Steel of a large facility from the production of stainless steel in that year. In contrast, alloy tool steel capacity gradually declined over the period from 293,000 tons in 1970 to 221,100 tons in 1978, or by 71,900 tons or 24.5 percent. Almost half of this decline in capacity came in 1978, when Bethlehem Steel removed part of its melt shop from alloy tool steel production.

Stainless steel plate rolling capacity increased in every year during 1970-78, from 162,000 tons in 1970 to 262,000 tons in 1978, an increase of 100,000 tons or 61.7 percent. Stainless steel sheet and strip rolling capacity increased from 969,000 tons in 1970 to 1,214,000 tons in 1978, or by 245,000 tons or 25.3 percent.

Capacity to manufacture stainless steel rods and bars rose from 1970 to 1974, and then declined irregularly through 1978. In 1978, rod capacity was about 13,400 tons or 19.4 percent below its 1970 level, and about 18,500 tons or 24.9 percent below its peak 1974 level. Stainless steel bar capacity in 1978 was higher than the 1970 capacity figure by about 8,900 tons or 5.1 percent. The 1978 bar capacity was about 184,600 tons, 9 percent below its 1974 peak. Alloy tool steel capacity was almost unchanged from 1970 through 1977. In 1978, however, alloy tool steel capacity declined over 26 percent with the partial closing of Bethlehem Steel's rolling facilities.

The data on annual plant capacity just discussed cover the estimated annual tonnage that can be produced as of the end of each calendar year. They do not reflect the improvements to capacity in place which may not add to overall tonnage that can be produced but do increase potential yields and productivity per unit of input.

<u>Capacity utilization</u>.--Data on capacity utilization are presented in table 23. In almost all cases, annual capacity utilization figures for all product areas followed the cyclical pattern discussed earlier, i.e., increasing from 1970 to 1974, declining in 1975, and then increasing again from 1976 to 1978.

<u>l</u>/ Rolling and manufacturing capacities are difficult to measure in the specialty steel industry because the type of product produced varies depending upon the level of demand. In its questionnaire to the industry, the Commission defined capacity as "maximum sustainable output." Thus, the data obtained is most useful in determining capacity trends rather than actual capacity to produce.

2/ Capacity to melt equals the total tonnage of molten stainless and alloy tool steel before it is poured from the furnace.

The following table summarizes capacity utilization rates for the 9-year period 1970-78, the two cycles 1970-74 and 1975-78, the prequota period January 1970-June 1976, and the quota period July 1976-December 1978.

Stainless steel and alloy tool steel: U.S. capacity utilization by types of product, 1970-78, and, by specified periods, January 1970-December 1978

		(In p	eı	rce	ent))							
	:	Melt ca	pa	ac	ity	u	tili	zation	:	Rollin uti	ng 11i	capac zatio	ity n
Period	: :S	tainles	s	A t	1103 001		Sta and tool	inless alloy	:	Stain- less	:	Stain ste	less el and
	:			s	tee	:	t	otal	:	plates	:	str	ip
Average:	:		:	:		:			:		:		
1970-78	-:	67		:	50	:		65	:	45	:		61
1970-74	-: -:	67		:	50 49	:		65 65	:	42 48	:		67 65
January 1970-June 1976	-:	67 71		:	45 51	:		65 68	:	44 45	:		61 66
	:		Pı	roe	duct	<u> </u>	utilizal	io	n	00			
	:	Stain steel	1e 1	esa	s 1s	::	Sta ste	inless el bar:	; ;	A1 stee i	loy 1, for	tool all ms	
Average:	:					:			:				
1970-78	-:				61	:		69 71	:				62
1975-78	-: -:				67 53	:		68	:				69 54
January 1970-June 1976	-:				61 55	:		66 71	:				60 57
July 1970 December 1970	:				55	•		, 1	;				,,

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

U.S. production

Annual data for the period 1970-78 and quarterly data 1976-78, by product line, are shown in table 24. These data differ only slightly from the shipment trends discussed earlier. However, for two product lines, stainless steel sheets and strip and stainless steel rods, the volume of production consistently exceeded the volume of shipments. Over this period stainless steel sheet and strip production averaged 651,400 tons annually, or about 25,200 tons or 4 percent more than shipments. Stainless steel rod production averaged 41,800 tons annually. This figure is 17,800 tons or 35 percent greater than average annual shipments during the corresponding period. The small excess in stainless steel sheets and strip production compared with shipments resulted in a gradual increase in producers' inventories. The large difference between stainless steel rod production and shipments can be explained by the internal use of rods by integrated producers to make wire.

U.S. exports

Total U.S. exports, as shown in table 14, averaged 61,700 tons a year over the period 1970-78. This is equivalent to 6 percent of average annual U.S. production and consumption during this period and includes exports by traders, service centers, and U.S. producers. Aggregate exports by U.S. producers alone are shown in table 25. During 1970-78, U.S. producers' exports averaged 31,200 tons annually, or about 51 percent of total annual exports. During 1976-78, exports remained relatively stable at an annual average of 31,200 tons.

Inventories

<u>U.S. producers.</u>--Data on U.S. producers' inventories for the first day of each quarter from January 1, 1974, to January 1, 1979, are shown in table 26. These data are summarized in the following table.

Stainless steel and alloy tool steel: U.S. producers' inventories, by types, as of Jan. 1 of the years 1974-79

			<u>, </u>			<u> </u>			_					
As of Jan. 1 of	:	Total, stainless	:			:	: : Alloy tool							
	:	<pre>: steel and : :alloy tool :</pre>		Sheets	:		:		:	:		:	steel,	
	:			and	:Plates:		Bars:		Rods:	Total	:	all forms		
	:	steel	:	strip	:		:		:	:		:		
	:		:		:		:		:	:		:		
1974	-:	343	:	188	:	29	:	49	:	6:	272	:	71	
1975	-:	346	:	166	:	40	:	57	:	7:	269	:	77	
1976	-:	307	:	178	:	36	:	30	:	5:	249	:	58	
1977	-:	345	:	213	:	40	:	31	:	5:	289	:	56	
1978	-:	363	:	223	:	32	:	52	:	6:	313	:	50	
1979	-:	411	:	254	:	37	:	51	:	8:	350	:	61	
	:		:		:		:		:	:		:		

(In thousands of tons)

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

Producers' inventories were relatively unchanged during 1974 and 1975 and then declined slightly in 1976. Total inventories increased by about 34 percent from 1976 to 1979. Most of this increase (73 percent) was accounted for by increases in inventories of stainless steel sheets and strip. During this period producers' shipments of these products sharply increased and, in order to promptly serve their customers, producers increased their inventories accordingly. Inventories in terms of days' supply on hand are shown in the following table.

Stainless steel and alloy tool steel: Total days' supplies in U.S. producer's inventories, by types, as of Jan. 1 of the years 1974-78

		((\mathbf{I})	n days)							
	Total,		:	Alloy tool							
Jan. 1 of	stainless steel and alloy tool steel	Sheets and strip	3:	Plates	:	: Bars: :	Rod	:	Total	-: : :	steel, all forms
	: :	_	:		:	:		:		:	
1974	: 99 :	83	:	76 :	:	106 :	85	:	86	:	244
1975	: 170 :	138	:	133 :	:	186 :	241	:	146	:	395
1976	: 113 :	94	:	140 :	:	91 :	104	:	98	:	307
1977	: 119 :	107	:	148 :	:	81 :	79	:	107	:	301
1978:	: 110 :	99	:	111 :	:	124 :	87	:	101	:	246
:	: :		:	:	:	:		:		:	

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

Since 1974 and 1975 represent the high and low speciality steel shipment levels, respectively, for the 1970-78 period, the 1976-78 period average of 114 days supply on hand can be considered a more normal inventory position. The relatively large alloy tool steel inventories, however, are a result of the nature of production of alloy tool steel. Even though alloy tool steel is normally ordered in small quantities, the economies of scale for producers dictate that it be produced in runs that yield far more tool steel than required for immediate consumption.

U.S. importers.--Data on U.S. importers' inventories for the first day of each quarter from January 1, 1974, to January 1, 1979, are shown in table 27. These data are summarized in the following table.

Stainless steel and alloy tool steel: U.S. importers' inventories, by types, as of Jan. 1 of the years 1974-79

			(11	n thousa	in	ds of	t	ons)					
As of Jan. 1 of	:	Total, : Stainless steel : stainless : Stainless steel :									Alloy tool		
	:	steel and	:	Sheets	:		:		:	:		-:	steel,
Jan. 1 01	: :	alloy tool	:	and	:	Plates	5:	Bar	3:	Rods:	Total	:	all forms
	:	steel	:	strip_	:		:		:	:		:	
	:		:		:		:		:	:		:	
1974	:	19	:	2	:	1/	:	8	:	<u>1</u> / :	10	:	9
1975	:	28	:	5	:	- 1	:	11	:	.6 :	18	:	11
1976	:	45	:	6	:	2	:	22	:	2:	32	:	13
1977	:	38	:	5	:	2	:	16	:	1:	25	:	13
1978	:	32	:	5	:	.8	:	15	:	4:	24	:	8
1979	:	33	:	12	:	2	:	9	:	2:	25	:	8
	:		:		:		:		:	:		:	

1/ Less than 500 tons.

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

From 1974 to 1975, importers' inventories increased by approximately 50 percent. Between January 1 of 1975 and January 1 of 1979, however, importers' inventories remained relatively unchanged. Total importers' inventories averaged about 33,000 tons over the period 1974-79. By comparison, producers' inventories averaged 353,000 tons, about 11 times greater than importers' inventories. However, producers' shipments in the same period were about seven times greater than import shipments. The larger volume of producers' shipments and their desire to serve promptly their customers result in production levels which intentionally exceed demand resulting in inventory buildups. Importers' inventories in terms of days supply on hand are shown in the following table.

Stainless steel and alloy tool steel: Total days' supplies in importers' inventories, by type, as of Jan. 1 of the years 1974-78

As of	:	Total, stainless	:		:	Alloy tool							
	:	steel and	:	Sheets	:	. :		:				-:	steel,
Jan. 1 01	:	alloy tool	:	and	:1	Plates	:	Bars:	Ro	ds:	Total	:	all forms
	:	steel	:	strip	:		:	:				:	
	:		:		:		:	:		;		:	
1974	-:	45	:	8	:	12	:	100 :		3:	29	:	132
1975	-:	67	:	27	:	21	:	137 :	1	3 :	49	:	161
1976	-:	98	:	28	:	37	:	341 :	4	2 :	83	:	179
1977	-:	97	:	26	:	110	:	237 :	2	4:	76	:	217
1978	-:	73	:	21	:	26	:	196 :	7	9:	64	:	131
	:	•	:		:		:	:		:		:	

1/ Less than 0.5 days' supply.

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

Importers' traditionally hold less inventory than domestic producers resulting in significantly lower "days' supply on hand" rates. The years 1974 and 1975 represent high and low shipment levels for importers; a "normal" day's supply level is difficult to calculate for the 1976-78 period, however, because of distortions caused by the quotas. Importers' bar and rod inventories are generally higher in relation to other import items. This may be attributed, at least in part, to higher import levels in these product lines and much higher percentages of the quotas filled for those items--90.9 percent and 92.6 percent, respectively. The rapid increase in the days' supply of plates in 1977 is deceptive in that the inventory level remained unchanged from 1976 but shipments declined about 60 percent.

Unshipped orders

<u>U.S. producers.</u>--Data on U.S. producers' unshipped orders for the first day of each calendar quarter from January 1, 1974, to January 1, 1979, are shown in table 28. These data are summarized in the following table. Stainless steel and alloy tool steel: U.S. producers' unshipped orders, by types, as of Jan. 1 of 1974-79

			(1)	n chousa	an	ds or	<u> </u>	ons						
		Total, stainless	:		:	Alloy tool								
Jan. 1 of	:	steel and	:	Sheets	:		:	-	:		:		•	steel,
	:	alloy tool	:	and		:Plates:		Bars:		Rods:		Total	:	all forms
	:	steel	:	strip	:		:		:	:	:		:	
	:		:		:		:		:		:		:	
1974	-:	402	:	271	:	55	:	41	:	10 :	:	377	:	25
1975	-:	280	:	143	:	58	:	43	:	9 :	:	253	:	27
1976	-:	113	:	74	:	15	:	12	:	3 :	:	103	:	10
1977	-:	154	:	115	:	14	:	14	:	4 :	:	147	:	7
1978	-:	174	:	124	:	15	:	20	:	3 :	:	165	:	9
1979	-:	235	:	162	:	19	:	36	:	9 :	:	226	:	9
	:		:		:		:		:		:		:	

(In thousands of tons)

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

As the downturn in the overall U.S. economy took effect, many undelivered duplicate and triplicate orders placed by some consumers in 1974 in order to obtain adaquate supplies were canceled in 1975, dropping the level of unshipped orders by about 30 percent. Unshipped orders continued to decline in 1976 by another 42 percent. As the economy expanded over the next 2 years (1977-79), total unshipped orders grew in each year, increasing by about 53 percent for the entire period. Almost all of this growth was in stainless steel sheets and strip and bars, the largest product lines and the areas most affected by the expansion in demand.

U.S. importers.--Data on U.S. importers' unshipped orders for the first day of each calendar quarter from January 1, 1974, to January 1, 1979, are shown in table 29. These data are summarized in the following table.

> Stainless steel and alloy tool steel: Importers' unshipped orders, by types, as of Jan. 1 of 1974-79

		((Iı	n thousa	ano	ds of t	to	ons)					
As of	:	Total, stainless	:			Stain	1e		t	eel		:	Alloy tool
Ian lof	:	steel and	:	Sheets	:		:		:	:		:	steel,
Jan. 1 01	:	alloy tool	:	and	:1	Plates	:	Bars	::	Rods:	Total	:	all forms
	:	steel	:	strip	:		:		:	:		:	
	:		:		:		:		:	:		:	
1974	-:	32	:	8	:	4 :	:	7	:	7:	26	:	6
1975	-:	38	:	9	:	4 :	:	10	:	6:	29	:	9
1976	-:	21	:	9	:	4	:	2	:	4:	· 18	:	3
1977	-:	19	:	7	:	.6	:	3	:	4:	14	:	5
1978	-:	30	:	12	:	1 :	:	5	:	7:	25	:	5
1979	-:	23	:	11	:	1 :	:	4	:	5:	21	:	2
	:		:		:		:		:	:		:	

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

Unlike U.S. producers, importers normally cannot cancel orders once they are placed. Because of contractual obligations, importers' orders are usually much closer to their actual needs. Importers' unshipped orders, therefore, remained relatively unchanged through the 5-year period, 1974-79. Total importers' unshipped orders averaged about 23,000 tons annually during the period.

Lead times

U.S. producers.--Data on U.S. producers' lead times for the first day of each calendar quarter from January 1, 1974, to January 1, 1979, are shown in table 30 and summarized in the following table.
Stainless steel and alloy tool steel: U.S. producers' lead times from melt, by types, as of Jan. 1 of 1974-79

	(In	weeks)					
:		: Alloy tool					
As of Jan. 1 of : :	Sheets and strip	: : Plates :	:	Bars	:	Rods	: steel, : all forms :
: 1974:	13	: : 15	:	16	:	14	: 18
1975:	9	: 9	:	12	:	8	: 15
1976: 1977:	7 7	: 6	:	8 8	:	7 7	: 10 : 9
1978: 1979:	7 7	: 7 : 8	::	9 12	:	8 13	: 12 : 13

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

As of January 1 of 1974, U.S. producers' lead times for delivery from melt averaged about 13 weeks for sheets and strip, 15 weeks for plates, 16 weeks for bars, 14 weeks for rods, and 18 weeks for alloy tool steel reflecting the strong demand in that period. Lead times fell to more normal levels in 1975, 1976, and 1977. During these years lead times averaged about 7 weeks for sheets and strip, 6 weeks for plates, 8 weeks for bars, 7 weeks for rods, and 10 weeks for alloy tool steel. As increased demand in 1978 brought producers closer to their optimal utilization rates, lead times lengthened slightly for certain product lines. Average lead times for plates. bars, rods, and alloy tool steel all increased by 1 week. Lead times for alloy tool steel increased by 3 weeks. By January 1, 1979, lead times had increased again with rather sharp increases in bar and rod lead times. In addition to average lead times, the range reported by each company is also shown in table 30. Over the entire period surveyed, there was a considerable difference between the low and high reported lead times. In most instances, the low reported time was associated with the larger domestic producers. Such companies have the size and flexibility to adjust production schedules to changes in demand. Conversely, the highest reported lead times were usually associated with smaller domestic producers which, because of their smaller size, lack the flexibility to rapidly adjust their production.

<u>U.S. importers</u>.--Data on U.S. importers' lead times for the first day of each calendar quarter from January 1, 1974, to January 1, 1979, are shown in table 31 and summarized in the following table.

Stainless steel and alloy tool steel: U.S. importers' lead times for delivery from melt, by types, as of Jan. 1 of 1974-79

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	<u>(1n</u>	1	weeks)					_	
:		:	Alloy tool						
As of Jan. 1 of :	Sheets	:	D1 . t . c	:		:		:	steel,
	strip	:	Flates	:	bars	:	KOUS	:	all forms
:		:		:		:		:	
1974:	22	:	21	:	24	:	23	:	28
1975:	19	:	19	:	22	:	20	:	27
1976:	18	:	17	:	20	:	18	:	22
1977:	18	:	18	:	20	:	19	:	21
1978:	17	:	17	:	21	:	19	:	20
1979:	17	:	18	:	19	:	17	:	21
:		:		:		:		:	

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

As of January 1, 1974, the lead times for delivery from melt averaged about 22 weeks for sheets and strip, 21 weeks for plates, 24 weeks for bars, 23 weeks for rods, and 28 weeks for alloy tool steel. In contrast to the behavior of domestic producers' lead times, importers' lead times remained high through 1978. By January 1, 1979, lead times were lower than those that prevailed during the boom year of 1974 but still significantly longer than producer's lead times. The impact of the quotas, long ocean voyages and the associated delays on the importation of specialty steel from many countries are responsible for the longer lead times. As with the domestic producers there was a large difference in the range between the lowest and highest reported importers' lead times through the entire period 1974-79. An analysis of the importers' questionnaire responses reveals that in most cases lower lead times were associated either with a nearby supplying country, such as Canada, or with a country that had its own individual quota, such as Japan. The longer lead times were usually reported by those countries without any specific quota.

U.S. employment

<u>Total employment 1</u>/.--The average number of all persons employed in U.S. establishments producing stainless steel and alloy tool steel is shown in table 32. Employment was at its peak during the boom year of 1974, declined

<u>1</u>/ Employment data provided by questionnaire for this report begins in 1974. The original U.S. International Trade Commission investigation contained similiar data for 1970 to 1974. The earlier data, however, do not include all the producers that are included in the 1974-78 data. Despite this data problem, however, the increasing trend in employment shown in the 1970-73 data is still considered reliable.

sharply in 1975, and then increased in 1976, 1977, and 1978 for all categories under investigation, except alloy tool steel. In this category, total employment continued to decline in 1976 and 1977, before increasing in 1978. The decline in 1976 and 1977 alloy tool steel employment was primarily due to slow recovery in production in 1976 and 1977 and a year-long strike at one producer's facility in 1977.

<u>Production and related workers.--Data on employment of production and</u> related workers is shown in table 33. From 1970 to 1971, total average annual employment declined by about 1,058 workers (or by 6 percent) and then increased steadily to a peak of 23,824 workers in 1974. Employment dropped sharply in 1975, decreasing by 7,722 workers or 32 percent. Employment recovered in 1976, rising to 18,624 workers, or to a level about 22 percent below the peak 1974 level. Total employment remained relatively unchanged from its 1976 level in both 1977 and 1978. The principal reason for the decrease in employment in 1978 in comparison with employment in 1974, a year in which a similar volume of stainless steel was produced, was an increase in worker productivity.

Output per person-hour.--Using the data for person-hours worked shown in table 34 and the production data shown in table 24, the following table was compiled in order to measure the productivity changes in the specialty steel industry.

(1970=100)			
Period	Stainless steel	:	Alloy tool steel
1970:	100	:	100
1971:	108	:	116
1972:	125	:	123
1973:	129	:	128
1974:	133	:	132
1975:	117	:	122
1976:	150	:	120
1977:	145	:	126
1978:	155	:	147
•		:	

Indexes of output per person-hour for stainless steel and alloy tool steel, 1970-78

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

Productivity as shown in the preceding table, increased by about 50 percent for both stainless steel and alloy tool steel during 1970-78. The large decline in the index for stainless steel in 1975 was caused by the substantial cutback in production which occurred during that year. The decline in productivity occurred because employers were not able to furlough employees as fast as the production level declined. Conversely, productivity increased very rapidly in 1976 as employment grew at a slower rate than the gain in production. As production continued to expand in 1977, less experienced employees were hired and a small decline in stainless steel productivity resulted. The long-term growth in productivity in this industry resumed in 1978.

The increase in alloy tool steel productivity has been more modest than that of stainless steel. The relatively small total production, numerous grades, and quality-control inspection associated with the production of alloy tool steel contributed to this more modest growth rate. The 1978 increase in alloy tool steel productivity appears to be related to increased production which has not yet resulted in the need to hire more employees.

Prices

Average domestic and import prices for selected classes of stainless steel sheets and strip, bars, rods, and plates are presented on an annual basis for 1970-78 and on a quarterly basis for 1976-78 in tables 35 through 47. Although prices of all products have increased throughout the past 9 years, the rates of increases have varied significantly during different years and across product lines.

Over the long term, alloy tool steel prices have risen more rapidly than stainless steel prices. As shown in table 47, prices of alloy steel bars, grade 0-1 and high-speed bars have more than doubled since 1970. This has been partly the result of the sharp increase in the cost of alloys used in producing tool steel. In addition, since production of alloy tool steel is labor intensive, rising wage rates have also contributed significantly to the rise in production costs and prices. However, prices of stainless steel products are also sensitive to escalating cost pressures and have risen sharply over short periods during the past 9 years. This was particularly true during 1974, when inflationary pressures forced prices of all stainless steel products up by more than 20 percent from their year earlier levels. In the case of stainless steel bars, grade 416, the increase exceeded 40 percent. The data offer no evidence that the quotas on stainless steel and alloy tool steel imports have hastened the long-term rise in import and domestic prices. In fact, for most product classes the average annual rates of increase in prices have been lower since the quota went into effect than were during the 1970-76 period. 1/2/

Profit-and-loss experience

Total establishment operations. -- Net sales of establishments producing stainless steel and alloy tool steel, as well as other types of steel not covered by quotas, increased each year from 1970 to 1974. Over this period, net sales of all steel products produced in these establishments rose by 127 percent from \$1.1 billion in 1970 to \$2.5 billion in 1974 (table 48). Net

1/ See hearing transcript, pp. 63 and 81 and Department of Labor Staff Study: Price Behavior of Products under Import Relief.

2/ Commissioners Alberger and Stern note that because such factors as supply, demand, changes in productivity due to modernization, and scale of production may counteract or add to the effect of quotas, the data presented do not demonstrate how this import relief--standing alone--has affected price development. The ITC's Office of Economic Research critiqued the Department of Labor's Staff Study, <u>Price Behavior of Producers Under Import Relief</u>, and noted that this study did not account for the many other factors in addition to import relief which affect price during periods of protection. It is far too early to reach the conclusion suggested by the Department of Labor Study. sales declined to \$2.0 billion in 1975 or by 20 percent compared with sales in 1974. Over the next 3 years net sales rose annually, reaching a record \$3.1 billion in 1978.

Net operating profit before taxes earned on all steel products increased from \$29.4 million in 1970 to \$259.4 million in 1974, declined to \$80.5 million in 1975, and then increased in each of the next 3 years to a record \$286.4 million in 1978.

<u>Stainless steel and alloy tool steel.</u>--A summary of net operating profit or loss and return on sales (ROS) data contained in tables 49 and 50 is presented in the following table. These data are averaged for representative periods both with and without quotas.

	: :	Stainles	s steel	:	Stainless steel										tool
Deniel	: '	steel,	total	P1a	ites	Sheets an	nd strip	: B	ars	: Rod	ls	: Tot	:al	: ste :	:e1
Period	:	Net	:Return	: Net	:Return	: Net	:Return	: Net	:Return	: Net	:Return	: Net	:Return	: Net	:Return
	:0	perating	: on	:operating	;: on	:operating	g: on	:operati	ng: on	:operating	g: on	:operating	;: on	:operating	s: on
	: 1	profit	: sales	: profit	: sales	: profit	: sales	: profit	: sales	: profit	: sales	: profit	: sales	: profit	: sales
	: 1	Million	:	: Million	:	: Million	:	: Millio	n :	: Million	:	: Million	:	: Million	:
	:	dollars	:Percent	: dollars	:Percent	: dollars	:Percent	: dollar	s :Percent	: dollars	:Percent	: dollars	:Percent	: dollars	:Percent
	:		:	:	:	:	:	:	:	:	:	:	:	:	
1970-78	•:	99.5	: 6.2	: 10.9	: 8.6	: 59.3	: 6.5	: 15.	5: 4.2	: 0.01	: (3.5)	: 84.0	: 6.1	: 15.6	: 6.4
lst cycle:	:		:	:	:	:	:		:	:	:	:	:	:	: .
1970-74	••	86.2	: 5.9	: 8.3	: 12.7	: 59.1	: 6.4	: 13.	0: 2.9	: (.6)	: (7.9)	: 76.6	: 6.2	: 10.6	: 4.3
2d cycle:	:		:	:	:	:	:	:	:	:	:	:	:	:	1
1975-78	• :	116.2	: 6.6	: 14.1	: 8.0	: 59.5	: 5.4	: 18.	8: 5.8	: .8	: 1.9	: 93.2	: 6.1	: 23.1	: 9.0
Prequota:	:		•	:	:	:	:	:	:	:	:	:	:	:	: 7
1970-76	• •	79.7	: 5.4	: 12.3	: 12.3	: 47.1	: 5.0	: 10.	6: 2.7	: (.2)	: (5.1)	: 67.5	: 5.4	: 12.9	: 5.4
Quota period:	:		:	:	:	:	:	:	:	:	:	:	:	:	:
1976-78	• :	137.1	: 7.4	: 8.0	: 5.4	: 81.0	: 7.5	: 22.	7: 6.8	: .7	: 1.6	: 112.3	: 7.1	: 24.8	: 9.3
	:		:	:	:	:	:	:	:	:	:	:	:	:	:
Source: Compiled fro		data sub	mitted i	n response	e to ques	tionnaire	s of the	U.S. Int	ernational	l Trade Co	mmission.				•

Stainless steel and alloy tool steel: Average net operating profit or (loss) and average return on sales, by types, and, by specified periods, 1970-78

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Average industry net operating profits in the 1976-78 period were at a 9 year high for all forms of stainless steel and alloy tool steel with the exception of stainless steel plate. Operating profits as a percent of net sales were also at 9-year high level. The drop in operating profits experienced in plate production is attributable to the influx of new plate producers. The high startup costs of these new producers and the depressing effect of additional supply of plate on prices combined to restrict the growth of profits.

The following tabulation provides a comparison of return on sales for the total iron and steel industry and for stainless steel and alloy tool steel (in percent):

:	Return on sales								
Period :	Iron and steel, total	:	Stainless steel and alloy tool steel, total						
: 1970-78: 1st cycle, 1970-74: 2nd cycle, 1975-78:	3.5 4.0 2.9	::	6.2 5.9 6.6						
:		:							

Investment 1/ in stainless and alloy tool steel

As of yearend 1978, U.S. producers' investment in stainless steel and alloy tool steel on an original-cost, net-book-value, and replacement-cost basis totaled \$2.0 billion, \$1.1 billion, and \$3.7 billion, respectively (table 51). Based on replacement cost, stainless steel sheets and strip account for 57 percent of total industry investment; stainless steel bars account for 17 percent; alloy tool steel, 16 percent; stainless steel plates, 8 percent; and stainless steel rods, 2 percent.

Return on investment

Calculations of return on investment using net operating profits (table 49) and investment data (table 51) are shown in the following table. The operating-income figure used to calculate this return on investment was before income taxes, interest charges, or general corporate overhead. Consequently, these figures are larger than if net profit after tax figures had been used.

<u>1</u>/ Net assets employed include all assets associated with the production of stainless steel and alloy tool steel. These net assets include, but are not necessarily limited to, inventory, property, plant and equipment, accounts receivable, cash, and other assets. Average industry net operating profits in the 1976-78 period were at a 9 year high for all forms of stainless steel and alloy tool steel with the exception of stainless steel plate. Operating profits as a percent of net sales were also at 9-year high level. The drop in operating profits experienced in plate production is attributable to the influx of new plate producers. The high startup costs of these new producers and the depressing effect of additional supply of plate on prices combined to restrict the growth of profits.

The following tabulation provides a comparison of return on sales for the total iron and steel industry and for stainless steel and alloy tool steel (in percent):

:	Return on sales								
Period :	Iron and steel, total	:	Stainless steel and alloy tool steel, total						
: 1970-78: 1st cycle, 1970-74: 2nd cycle, 1975-78:	3.5 4.0 2.9	::	6.2 5.9 6.6						
:		:							

Investment 1/ in stainless and alloy tool steel

As of yearend 1978, U.S. producers' investment in stainless steel and alloy tool steel on an original-cost, net-book-value, and replacement-cost basis totaled \$2.0 billion, \$1.1 billion, and \$3.7 billion, respectively (table 51). Based on replacement cost, stainless steel sheets and strip account for 57 percent of total industry investment; stainless steel bars account for 17 percent; alloy tool steel, 16 percent; stainless steel plates, 8 percent; and stainless steel rods, 2 percent.

Return on investment

Calculations of return on investment using net operating profits (table 49) and investment data (table 51) are shown in the following table. The operating-income figure used to calculate this return on investment was before income taxes, interest charges, or general corporate overhead. Consequently, these figures are larger than if net profit after tax figures had been used.

<u>1</u>/ Net assets employed include all assets associated with the production of stainless steel and alloy tool steel. These net assets include, but are not necessarily limited to, inventory, property, plant and equipment, accounts receivable, cash, and other assets.

Item	Original cost basis	- Net s va	book lue	: E : r : p	Istimated replace- ment cost
	Total inve	estment	(1,000) d	iollars)
:		:		:	
Stainless steel:	1	:	:	:	
Sheets and strip;	: 1,150,539	: 64	9,715	: 2	2,103,060
Plates	179,919	: 11	7,848	:	309,163
Bars	311,448	: 19	0,308	:	615,628
Rods	30,089	: 1	6,937	:	86,308
Tota1;	1,671,995	: 97	4,808	: 3	3,114,159
Alloy tool steel:	303,504	: 16	5,041	:	612,130
Total;	1,975,499	: 1,13	9,849	: 3	3,726,289
:	Re	turn on	inves	tme	ent
		(perc	<u>ent) 1</u>	/	
Stainless steel:	8	:		:	
Sheets and strip	: 10.5	:	18.6	:	5.8
Plates	3.6	:	5.5	:	2.1
Bars	: 13.2	•	21.8	:	6.7
Rods	3.2	:	5.7	:	<u> </u>
Total	. 10.2	:	17.4	:	5.5
Alloy tool steel	10.8	:	19.9	:	5.4
Total	10.3	:	17.8	:	5.4
		•			

Stainless steel and alloy tool steel: U.S. producer's investment and return on productive facilities, by types, 1978

1/ The net profit figure used to calculate the investment ratios is profit before income taxes, interest charges, or general corporate overhead. Consequently, the profits are higher than if an after tax figure had been used.

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

Net asset data were provided to the Commission on an original-cost basis, and net-book-value basis, as well as at replacement cost (table 51). The use of replacement cost valuation in the calculation of the aforementioned ratios, however, affords the most stable assets measure. Both original cost and book value calculations are somewhat distorted by the effects of depreciation and the time period during which the investments were originally made.

Influences of price and volume changes on gross profit

In 1978, the U.S. specialty steel industry's gross profit totaled \$329.1 million as shown in the following table. Of that amount \$136.5 million, or 41 percent, can be attributed to either 1978 net price changes 1/ or volume

1/ Net price change is defined as increase (decrease) in cost of goods sold in relation to total sales.

increases. The difference or residual--\$192.6 million--would be the industry's underlying profit rate assuming there had been no net changes in prices or volume.

	:	: : Allov				
Item	:Sheets	3:	:	:		: tool
	: and :strip	:Plates :	: Bars :	: Rods	Total	: steel :
	:	:	:	:	:	:
Changes in U.S. producers' shipments:	:	:	:	:	:	:
Quantity1,000 tons	: 97.6	: 31.2	: 13.9	: 2.3	: 145.0	: 6.1
Percent	: 13.4	: 31.6	: 10.0	: 10.0 :	: 14.7	: 9.0
Change in U.S. producers'	:	:	:	:	:	:
net pricespercent	: 4.8	: (13.8)	: 9.7	: 2.8	: 3.2	: 23.4
Effects on gross profit attributable	:	:	:	:	:	:
to	:	:	:	:	:	:
Net price changes	:	:	:	:	:	:
million dollars	: 24.8	: (0.9)	: 5.9	: (0.4)	29.4	: 14.5
Increased volumedo	: 16.6	: 0.6	: 0.7	: 0.1	: 18.0	: 4.2
Volume-related cost	:	:	:	:		:
reductiondo	: 44.6	: 9.6	: 8.0	: 0.9	63.1	: 7.3
Residualdo	: 77.9	: 6.2	: 64.1	: 4.6	: 152.7	: 39.8
Total gross profit.	:	:	:	:		:
January-December 1978do	:163.9	: 15.5	: 78.7	: 5.2	263.3	65.8
-	:	:	:	: :		:

Stainless steel and alloy tool steel: Effect of price and volume increases or (decreases) on gross profit, 1978 over 1977

Source: Compiled from responses to questionnaires of the U.S. International Trade Commission.

The 1978 increase in U.S. producer's shipments of 151,100 tons (14 percent) generated \$92.6 million or 68 percent of the total change in gross profits. This latter figure is composed of the incremental increase in profits (\$22.2 million) from higher volume and related cost reduction from the effects of volume on fixed costs (\$70.4 million).

The net price changes in 1978 accounted for the remaining \$43.9 million or 32 percent of the total change in gross profits. In the case of two product lines, stainless steel plates and rods, this figure was negative. For stainless steel plate, net price changes resulted in a \$900,000 decrease in gross profit. For this product line, the decline in the selling price exceeded the decline in the cost of goods sold. The \$0.4 million gross profit decline for stainless steel rod was the result of cost of goods sold increasing at a faster rate than the increase in sales prices. For all other product lines, sales price increases exceeded increases in cost of goods sold. Only in the case of alloy tool steel did the change in gross profits generated by net price changes exceed those changes in gross profits generated by increased volume. Probable Economic Effect of Terminating Import Relief

The impact on the domestic specialty steel industry of terminating the import relief program will depend upon two principal factors:

- (1) the level and structure of U.S. domestic demand for specialty steel, and
- (2) the level of imports subsequent to termination of the quotas.

Other important factors include the level of demand for these products in markets outside of the United States, the relative prices of imported and domestically produced specialty steel, anticipated increases in imports from nontraditioned suppliers, and the ability of the domestic industry to meet any increased import competition in the absence of quotas.

Demand for specialty steel is derived from demand for the myriad of consumer, industrial, and capital goods into which it is incorporated. As a result of this characteristic, there is a close relationship between demand for specialty steel and such macroeconomic indicators as the Industrial Production Index. This comparison is refined somewhat in figure 1, on the following page, which shows the close relationship between the level of demand for specialty steel items, as indicated in the index of U.S. producers' shipments of stainless steel sheets and strip, and the Durable Goods Production Index.

The figure shows another important characteristic of the demand for specialty steel items, i.e., that a change in economic activity will result in a much greater change in demand for stainless steel sheet and strip in the same direction. Thus, a relatively small change in economic activity can have a substantial impact on firms in the specialty steel industry.

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Structure of U.S. demand

Annual estimates of the market for specialty steel published by the International Nickel Co. (INCO), reflect a diverse pattern of demand discussed earlier, which are shown in the following table.

Stainless steel sheets and strip, plates, and bars: U.S. consumption, by market classifications, 1975-77

	()	In thou	isands	of tor	18)						
	: 3	Sheets	and	:	Plate	8	Bars				
Market classification	1975	1976	1977	1975	1976	1977	1975	1976	1977		
Machinery, industrial equipment, tools and electrical equipment	83	: : : : 137	: : : : 153	: : : : 37	::	: : : . 35	: : :	: : : . 52	:		
Automotive	123	: 198	: 208	: 1/	: 1/	: 1/	· • • 7	: 10	: 5		
Other domestic and com- mercial equipment	: : 58	: : 97	: : 103	: 7	: 6	: 6	: : 8	: : 10	: 9		
Construction and con- tractors products	: : 56	: : 86	: : 96	: : 17	: : 14	: : 15	: : 6	: : 8	: 9		
Appliances, utensils, and cutlery	: : 56	: : 90	: : 91	: : 2	: : 2	: : 2	: : 1	: : 2	: 2		
Industrial fasteners Aircraft	: 1 : 10	: 2 : 15	: 2 : 17	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$: 13 : 6	: 18 : 5	: 22 : 7		
Nonclassified and others	: : 47	: : 77	: : 83	: : 38	: : 29	: : 26	: : 30	: : 27	: : 27		
Total domestic con- sumption	434	: : 702	: : 753	: : 103	: : 90	: : 87	: : 120	: : 132	: : 149		
	:	:	:	:	:	:	:	:	:		

1/ Less than 1,000 tons.

Source: The International Nickel Co., <u>Stainless Steel, a Five Year Summary</u>, April 1977 and April 1978.

The data presented above show that consumer goods markets, such as the automotive and appliance markets, are significantly important for sheets and strip, but relatively unimportant for plates and bars which are used extensively in the capital goods market. Thus, whether or not quotas are terminated or modified, changes in the structure of demand for stainless steel and alloy tool steel can be expected to have varying economic effects from producer to producer depending on whether the firm's production is broadly based, or whether the firm has rationalized production by concentrating on one or two products.

The following table shows the growth patterns of the major market segments, which accounted for the bulk of stainless steel demand, during 1972-77. 1/

(
Market segment	1972	2	1973	:	1974	:	1975	:	1976	:	1977
	:	:		:		:		:		:	
Machinery, industrial equipment,	:	:		:		:		:		:	
tools and electrical equipment	: 248	:	308	:	383	:	220	:	283	:	323
Automotive	: 141	:	166	:	199	:	139	:	214	:	221
Other domestic and commercial	:	:		:		:		:		:	
equipment	: 123	:	146	:	176	:	98	:	134	:	149
Construction and contractors'	:	:		:		:		:		:	
products	: 117	:	153	:	165	:	98	:	128	:	146
Appliances, utensils and cutlery	: 94	+ :	116	:	115	:	67	:	98	:	102
Industrial fasteners	: 40):	49	:	60	:	31	:	45	:	53
Aircraft	: 27	':	34	:	38	:	24	:	28	:	33
Forgings	: 23	:	29	:	34	:	31	:	26	:	35
Nonclassified and others	: 128	3 :	166	:	214	:	140	:	164	:	16 <u>4</u>
Total domestic consumption	: 941	. :	1,167	:	1,384	:	848	:	1,120	:	1,226
	:	:	-	:	-	:		:		:	
Source: The International Nickel	Co.,	St	ainle	88	Steel	١,	a Fiv	7e	Year	Su	mmary,

Stainless steel: U.S. consumption, by market segments, 1972-76

April 1977 and April 1978.

Note. -- This table covers stainless steel pipes and tubes and wire, products which are not subject to this investigation.

Capital goods, including industrial equipment, tools, and so forth, represented by far the largest consuming sector. The consumer durable goods market, which includes automobiles and appliances, constituted about 30 percent of the market for stainless steel and represented the second largest sector of demand.

The economic effect on the domestic industry of terminating the quotas could be more serious in those product categories which have lagged in recovery, for which demand has fallen, or for which demand is anticipated to be weak in the short run. Any increase in imports in these categories will add to the domestic industry's burden from soft demand. This does not imply that product segments which have recovered sharply from the low-shipment levels in 1975 will be insulated from any adverse economic effects which may be generated by terminating the quotas. On the contrary, those specialty

(In thousands of tons)

^{1/} This aggregate apparent consumption time series includes stainless steel pipes and tubes and wire, products which are not included in this investigation.

steel products which have shown the most recovery, such as stainless steel sheets and strip, and bars, could presumably be attractive targets for imports because of higher prices and wider profit margins.

Level of U.S. imports

Import pressures on the U.S. specialty steel market depend not only upon U.S. demand but also upon the level of market demand in the major foreign supplying countries and in their third-country markets and on foreign production capacity. Foreign markets, in effect, act as "buffers" for home market downturns. For example, when world specialty steel demand and U.S. domestic demand are strong and synchronized as in 1973 and early 1974, home and third-country markets become more attractive to foreign producers than the U.S. market.

In contrast, during the latter part of 1974, as world markets sank into recession ahead of the United States, imports of specialty steel in October-December grew by more than 47 percent, when compared to July-September, and the ratio of imports to apparent consumption jumped from 11.3 percent to 17.2 percent. This ratio was maintained or exceeded throughout most of 1975, a recession year. Thus, when the economy in the United States is stronger than in most other industrial economies, the U.S. market becomes an attractive outlet to offset soft demand in the supplying countries' other markets.

An extension of this analysis into the years 1976-78 is not possible because of two factors. First, the imposition of import quotas in mid-1976 has distorted the normal flow of trade, essentially freezing foreign producers' trade with the United States into pre-1976 patterns. Secondly, the U.S. market and the world market have both shown upward trends since 1975. As long as trends in world and U.S. demand are synchronized, import pressures in the U.S. market should be moderate.

The foreign industry

Data on foreign production, total exports, and exports to the United States are summerized in the following table.

				(1	n thousands		of tons	;)								_	
		Production	То				otal expo	s	:	Exports to the United States				е			
:	1976	:	1977	:	1978	:	1976	:	1977	:	1978	:	1976	:	1977	:	1978
· · ·		:		:		:		:		:		:		:		:	
Japan:	1/	:	2,465.3	:	2/ 1,879.4	:	1/	:	597.6	:	2/ 434.5	:	1/	:	70.2	:2,	/ 58.8
France:	547.8	:	630.5	:	- 1/	:	224.4	:	297.8	:	1/	:	22.4	:	25.6	:	1/
Sweden:	3/ 238.2	:	3/ 230.7	:	3/ 239.0	:	189.8	:	193.7	:	200.5	:	24.5	:	21.5	:	23.6
West Germany:	741.8	:	701.1	:	- 1/	:	213.5	:	309.5	:	1/	:	6.8	:	6.5	:	1/
United Kingdom:	244.7	:	213.8	:	1/	:	36.4	:	49.9	:	$\overline{1}/$:	4.1	:	3.4	:	1/
Spain:	142.4	:	199.3	:	1/	:	48.0	:	63.9	:	$\overline{1}/$:	5.2	:	6.5	:	1/
Korea 4/:	1/	:	248.5	:	340.0	:	<u>1</u> /	:	42.7	:	34.8	:	1/	:	4.8	:	5/5.3
Brazil:	1/	:	***	:	1/	•	1/	:	***	:	1/	:	1/	:	***	:	1/
Argentina:	$\overline{1}/$:	***	:	1/	:	$\overline{1}/$:	***	:	1/	:	$\overline{1}/$:	1/	:	1/
Finland:	6/	:	***	:	7/¯***	:	6/	:	***	:	7 <u>/</u> ***	:	6/	:	***	:	7/_***
Total:	1/ 1,914.9	:	***	:	***	:	712.1	:	***	:	***	:	63.0	:	***	:	***
:		:		:		:		:		:		:		:		:	

Stainless steel and alloy tool steel: Production, total exports, and exports to the United States, by selected countries, 1976-78

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1/ Not available.

 $\overline{2}$ / January-October.

3/ Shipments.

 $\overline{4}$ / Includes products other than stainless steel and alloy tool steel.

5/ January-September.

6/ No production prior to 1977.

7/ January-November.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission; INCO: World Stainless Steel Statistics, 1978; brief submitted by the Swedish Ironmasters Association, table 5; and Korea Iron and Steel Association and Office of Customs Administration. With the exception of Japan, all countries for which 1978 data are available experienced increases after 1977 in production and exports to the United States. This would indicate the potential for increased imports in the absence of import restraints. However, imports have historically been attracted to the U.S. market when demand for stainless steel is softer in foreign producing countries than in the United States. The following table shows actual and forecasted changes in industrial production for selected countries.

Industrial	production	in sele	cted	count	ries:	Recent	changes	and
	OECD fo	recasts	of fu	ture	changes	1/		

(In percentag	e cnanges		<u>rom prev</u>	10	ous half	<u>y</u>	ear)		
Period	United	:	Japan	:	France	:	West	:	United Kingdom
•	DEALES	÷		÷		÷	Germany	÷	Ringdom
1976:		:		:		:		:	
January-June:	10.5	:	8.5	:	15.4	:	11.6	:	5.3
July-December 2/:	4.9	:	9.8	:	2.5	:	3.6	:	2.3
1977:		:		:		:		:	
January-June:	6.5	:	4.2	:	4.0	:	5.2	:	2.0
July-December 2/:	5.3	:	1.0	:	3.1	:	.9	:	1.6
1978:		:		:		:		:	
January-June:	4.2	:	9.3	:	4.8	:	9	:	1.2
July-December 2/:	7.7	:	4.5	:	4.0	:	7.0	:	4.0
1979 (projected):		:		:		:		:	
January-June:	1.0	:	5.0	:	5.5	:	6.5	:	2.5
July-December 2/:	0	:	4.0	:	5.2	:	3.0	:	1.5
:		:		:		:		:	

(In percentage changes from previous half year)

1/ Figures for the United Kingdom refer to industrial production of manufacturing industries. All other figures refer to total industrial production (excluding construction).

2/ OECD. Economic Outlook, (Dec. 1978 issue).

Source: Organization for Economic Cooperation and Development, <u>Main</u> <u>Economic Indicators</u> (Dec. 1976 issue) and <u>Economic Outlook</u> (July 1977 and Dec. 1978 issues).

As indicated by the data, the U.S. market has experienced stronger growth than most of its competitors since 1977. However, 1979 growth is forecasted to be nearly nonexistant in the United States while Japan, France, West Germany and to a lesser extent the United Kingdom, are expected to show significant gains in industrial production. As a result, if historical patterns hold true, foreign manufacturers would attempt to sell in their own markets therefore reducing the potential for sharply increased U.S. imports even if quotas are terminated. It should be noted, however, that demand for stainless steel and alloy tool steel in the countries under consideration does not necessarily follow the trends for production of all industrial commodities, and the industrial production index should be used only as a rough guide to future demand for stainless steel and alloy tool steel. <u>Japan.</u>--The Japanese industry is the largest producer of stainless steel in the world. <u>1</u>/ Japanese production of stainless steel ingots in 1977 accounted for about 32 percent of world production. The following table shows relevant statistics for the industry.

Stainless	steel a	nd alloy	tool	steel:	Japane	se	product	ion,	exports
to ti	he Unite	d States,	and	total	exports,	by	types,	197	7-78

	:S	tainless	:		_			•					:	
	:8	teel and				Stai	n.	Less st	:e	el			:	Alloy
Item	:	alloy	:	Sheets	:		:		:		:		-:	tool
	:	too1	:	and	:	Plates	:	Bars	:	Rods	:	Total	:	steel
	:	steel	:	strip	:		:		:		:		:	
	:		:		:		:		:		:		:	
Production:	:		:		:		:		:		:		:	
1977	:	2,465.3	:	1,808.7	:	267.7	:	145.0	:	143.5	:	2,364.9	:	100.4
1978 1/	:	1,879.4	:	1,379.9	:	187.3	:	110.7	:	112.5	:	1,790.4	:	89.0
Exports to the	:	·	:	•	:		:		:		:	-	:	
United States:	:		:		:		:		:		:		:	
1977	:	70.2	:	42.3	:	6.0	:	14.9	:	5.1	:	68.3	:	1.9
1978	:	58.8	:	33.8	:	6.6	:	12.3	:	4.3	:	57.1	:	1.7
Total exports:	:		:		:		:		:		:		:	
1977	•	597.6	:	377.9	:	146.0	:	37.1	:	16.9	:	577.9	:	19.7
1978	:	434.5	:	242.6	:	130.5	:	31.3	:	12.8	:	417.1	:	17.3
	:		:		:		:		:		:		:	

1/ January-October.

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

Note.--Because of rounding, figures may not add to the totals shown.

Japanese production is primarily of flat-rolled products, such as sheets and strip, and plates. These three product types accounted for over 80 percent of production in 1978. Japan exports about 25 percent of its specialty steel output with about 13 percent of those exports going to the United States. Exports to the United States increased by 4.9 percent during January-October 1978 compared with exports in the corresponding period in 1977, but are expected to level off or decline in 1979. Exports to countries other than the United States declined 14.8 percent during January-October 1978, but are expected to increase slightly in 1979. Over 75 percent of Japanese production is consumed by the home market. The Japanese economy is expected to grow in 1978 at slightly below the 1978 rate of 5 percent. Without a significant softening of Japanese home-market demand, export levels could be expected to remain fairly constant.

1/ World production data do not include Eastern Europe, U.S.S.R., or China.

France.--French production of stainless steel ingots in 1977 accounted for about 9 percent of world production. There are currently 35 companies which produce specialty steel in France, 21 of which produce stainless steel or alloy tool steel. The three largest specialty steel producing firms are Creusot-Loire, Ugine Aciers, and Pompey. The French industry produced about 630,500 tons of stainless steel in 1977, representing a 15 percent increase over it's performance in 1976. Exports of stainless steel increased over 33 percent in 1977, of which 23,200 tons or 9 percent were sold to the United States. Almost 50 percent of French production in 1977 was exported.

The French industry has only slowly recovered from a 15-percent production decline in 1975. The three major specialty steel producers all reported significant losses in 1977 and are expected to experience further losses in 1978. The major problem facing the French industry appears to be excessive dispersion of production. Although West Germany, for example, has only three specialty steel producers, they produce more tonnage than the French industry. Efforts are underway to further integrate the industry through the sharing of production and rationalization. Creusot-Loire and Ugine Aciers have agreed to a production-sharing plan by which Ugine Aciers will produce long products and Creusot-Loire will concentrate on sections, plates, and squares. Ugine Aciers has also entered into an agreement with Pompey to rationalize their production of long stainless steel products.

Sweden .-- Although the third largest source of U.S. imports, Sweden's specialty steel industry has lagged behind other foreign producers in recovery from the production declines of 1975, as shown in the following table.

Stainless steel and alloy tool steel: Swedish shipments, total exports and exports to the United States, 1976-78

		<u>(In t</u>	chousands of ton	ns)							
	:	Stainless	steel	Alloy tool steel							
Period	: :Shipments :	Total exports	: Exports : to the :United States	Shipments Tot expo	al : Exports al : to the rts:United States						
	:	:	;	: :	:						
1976	: 192.7	: 150.5	: 12.6	: 45.5 : 39	.3: 11.9						
1977	: 184.6	: 155.1	: 13.2	: 46.1 : 38	.6: 8.3						
1978	: <u>1</u> / 189.9	: <u>1</u> / 157.1	: <u>1</u> / 14.8	: 49.1 : 43	.4 : 8.8						
	:	:	<u> </u>	::	<u>:</u>						

1/ Estimated.

Source: Brief submitted by the Swedish Ironmasters Association, Table 5.

Total Swedish shipments of stainless steel declined about 5 percent between 1976 and 1977 but are expected to increase somewhat in 1978. Alloy tool steel shipments showed a slight increase from 1976 to 1977 and then continued to increase in 1978. Total Swedish shipments of stainless steel and alloy tool steel in 1978 were 189,926 tons and 49,132 tons, respectively.

The Swedish economy consumes a relatively small share of specialty steel production, with exports in 1978 accounting for 83 percent of shipments of stainless steel and 88 percent of shipments of alloy tool steel. Exports to the United States accounted for 9.4 percent of stainless steel exports and 20.3 percent of alloy tool steel exports.

<u>West Germany.</u>--The West German stainless steel industry is the third largest in the world, producing 701,100 tons of stainless steel ingots in 1977. Exports of stainless steel increased by 45 percent from 213,500 tons in 1976 to 309,500 tons in 1977. Exports to the United States accounted for only 2 percent of total West German exports while Western Europe was the major West German export market, accounting for 83 percent of its total 1977 exports.

<u>United Kingdom</u>.--The British stainless steel industry is characterized by several large government-owned companies and numerous small independent firms. The following table highlights certain industry statistics.

	(In the	ou	isand tons)	
	:	:	:	Exports :	Ratio of exports
Period	: Production	:	Exports:	to the :	to United States
		:	:0	nited States:	to total exports
	•	:	:		
1973	264.6	:	39.9:	4.9 :	12.3
1974	: 246.9	:	47.7:	7.8 :	16.4
1975	: 159.8	:	34.5 :	5.0 :	14.5
1976	: 244.7	:	36.4 :	4.1 :	. 11.3
1977	: 213.8	:	49.9 :	3.4 :	6.8
	•	:	: :	:	

Stainless steel and alloy tool steel: British production, 1/ total exports, and exports to the United States, 1973-77

1/ Stainless steel ingots.

Source: INCO: World Stainless Steel Statistics, 1978.

Although British production of stainless steel declined about 13 percent from 1976 to 1977, total exports increased almost 40 percent. Virtually all of the increase in exports was in flat products, such as sheets and plates, destined for Western Europe.

Production capacity data are not available for the entire British stainless steel industry. However, the following table shows capacity to melt, rolling capacity, and production of the British Steel Corporation; the largest specialty steel producer in the United Kingdom.

Stainless steel and alloy tool steel 1/: British Steel's capacity to melt, actual melt, rolling capacity, and production, 1975, 1978, and projected 1979-82

				(11	1	chousar	Id	<u>s oi</u>	: 1	con	8)) <u> </u>								
: Year : Capacity to melt					: : A	Actual	: ctual :		Rolling :			Actual production								
iear	:	stainless	stee	1 <u>2</u> /	:	melt	:	cap	a	cit	y: _:	Sheets and strip	:	Plates	Bars	ŗ	Rods			
	:				:		:			_	:		;	:		:				
1975	-:	* *	*		:	***	:	*	*	*	:	* * * *	i.	* * * :	***	:	***			
1978	-:	* *	*		:	***	:	*	*	*	:	* * * :	;	* * * :	***	:	***			
1979	-:	. * *	: *	• .	:	3/	:	*	*	*	:	3/:	:	3/ :	3/	:	3/			
1980	-:	* *	*		:	3/	:	*	*	*	:	3/:	;	3/ :	3/	:	3/			
1981	-:	* *	*		:	3/	:	*	*	*	:	$\frac{1}{3}$:	;	3/:	3/	:	3/			
1982	-:	* *	*		:	3/	:	*	*	*	:	$\overline{3}/$:	;	$\frac{3}{3}$:	3/	:	3/			
	:	•			:	_	:				:		i.	:	-	:				

1/ British Steel produces only minimal quantities of alloy tool steel; the above data represent stainless steel only.

2/ Melt capacity data include all stainless product categories, including some which are not within the scope of this investigation.

3/ Not applicable.

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

Although British Steel's melt capacity will more than double by yearend 1979, company representatives state that the new capacity is intended to recapture home-market share and allow entry into export markets other than the United States. 1/ However, even though the U.S. market may not be the intended target of this stainless steel, other foreign manufactures may look to the United States as an outlet for their displaced production.

Spain.--Production statistics on the Spanish industry are not available. Spain, however, is a significant factor in the U.S. market for stainless steel bars. Spanish exports of bars account for over 75 percent of the industry's total exports and over 12 percent of U.S. bar imports. Spain's stainless steel exports are shown in the following tabulation:

	Quantity (1,000 tons)
1974	34.5
1975	46.1
1976	48.0
1977	63.9

^{1/} See British Steel's prehearing brief, pp. 22-23 and hearing transcript, pp. 397-398.

<u>Republic of Korea</u>.--Specialty steels are produced by 13 Korean firms. Two firms, Korean Integrated Special Steel Co., Ltd. (KISCO), and Korea Heavy Machinery Industry, Ltd., accounted for *** percent of production in 1978. The following table shows certain industry statistics.

Specialty	Steel 1/:	Korean production,	total exports, a	nd
-	exports to	the United States,	1977-79	

		:		:	Exports	:1	Ratio of expo	ts to
Year	Production	:1	Exports	::	to the	:	the United St	tates
:		:		:1	United States	3:	to total expo	orts
:		:	1,000	:		:		
· · · ·	1,000 tons	:	tons	:	1,000 tons	:	Percent	
:	;	:		:		:		
1977	248.5	:	42.7	:	4.8	:		11.2
1978:	342.0	:	34.8	:	2/ 5.3	:		15.2
1979 <u>3</u> /	487.9	:	48.3	:	<u>4</u> /	:	<u>4</u> /	
				•		•		

1/ Includes products other than stainless steel and alloy tool steel.

2/ January-September.

3/ Projected.

 $\overline{4}$ / Not available.

Source: Korea Iron and Steel Association and Office of Customs Administration.

Korea's exports to the United States increased from 1977 to 1978 and are expected to increase in 1979. Korea's production has steadily increased through this period and Korea Heavy Machinery Industry, Ltd. has announced plans to expand its specialty steel capacity by 108,000 metric tons by mid-1981.

KISCO is the major Korean producer of stainless and alloy tool steels, accounting for over *** percent of production in 1978. The following table shows relevant statistics for KISCO's operations. Stainless steel and alloy tool steel: Capacity to melt, actual melt, rolling capacity, and actual production of the Korean Integrated Special Steel Co., Ltd., 1975, 1978, and projected 1979-82

	Consoity	Actual	melt	Rolling	capacity	: Actual : production							
Year	to melt <u>1</u> /	Stainles steel	s: tool steel	:Sheets: : and :] : strip:	Bars Tool	:Sheets: :Tool 1: and :Bars: steel 2: strip: :							
		:	:			······							
1975	****	***	* ***	* *** * *	*** ***	**** ****							
1978	***	: ***	: ***	: *** : :	*** : ***	* *** * *** * ***							
1979	***	: 2/	: 2/	: *** : :	*** : ***	: 2/ : 2/ : 2/							
1980	***	: 2/	$\cdot \overline{2}/$: *** : :	*** : ***	$: \overline{2}/: \overline{2}/: \overline{2}/$							
1981	***	$\cdot \overline{2}'$	$\cdot \overline{2}/$: *** : :	*** : ***	$: \overline{2}/:\overline{2}/:\overline{2}/$							
1982	***	$\frac{\overline{2}}{2}$: <u>2</u> /	: *** : :	*** : ***	$: \overline{\underline{2}}/: \overline{\underline{2}}/: \overline{\underline{2}}/$							
:	:	:	: _	: :	:	· · · ·							

(In thousands of tons)

<u>1</u>/ Melting capacity for production of stainless steel and alloy tool steel under quota is about *** percent of the total melting capacity figures shown. 2/ Not applicable.

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

<u>Brazil.</u>—Although a number of Brazilian firms produce stainless steel, only one firm, Acos Villares, exports stainless steel products to the United States. Brazil has a fast growing internal market for stainless steel which consumes the major portion of Acos Villares' production. Although capacity increases are planned, the firm currently has no intention of significantly increasing its sales to the United States. <u>1</u>/ Production and capacity statistics for Acos Villares for 1975, 1978, and projected 1979-82 are shown in the following table.

1/ See prehearing brief submitted on behalf of Acos Villares, p. 6.

Stainless	steel	and	alloy	too1	steel:	Acos	Villare	es'	capacity	to mel	Lt,
actual m	nelt,	capad	ity to	o man	ufacture,	, and	actual	pro	duction,	1975,	1978,
and proj	jected	1979)-82								

:	Capao	ci el	ty to t	:	Actual melt			:	Capac manuf	i a	ty to cture	:	Actual production		
Year : :	Stain- less steel	:	Tool steel	:	Stain- less steel	::	Tool steel	:	Stain- less steel	::	Tool steel	:	Stain- less steel	:	Tool steel
:		:		:		:		:		:		:		:	
1975:	***	:	***	:	***	:	***	:	***	:	***	:	***	:	***
1978:	***	:	***	:	***	:	***	:	***	:	***	:	***	:	***
1979:	***	:	***	:	1/	:	1/	:	***	:	***	:	1/	:	1/
1980:	***	:	***	:	1/	:	$\overline{1}/$:	***	:	***	:	1/	:	1/
1981:	***	:	***	:	$\overline{1}/$:	1/	:	***	:	***	:	1/	:	$\overline{1}/$
1982:	***	:	***	:	<u>1</u> /	:	$\underline{\overline{1}}$:	***	:	***	:	<u>1</u> /	:	<u>1</u> /
		:		:		:		:		:		:		:	

(In thousands of tons)

1/ Not applicable.

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

The following tabulation shows exports and exports to the United States by Acos Villares:

Tons

Exports----- * * * Exports to the United States--- * * *

<u>Argentina.--Stainless steel is produced by two Argentine companies in the</u> form of bars. Production and export statistics are shown in the following table.

Stainless steel bars: Argentine production and exports, 1977 and 1978 1/

(In tons)		
Period	Production	Exports
1977: 1978:	* * *	* * *

1/ January-June, 1978.

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

<u>Finland</u>.--Outokumpu Oy, a state-owned company, is the sole producer of stainless steel in Finland. Production, which only started in 1976, is limited to stainless steel sheets and strip, and plates. Production and export statistics are shown in the following table.

Stainless	steel:	Finnish p	production	, total	exports	and	exports
	to	the United	d States,	1977 and	1 1978		

:		:	: Exp	orts :	Ratio of e	xports to
Period :	Production	:Exports	to:	the :	the United	d States
:		:	:United	l States:	to total	exports
:		: 1,000	:	:		
:	1,000 tons	: tons	: 1,000) tons :	Perc	ent
:		:	:	:		
1977:	* * *	: ***	: * *	* * :	* * *	*
1978:	* * *	: ***	: * *	* * :	* * *	*
:		:	:	:		

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

Plant melt capacity is currently *** tons and rolling capacity is *** tons. * * * West Germany has been Finland's largest export market and company officials indicate that ***percent of plant output will be exported in the future.

Price competition in the absence of quotas

Demand for specialty steel is relatively insensitive to changes in price. <u>1</u>/ A reason for this insensitivity is that specialty steel demand is derived from demand for articles incorporating specialty steel. Thus, a price reduction in imported or domestically produced specialty steel will not result in an appreciable shortrun increase in demand. <u>2</u>/ The price difference between imported and domestically produced specialty steel, however, has a major influence on the consumer's purchasing decisions. Data collected in investigation No. TA-201-5 (Stainless Steel and Alloy Tool Steel) show that when the price gap between imported and domestically produced specialty steel

1/ Forecasting Steel Consumption, Organization for Economic Cooperation and Development, Paris, 1974; Instability in International Steel Trade, J. Frieden, 1974.

2/ Imports may add to demand marginally. According to testimony at the hearing, the quotas have not only caused bottlenecks and shortages in some product forms and sizes, but have constrained the growth of demand for certain products. To the extent that this has occurred, terminating the quotas would add to the level of demand. In the absence of quotas, imports would gain this market growth if the domestic industry is unable (or unwilling) to satisfy these small islands of unsatisfied demand. Such distortions in supply or dampening of demand are not believed to represent significant tonnage. Examples of specific product shortages include 430 grade strip for flatware manufacturers, rods for independent wire drawers, grade 420 and 440A stainless steel sheets and certain types of alloy tool steel products. is large, as in October-December 1974 and throughout 1975, consumer demand noticeably shifts to imports and the ratio of imports to apparent consumption sharply increases.

Thus, price differences play a key role in determining how aggregate demand for specialty steel will be shared between imported and domestically produced products. Increases in price differences caused by reduced prices of imports or sharply increased prices of domestic products, in the absence of strong demand, result in increases in the imports' share of total demand and a reduction in the share held by U.S. producers' products.

Assuming the import restraint program is terminated, the price difference between competing grades, types, and sizes of imported and domestic stainless and alloy tool steel can be expected to widen. This conclusion rests on three basic considerations:

- That foreign capacity utilization is low and will continue to be low in comparison with U.S. capacity utilization;
- (2) That the major foreign specialty steel producers will vigorously compete to capture a larger share of the U.S. market; and
- (3) That developing countries with new specialty steel mills will attempt to establish a U.S. market position or expand their presently small market shares.

Finland, Spain, Brazil, and Korea have expanded specialty steel production capacity and were steadily expanding their specialty steel exports to the United States before quotas were imposed. Again, the most likely method to be used by these nations in order to expand or acquire U.S. market share will be price competition. However, other marketing practices such as extended credit terms, quantity discounts based on collective purchases, and further processing of product forms at no extra cost could also be used to increase their competitiveness in the U.S. market.

Price data on individual products collected by the Commission indicate that, during periods of slack demand, fierce price competition among importers drives prices far below the 10 to 15 percent discount from U.S. producers' prices necessary to capture sales. Thus, in the absence of quotas, it is believed that strong competition among importers for orders would push import prices down and the gap between prices of the domestically produced and imported products would widen.

Forecasted 1979 apparent consumption, imports, and U.S. producers' shipments and estimated changes in man-hours worked and gross profits

Actual demand for specialty steel product categories for 1978 and 1979 forecasts are provided in tables 52 and 53. These tables contain (1) a leading specialty steel firm's forecast, (2) a composite forecast by the specialty steel industry, excluding that firm, (3) a composite forecast by the steel service center industry, and (4) a forecast by a major supplier of raw material to the specialty steel industry. $\underline{1}$ / The projected data for 1979 are summarized in the following tables. The consensus of the four forecasts is that specialty steel markets in 1979 will be subject to either low growth or recessionary influences. The high estimates of consumption are grouped together in the low-growth scenario. The lowest estimates are grouped together in the recession scenario. None of the four forecasts projected rapid growth for stainless steel or alloy tool steel demand. 2/

Low-growth scenario. -- Total apparent consumption in 1979 declines an estimated 1.4 percent compared with what it was in 1978 under the low-growth scenario. Under this assumption, total estimated shipments will decrease to 1,174,000 tons with quotas (or by 2.8 percent) and 1,134,000 tons without quotas (or a 6.1 percent decline). Total exports are projected by the Commission to be about 60,000 tons. Total imports are projected to increase to 175,000 tons <u>3</u>/ (or by 9.4 percent) with a continuing quota or to 215,000 tons (or by 34.4 percent) assuming no quotas.

The key assumptions for determining import levels in the absence of quotas were that apparent consumption would not change, whether or not quotas were terminated, and that imports would, at least, achieve their average ratio of apparent consumption during 1971-75. This time period reflects the fluctuations in demand over one complete business cycle and may be considered representative. Furthermore, foreign suppliers have indicated that, in the absence of quotas, historic market share will be their <u>minimum</u> target level. It should be noted that the improved efficiency of the domestic prodcers may have changed the competitive situation of U.S. producers in the U.S. market vis-a-vis imports.

1/ Forecasts were supplied by (1) ***; (2) ***; (3) ***; and (4) ***.

2/ An analysis of U.S. shipments of stainless steel sheets and strip comparing the results of an 1977 econometric analysis which projected import trends and actual imports is presented in app. D. Projections for future imports and shipments are also presented.

3/ This estimate is based on an increase of 5 percent per year in the quotas.

Stainless steel and alloy tool steel: Forecasted ranges of U.S. producers' shipments, exports, imports for consumption, and apparent consumption, by types, 1979 with a low-growth scenario, with and without quotas

Item	U.S. p shi	ro pm	ducers' ents	: : : I	Exports	::	Im	P	orts	: :/ : (Apparent consump-	::	Rat imp cons	:ic	os of rts to aption
	: With	:1	Without	:	•.	:	With	:1	Vithout	:	tion	:	With	:1	Vithout
	quotas	:	quotas	:		:	quotas	:	quotas	:		:	quotas	:	quotas
					1,000)	tons					• :	Pe	r	cent
	:	:		:		:		:		:		:		:	
Sheets and strip	: 800	:	785	:	40	:	91	:	106	:	851	:	10.7	:	12.5
Plates	: 125	:	125	:	5	:	14	:	14	:	134	:	10.4	:	10.4
Bars	: 140	:	128	:	10	:	28	:	40	:	158	:	17.7	:	25.3
Rods	: 25	:	20	:	1	:	19	:	24	:	43	:	44.2	:	55.8
Alloy tool steel	: 84	:	76	:	4	:	23	:	31	:	103	:	22.3	:	30.1
Tota1	: 1,174	:	1,134	:	60	:	175	:	215	:	1,289	:	13.6	:	16.7
	:	:		:		:		:		:		:		:	

Source: Compiled by the U.S. International Trade Commission from detailed estimates in tables 52 and 53.

The net changes in producers' shipments, imports, and apparent consumption for individual product lines are shown in the following table.

Stainless steel and alloy tool steel: Increase or (decrease) in U.S. producers' shipments, imports, and apparent consumption, under assumption of low rate of growth, with and without quotas, by types, 1978 to 1979

(In thous	ands of tons)		
Item	: U.S. producers': : shipments :	Imports	Apparent consumption
	Wit	h quotas	
	:	:	
Sheets and strip	: (26):	10 :	(16)
Plates	•: (5):	3:	(2)
Bars	•: (13):	1 - :	(12)
Rods	-: -:	1:	1
Alloy tool steel	•: 10 :	1:	11
Total	: (34):	16 :	(18)
	. Witho	ut quotas	
	:	:	
Sheets and strip	•: (41):	25 :	(16)
Plates	•: (5):	3 :	(2)
Bars	•: (25):	13 :	(12)
Rods	•: (5):	6 :	1
Alloy tool steel	2:	9:	11
Total	.: (74):	56 :	(18)
		•	

Source: Compiled by the U.S. International Trade Commission, from tables 52 and 53.

Under the low-growth assumption, only the alloy tool steel category will show any increase in shipments in 1979 compared with shipments in 1978. This increase is forecasted to occur either with or without quotas. Stainless steel rod shipments would be unchanged with quotas but would decline without quotas. Stainless steel plate shipments would decline by the same amount with or without quotas. Shipments of stainless steel sheets and strip, and bars would decline with or without quotas. The decline without quotas would be about 70 percent greater then that projected with quotas.

The following table converts the preceding estimates of changes in U.S. producers' shipments into projected changes in person-hours worked and gross profit in 1979 compared with what they were in 1978. These projections are based on the assumption that changes in shipments will be reflected in parallel changes in production.

Stainless steel and alloy tool steel: Increase or (decrease) in U.S. producers' person-hours worked and gross profit based on low rate of growth, with and without quotas, by types, 1978 to 1979

	Person-ho	urs work	ed :	Gross	s profit
Туре	With quota	Without	quota	With quota	Without quota
	Thou	sands		Million	dollars
:		:	:		:
Sheets and strip:	(569.9)	:	(898.7):	(6.6)	(10.4)
Plates:	(134.6)	:	(134.6):	(1.3)): (1.3)
Bars:	(750.1)	: (1	.441.3):	(7.4)	: (14.2)
Rods:	-	:	(120.5):	-	: (1.2)
Tool steel:	714.7	:	142.9 :	9.9	: 2.0
Tota1:	(739.9)	: (2	,452.2):	(5.4)	(25.1)
:		:	:		:

Source: Estimated by the U.S. International Trade Commission.

Under the low-growth assumption with quotas, total person-hours worked would decrease from 1978 to 1979 but by only 740,000 person-hours (or by 2 percent). Under the same growth assumption but with termination of the quotas, total person-hours worked would decrease by about 2.5 million person-hours or by 7 percent if quotas were continued. Total gross profit would decline by \$5.4 million (1.6 percent) with quotas and \$25.1 million (7.6 percent) without quotas.

- :	Person-ho	urs worked	Gross profit					
Туре	With quota	Without quota	With quota	Without quota				
	<u>Thou</u>	sands	Million	dollars				
Sheets and strip: Plates:	(3.0)	: (4.7): : (3.7):	(4.0)	: (6.3) : (8.4)				
Bars:	(8.7)	: (16.9):	(9.4)	: (18.0)				
Rods:	- 13 7	: (12.4):		: (23.8)				
Total:	(1.9)	: (6.6):	(1.6)	: (7.6)				
:		: :	1	:				

The percentage changes in the 1979 individual product lines compared with what they were in 1978 are summarized in the following tabulation (in percent):

Recession scenario. -- Total apparent consumption in 1979 would decline an estimated 7.5 percent compared with consumption in 1978 under a recession scenario. As shown in the following table, total shipments would range between 1,095,000 tons with quotas and 1,054,000 tons without quotas. These figures represent percentage decreases of 9.4 percent and 12.7 percent, respectively, compared with the 1978 levels. Total imports are estimated to increase to 175,000 tons (or by 9.4 percent) with quotas or to 216,000 tons (or by 35 percent) without quotas. A similiar assumption concerning imports was used under this scenario as was outlined in the low-growth scenario.

Stainless	steel	and a	alloy	tool	ste	el:	Fore	casted	d ra	anges	of	U.S.	producers
shipment	s, exp	ports,	, impo	orts :	for	consu	mptic	on, ai	nd a	appare	ent	consu	umption,
by types	· , 1979) with	h a re	ecessi	ion	scena	rio,	with	and	d with	ıout	: quot	tas

Ttom	:1	U.S. pı shij	c o pm	ducers' ents	:		:	Imp	00	rts	:	Apparent	:	Ratio o to con	of su	imports mptio <u>n</u>
rtem	:	With	:	Without	:	xports	:	With	:1	Without	::	consumption	:	With	:1	lithout
	:	quotas	3:	quotas	:	8	g	uotas	::	quotas	:		:	quotas	:_	quotas
	:-					1,000	5	tons-					:	Pe	r	cent
Sheets and	:		:		:		:		:		:		:	-	:	
strip	• :	770	:	756	:	40 :	:	91	:	105	:	821	:	11.1	:	12.8
Plates	-:	105	:	103	:	5 :	:	14	:	16	:	114	:	12.3	:	14.0
Bars	•:	120	:	106	:	10 :	:	28	:	42	:	138	:	20.3	:	30.4
Rods	-:	20	:	16	:	1 :	;	19	:	23	:	38	:	50.0	:	60.5
Alloy tool	:		:		:	:	:		:		:		:		:	
steel	-:	80	:	73	:	4 :	:	23	:	30	:	· 99	:	23.2	:	30.3
Total	-:	1,095	:	1,054	:	60	:	175	:	216	:	1,210	:	14.5	:	17.9
	:	-	:	•	:	:	:		:		:		:		:	

Source: Compiled by the U.S. International Trade Commission from detailed estimates in tables 52 and 53.

The net changes in producers shipments, imports, and apparent consumption of individual product lines are shown in the following table.

Stainless steel and alloy tool steel: Increase or (decrease) in U.S. producers' shipments, imports, and apparent consumption, under assumption of recession, with and without quotas, by types, 1978 to 1979

		(In tho	usanda	s of tons)				
Туре	:Producers' :shipments	Import	s Al	pparent :Pro sumption:shi	oducers': Ipments :	orts	Apparen	nt tion
	:	With q	uotas	:	Witho	out qu	iotas	
	:	:	:	:	:	:		
Sheets and	:	:	:	:	:	:	;	
strip	: (56)	: 10	:	(46):	(70):	24 :		(46)
Plates	: (25)	: 3	:	(22):	(27):	5:		(22)
Bars	: (33)	: 1	:	(32):	(47):	15 :		(32)
Rods	: (5)	: 1	:	(4):	(9):	5:	1	(4)
Alloy tool	:	:	:	:	:	:		
stee1	: 6	: 1	:	7:	(1):	8:	•	7
Tota1	: (113)	: 16	:	(97):	(154):	57 :		(97)
	:	:	:	:	:	:		
Source: Compil and 53.	ed by the U	.S. Int	ernat	ional Trade	commission	from	tables	52

Under the recession assumption, U.S. shipments and consumption decrease for all product lines except alloy tool steel, and U.S. imports are estimated to increase whether or not quotas are terminated. The termination of quotas will only affect the magnitude of these changes. Estimated changes in person-hours worked and gross profit under a recession scenario are shown in the following table.

Stainless steel and alloy tool steel: Increase or (decrease) in U.S. producers' person-hours worked and gross profit based on recession scenario, with and without quotas, by types, 1978 to 1979

	Person-ho	urs worked	Gross	3 profit
Туре	With quota	Without quota	With quota	Without quota
	Thou	sands	Million	dollars
•		:		•
Sheets and strip:	(1,227.5)	: (1,534.4)	: (14.2)): (17.7)
Plates:	(673.0)	: (726.8):	: (6.4)): (6.9)
Bars:	(1.904.1)	: (2,711.9)	: (18.7)): (26.6)
Rods:	(120.5)	: (216.8)	(1.2)): (2.2)
Tool steel:	428.8	: (71.5)	5.9	: (1.0)
Tota1:	(3,496.3)	: (5,261.4)	(34.6)): (54.4)
:		:	l	:

Source: Estimated by the U.S. International Trade Commission.

ø

Using the assumption of recession and continued quotas, total man-hours worked for all product categories decline by 3.5 million (or by 9.4 percent) compared with person-hours worked in 1978. If quotas were terminated, total person-hours worked in 1979 would decline by 5.3 million person-hours (or by 14.1 percent) compared with what they were in 1978. Total gross profit also declines under the recession scenario with or without quotas. Percentage changes in the 1979 individual product line forecast compared with what they were in 1978 are summarized in the following tabulation (in percent):

_	Person-ho	ours work	ed :	Gross profit					
Type -	With quota	Without	quota	With quota	Without quota				
•	······································	:	:	····	:				
Sheets and strip:	(6.5)):	(8.1);	(8.7)): (10.8)				
Plates:	(18.8)):	(20.3):	(41.3)	(41.3)				
Bars:	(22.3)):	(31.7):	(23.8)	(33.8)				
Rods:	(12.6)):	(22.6):	(23.1)	(42.3)				
Tool steel:	8.2	:	(1.4):	-	: -				
Total:	(9.4)):	(14.2):	(10.5)	(15.9)				
		:	:		:				

The following table gives a ready reference to past and forecasted economic activity for the domestic stainless steel industry.

Stainless steel and alloy tool steel: U.S. producer's shipments, imports, apparent consumption, ratios of imports to consumption, person-hours worked, and gross profits, 1974-78, and projections for 1979

Period	U.S. : producer's:	Imports	Apparent consumption	: Ratio of imports to	Person- hours	Gross profit
	snipments:		:	: consumption	: Million :	Million
	:	-1,000 t	ons	: Percent	: hours :	dollars
	: ;	:	:	:	: :	
1974	: 1,264.3 :	: 151.7	: 1,324.9	: 11.4	: 47.6 :	359.2
1975	: 743.9 :	: 153.7	: 850.3	: 18.1	: 31.9 :	162.5
1976	: 993.5 :	: 166.9	: 1,100.9	: 15.2	: 33.5 :	190.3
1977	: 1,057.0 :	: 141.4	: 1,142.6	: 12.4	: 35.5 :	246.5
1978	: 1,208.2 :	: 159.2	: 1,308.8	: 12.2	: 37.2 :	329.0
1979 (projec-	: :	:	:	:	: :	
tion):	: ;	:	:	:	: :	
Low growth:	: ;	:	:	:	: :	
With quotas	: 1,174.0 :	175.0	: 1,289.0	: 13.6	: 36.5 :	323.6
Without	: :	:	:	:	: :	
quotas	: 1,134.0 :	215.0	: 1,289.0	: 16.7	: 34.7 :	303.9
Recession:	: ;	2	:	:	: :	
With quotas	: 1,095.0 :	: 175.0	: 1,210.0	: 14.5	: 33.7 :	294.4
Without	: ;	:	:	:	: :	
quotas	: 1,054.0 :	216.0	: 1,210.0	: 17.9	: 31.9 :	276.6
	• •	•	•	•	• •	

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

Under the low-growth scenario, if quotas were terminated, producer's shipments would decline, but would still be 7 percent above shipments in 1977 and exceed 1975 shipments by over 50 percent. Imports would increase by about 35 percent over 1978 and consumption would fall slightly (about 2 percent). The import-consumption ratio would increase over 35 percent but would be lower than the 1975 ratio of 18.1 percent. Person-hours worked would decline but would be higher than the comparable 1975 and 1976 levels. Gross profits would also decline but would still be higher than the annual profits reported for 1975 through 1977. If a recession were to be assumed, the termination of quotas would result in the same trends in shipments, imports, consumption, Person-hours worked and gross profits. Although the changes would be sharper in a recession, all of the aforementioned indices would be at higher levels than found in the 1975 recession and with the exception of shipments and Person-hours worked, higher than comparable 1976 and 1977 levels.

Section 202(c) considerations

Section 203(i)(4) of the Trade Act of 1974 directs that the Commission take into account the considerations set forth in section 202(c) when advising the President as to the probable economic effect on the industry concerned of the termination or modification of import relief.

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."

In response to the request by the Commission for such information and advice, the U.S. Department of Labor, Bureau of International Labor Affairs, provided a list of certified worker petitions and trade readjustment allowance payments made under the Trade Act of 1974. The following tabulation summarizes the list presented in appendix E:

Number of	Number	Benefits		
certified cases	of workers	paid		
38	23,994	\$35,897,038 <u>1</u> /		

<u>Section 202(c)(2)</u>.-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 letter from the Secretary of Commerce presented in appendix E notes that no firms in the industry have applied for or are receiving adjustment assistance under chapters 3 or 4. However, under another program, the Economic Development Administration has approved a 90-percent guarantee of a \$10 million loan to Al Tech, Inc. The U.S. Department of Commerce Report to the President, titled "Prospects for Trade Adjustment Assistance for Firms in the Stainless Steel and Alloy Tool Steel Industry," is also presented in appendix E.

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."

The domestic specialty steel industry has asserted that the quotas on imported articles have been effective in aiding the industry to adjust to strong import competition by placing a quantitive limit on the level of specialty steel imports.

^{1/} These benefits were awarded during the period September 1975-November 1978.

During this period of relief, the industry has endeavored to improve its competitiveness through organizational changes, technological innovations, and increased capital expenditures. One firm discontinued rod and wire production to concentrate on flat-rolled products while another sold its Bar Products Division to a group of its employees thereby concentrating its efforts on flat-rolled products while, at the same time, creating a viable new domestic producer. Other firms have consolidated their specialty steel operations to increase coordination and responsiveness to changing market conditions. New AOD vessels and continuous casting equipment have been installed. Other technological changes include introduction of new computer controls for production processes, development of improved dolomite brick with longer refractory life, new induction heating for stainless steel slabs, and increased use of scrap, flue dust, grinding swarf, and mill scale. Capital expenditures amounted to \$82.8 million in 1977 and 1978 and are budgeted for \$89.0 million for 1979.

The specialty steel industry, comprised of 22 firms, is concentrated in the northeasten region of the United States, principally in Pennsylvania. Chicago Heights, Ill., is the farthest western location of any domestic manufacturing facility of either stainless steel or alloy tool steel. Stainless steel is a necessary component of equipment used in such vital industries as petroleum refining and food processing and alloy tool steel is used to make tools used in the manufacture of virtually all products of industry.

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." It is difficult to assess the price impact of the quotas upon consumers. It appears, however, that such impact has been minimal. The average importers' unit selling price to intermediate consumers, such as steel service centers or manufacturers who utilize specialty steel in their end products, increased 7.5 percent in 1978 for stainless steel and 5.2 percent for alloy tool steel compared with 1977. Stainless steel plate's average unit value, however, declined by 4.2 percent. A comparison of the same period for the average unit value of U.S. producers' shipments shows almost no change in stainless steel, but a 23-percent increase for alloy tool steel. A substantial portion of the increase (70 percent) in price for alloy tool steel is accounted for by increased costs. A recent Labor Department study 1/ notes that the prices paid by consumers for stainless steel and alloy tool steel since the imposition of quotas have increased more slowly than prices of other industrial goods since the imposition of quotas. The impact on final consumers of products which contain specialty steel is not known.

In the almost 3 years of quota relief, there have been indications that foreign suppliers have changed their product mix in an effort to increase their shipments of high-unit-value products. Consumers who have been most affected by these changes include U.S. knife producers who use cutter blade steel (imported as alloy tool steel) and 420 and 440A stainless steel sheet;

1/ U.S. Department of Labor Staff Study: Price Behavior of Products under Import Relief.
U.S. stainless steel wire producers who use rods in the manufacture of their end product, independent producers of stainless steel pipe and tube who use sheets and strip in the manufacture of their end products, and small distributors of imported alloy tool steel. The principal domestic rod producers are also producers of wire and have historically consumed a large share of their own rod production. However, since the imposition of quotas these producers have substantially increased their shipments of rod to U.S. consumers. In 1978 only 14 percent of their production was captive in comparison to 48 percent in 1974.

Sections 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."

From June 14, 1976, the date the quotas became effective, through December 1978, no U.S. trading partners have requested compensation. The time limit for requesting such compensation has been extended and, presumably, such requests could be made throughout the life of the quotas. Japan, which has supplied the largest quantities of the subject items to the United States, signed an orderly marketing agreement in which it indicated that compensation would not be requested. Further, the continued high level of imports indicate that compensation would be minimal for any other country making such a request.

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."

Investigation of the market for specialty steel has revealed that the bulk of all imports, as well as the domestic items, are consumed mainly in the Northeast and upper Midwest. Thus, the impact of the quotas 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.

<u>Section 202(c)(8)</u>.--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."

Japan has been the principal supplier of imports of the articles concerned. The following table shows exports of these articles to selected markets during 1974 and 1977.

Although Japan shipped a larger quantity of exports to Western Europe-primarily the EC countries--than to the United States, the U.S. market was the largest single outlet for Japanese exports. The countries of the EC follow Japan as the largest U.S. supplier of imports of the articles concerned. However, the majority of exports from individual EC countries are shipped to other EC markets.

Source :	United States			: 0	ther Ame countr	:	: Western : Europe			: Eastern Europe :China and U.S.S.R.			Other countries				:	Total			
source :	1974	:	1977	::	1974	1977	:	1974	:	1977	:	1974	:	1977	:	1974	:	1977	:	1974	1977
:		:		:	:		:		:		:		:		:		:	<u></u>	:		
Exports of :		:		:	:		:		:		:		:		:		:		:	:	
stainless :		:		:	:		:		:		:		:		:		:		:	:	
steel from:		:		:	:		:		:		:		:		:		:		:	:	
Japan:	68.4	:	82.5	:	50.4 :	75.9	:	80.5	:	98.4	:	42.8	:	43.5	:	126.8	:	257.5	:	368.9 :	557.8
France:	20.9	:	23.2	:	16.4 :	20.8	:	191.8	:	188.6	:	7.6	:	19.3	:	8.4	:	7.9	:	245.1 :	259.8
Sweden:	21.8	:	16.0	:	27.2 :	14.6	:	133.7	:	125.8	:	27.9	:	17.2	:	7.3	:	4.4	:	217.9 :	178.0
West Germany:	3.5	:	5.9	:	14.3 :	6.8	:	149.9	:	232.0	:	44.4	:	30.4	:	7.2	:	5.7	:	219.6 :	280.8
Spain:	2/	:	5.9	:	2/ :	3.3	:	2/	:	43.9	:	2/	:	3.0	:	2/	:	1.8	:	31.3 :	57.9
United :	-	:		:	- :		:	-	:		:		:	•	:	-	:		:	:	
Kingdom:	7.2	:	3.1	:	8.2 :	6.7	:	20.0	:	25.8	:	1.4	:	2.2	:	6.4	:	7.7	:	43.2 :	45.5
Total:	3/ 121.8	:	136.6	:3/	116.5	128.1	:3/	575.9	:	714.5	:3/	124.1	:	76.6	:3/	246.1	:	285.0	:3/	1,126.0 :	1,379.8
:		:		:			:		:		:		:		:		:		:	<u> </u>	

Stainless steel: 1/ Exports to the United States and other countries, by sources, 1974 and 1977

 $\frac{1}{2}$ / Excludes tubing except for Japan. $\frac{1}{2}$ / Not available. $\frac{3}{2}$ / Does not include exports from Spain.

Source: International Nickel Limited, World Stainless Steel Statistics, 1975 and 1978.

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According to State Department officials, trade restrictions on the articles concerned have been imposed by many Western European countries. In most cases, however, specific details regarding the restrictions are lacking. Further, the European Coal and Steel Community has established a monitoring and allocation program for its members.

<u>Section 202(c)(9)</u>.--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 quotas would remove protection from import competition currently enjoyed by the domestic industry. If the removal of this protection caused a reduction of domestic sales, the industry might be forced to reduce output and layoff workers. 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 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 quotas may cause economic distortions in the form of artificially higher prices, for both domestic and imported specialty steel products. Quotas may also keep some marginal firms in business. 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 may cause artifically higher prices in these other industries.

APPENDIX A

U.S. INTERNATIONAL TRADE COMMISSION NOTICE CONCERNING INVESTIGATION NO. TA-203-5 STAINLESS STEEL AND ALLOY TOOL STEEL

[7020-02-M]

INTERNATIONAL TRADE

[TA-203-5]

STAINLESS STEEL AND ALLOY TOOL STEEL

Investigation and Hearing

Investigation instituted. 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 U.S. International Trade Commission on December 11, 1978, instituted an investigation under section 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 concerned of the termination of import relief presently in effect with respect to the stainless steel and alloy tool steel provided for in items 923.20 through 923.26, inclusive, of the Appendix to the Tariff Schedules of the United States. Import relief presently in effect with respect to such articles is scheduled to terminate at the close of June 13, 1979, unless extended by the President. The relief is provided for in Proclamation 4445 of June 11, 1976 (41 FR 24101), as modified by Proclamation 4477 of November 16, 1976 (41 FR 50960), Proclamation 4509 of June 15, 1977 (42 FR 30829), and Proclamation 4559 of April 5, 1978 (43 FR 14433).

Public hearing ordered. A public hearing in connection with this investigation will be held in Washington, D.C., at 10 a.m., e.s.t., on Tuesday, March 6, 1979, in the Hearing Room, U.S. International Trade Commission Building, 701 E Street, N.W. Requests A-70for appearances at the hearing should be received in writing by the Secretary to the Commission at his office in Washington no later than noon on March 1, 1979.

Suggested prehearing procedures. To facilitate the hearing process, it is requested that persons wishing to appear at the hearing submit prehearing briefs enumerating and discussing the issues which they wish to raise at the hearing. Such prehearing briefs should be submitted to the Secretary of the Commission no later than the close of business Monday, February 26. 1979. The Secretary will make copies of such briefs available to the public. While this does not prohibit submission of prepared statements in accorance with § 201.12(d) of the Commission's Rules of Practice and Procedure (19 CFR § 201.12(d)), it would be unnecessary to submit such a statement if a prehearing brief is submitted instead. Any such statements will, of course, be made a part of the transcript. Oral presentations, however, should, to the extent possible, be limited to issues raised in the prehearing briefs.

Prehearing conferences will be held on Tuesday, February 12, 1979, at 10:00 a.m. and Friday, March 2, 1979, at 10:00 a.m. in Room 117 of the U.S. International Trade Commission Building.

Persons not represented by counsel or public officials who have relevant matters to present may give testimony without regard to the suggested prehearing procedures outlined above.

Inspection of petition. The petition filed in this case is available for public inspection at the Office of the Secretary, U.S. International Trade Commission, and at the New York City office of the U.S. International Trade Commission located at 6 World Trade Center.

Issued: December 19, 1978.

By order of the Commission.

KENNETH R. MASON,

Secretary.

[FR Doc. 78-35689 Filed 12-21-78; 8:45 am]

FEDERAL REGISTER, VOL 43, NO. 247-FRIDAY, DECEMBER 22, 1978

APPENDIX B

STATISTICAL TABLES

	Commission	President
Duration	5 years	3 years, unless terminated sooner.
Exclusions	None	Razor blade steel, band saw steel, chipper knife steel.
Timing	No more than 60 percent of total quota may be entered during any 6 months.	Same
Shortfall	If quota not filled at end of year for any country, next years allocation would be reduced and reallocated to all other countries.	If 2/3 of quota is not used in 9 months or 80 percent in 10 months, unfilled quota may be reallocated to other countriess.
Carryover	None	Japan may carry over 4 per- cent of its quota for 30 days into next quota year.
Adjustments within a quota year.	None	Japan may readjust quota during quota year by cer- tain percentages.
Base periods: Quota	1970-74	: 1971-75, all countries except Canada; 1971-74, Canada.
Country alloca-	: 1972-74	No definite method
Increase in quotas.	Based on increased consump- tion.	3 percent annually
Provision for non- supplying coun- tries.	None	Included in "other" country quota category.
Provision for EC	By country	In total

Table 1.--Stainless steel and alloy tool steel: Comparison between Commission recommendations to the President and Presidential Proclamation No. 4445

Table 2.--Stainless steel and alloy tool steel: Quota limits and U.S. imports for consumption, first quota year, June 14, 1976-June 13, 1977

	Specialty		Stainles	38		: Alloy tool : steel (except
:	bearing steel) total	Sheets and strip TSUS 923.20	Plates : TSUS : 923.21 :	Bars TSUS 923.22	Rods TSUS 923.23	: bearing : steel) <u>1/2/</u> : TSUS 923.26
:		:		: :	8	:
Japan: :	1	:			;	:
Quota limittons:	66,400 :	: 38,600	: 5,600	: 13,000 :	: 5,700	: 3,500
Importsdo:	61,675 :	: 35,696	: 4,851 :	: 11,977 :	5,700	: 3,451
Percent of quota filled:	92.9	92.4	86.6	92.1	100.0	: 98.6
Buropean Community:						:
Quota limit 3/4/5/tons:	34,608	17.541	4.800	1.465	7.401	. 3.401
Importenergenergenergenergenergenergenergene	31,767	16,465	3,109	1,391	7.401	: 3,401
Percent of quota filled	91.8	• • • • • • •	64.7	94.9	100.0	: 100.0
rercent or quota rifted :	51.0	. ,,,,,	· · · ·	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		:
Canada: :		:	:			:
Quota limit 3/4/tons:	10.385	. 7.300	: 200	985	: 0	: 1,900
Importsdo:	10,073	7.087	: 102	985	: 0	: 1,899
Percent of quota filled:	97.0	: 97.0	: 51.0	100.0	: -	: 99.9
:		:	:	:	:	:
Sweden: :	:	:	:		:	:
Quota limit $3/4/5/$ tons:	22,345	: 6,400	: 1,600	: 1,845	: 4,000	: 8,500
Importsdo:	22,160	: 6,298	: 1,600	: 1,762	: 4,000	: 8,500
Percent of quota filled:	99.2	: 98.4	: 100.0	95.4	: 100.0	: 100.0
Other!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!		:	:		:	:
Other $1init 2//(5/ topo$	12 075		. 700	. 6 207		• 3 606
	13,2/3	2,002	: 700 . 506	6 307		. 3,000
	12,391	: 2,101		100 0		
rercent of quota filled:	94.8	. 81.9	. /2.2	. 100.0	-	
All countries:		•	•	•	:	•
Quota limittons:	147.013	72,503	: 12.900	23.602	: 17.101	: 20.907
Importsdo:	138,266	: 67.727	: 10.168	: 22.420	: 17.101	: 20,850
Percent of quota filled:	94.1	93.4	: 78.8	95.0	: 100.0	: 99.7
:		:	:	:	:	<u>:</u>

1/ Proclamation No. 4445 of June 11, 1976, as amended.

1/ Froctamation No. 4475 of Sume 11, 1970, as amended.
2/ Superseded earlier designation, TSUS 923.24, effective Nov. 21, 1976; Proclamation No. 4477.
3/ Quota limits changed by first reallocation (42 F.R. Mar. 18, 1977, p. 15157).
4/ Quota limits changed by second reallocation (42 F.R. June 3, 1977, p. 28653).

5/ Quota limits changed by third reallocation (42 F.R. June 10, 1977, p. 29976).

6/ Other MFN countries. 7/ Under the first reallocation, Austria received a separate country quota of 6 tons for alloy tool steel.

Source: U.S. Department of Commerce, Bureau of Resources and Trade Assistance.

Note .--- Quotas for "column 2" countries totaled 11 tons and are not included in any of the quota limit tables. There have been no imports of these items from "column 2" countries since the imposition of quotas. Table 3.--Stainless steel and alloy tool steel: U.S. imports subject to quota limitations, by principal sources, first quota year, June 14, 1976-June 13, 1977

	(In t	ţo	ns)						
	:		Stainles	\$	steel		Alloy	:	
Source	Sheets and strip (923.20)	::	Plates (923.21)	: :(Bars 923.22)	Rods (923.23)	steel (923.26)	: '	Total
	:	:		:		;;	:	:	
EC breakdown:		:	•	:			:	:	
Belgium and Luxenbourg	26/	1	0	:	0 :	: 1,412	: 0	:	1,679
Denmark	· · · · · · · · · · · · · · · · · · ·	:	0	:	- 10	0	: 0	:	0
France	: 14,140	:	96	:	//9 :	3,793	: 351	:	19,159
Germany	1,/54	:	1,193	:	521 :	584	: 1,761	:	5,813
Ireland	: 0	:	U	:	0:	. 0	: 0	:	0
	: 0	:	0	:	3 :	1,539	: 6	:	1,548
Nether lands	: 0	:	0	:	5:	· 0	: 3	:	8
United Kingdom		:	1,820	:	83 :	73	: 1,280	<u>:</u>	3,560
Total	: 16,465	:	3,109	:	1,391 :	7,401	: 3,401	:	31,767
Supplying countries included in	1	:		:	1		:	:	
Other countries-Col. 1:		:		:		-	:	:	
Argentina	• 0	:	0	:	649 :	: 0	: 770	:	1,419
Australia	: 0	:	0	:	0:	0	: 0	:	0
Austria	: 1	:	0	:	41 :	• 0	: 2,013	:	2,055
Brazil	: 0	:	0	:	1,360 :	: 0	: 0	:	1,360
Finland	: 0	:	0	:	0 :	: 0	: 0	:	0
Korea	: 1,998	:	0	:	170 :	: 0	: 0	:	2,168
Norway	: 0	:	0 :	:	179 :	0	: 0	:	179
Poland	: 0	:	0	:	0 :	: 0	: 692	:	692
South Africa	: 11	:	484	:	0 :	: 0	: 0	:	495
Spain	: 171	:	22	:	3,906 :	: O	: 124	:	4,223
Venezuela	0	:	0	:	0:	0	: 0	:	0
Tota1	2,181	:	506	:	6,305 :	0	: 3,599	:	12,591
	:	:		:			:	:	

Source: Compiled from official statistics of the U.S. Department of Commerce, Bureau of Resources and Trade Assistance.

Table 4.--Stainless steel and alloy tool steel: U.S. imports subject to quota limitations, by principal sources, quota limits, and actual count, second quota year, June 14, 1977-June 13, 1978

:	Specialty			Alloy tool steel (except		
•	steel, total	Sheets and	Plates :	Bars :	Rods	bearing
:	except	strip	TSUS :	TSUS :	TSUS	: steel) 1/2/
·:	bearing steel)	TSUS 923.20	923.21 :	923.22 :	923.23	TSUS 923.26
:	· . 8	:	: :	: :	:	:
Japan: :						
Quota limittons:	68,400	38,900	: 5,900 :	: 14,000 :	5,900	3,700
Importsdo:	66,686	38,900	: 4,699 :	: 13,490 :	5,900	3,697
Percent of quota filled:	97.5	100.0	: 79.6 :	: 96.4 :	: 100.0	: 99.9
European Community: :	:	:	: :	: ;	:	8
Quota limit 3/4/tons:	. 36,019	: 16,800	: 5,000 :	: 2,677 :	: 8,042	: 3,500
Importsdo:	34,868	: 16,800	: 3,849 :	: 2,677 :	: 8,042	: 3,500
Percent of quota filled:	96.8	100.0	: 77.0 :	: 100.0 :	: 100.0	: 100.0
Canada: :	-	:	: :	: :	:	:
Quota limit 5/6/tons:	11,510	; 7,980	: 175 :	: 1,355 :	: 0	: 2,000
Importsdo:	11,302	7,980	: 16 :	: 1,322	: 0	: 1,984
Percent of quota filled:	98.2	100.0	: 9.1 :	97.6	: -	99.2
Sweden: :	:	:	: :		:	•
Quota limit 3/5/tons:	22,478	; 7,320	: 1,400	: 1.500	: 3,658	: 8,600
Importsdo:	21,853	7,264	: 1,073	: 1,339	: 3,581	: 8,596
Percent of guota filled:	97.2	99.2	: 76.6 :	89.3	: 97.9	: 100.0
Austria: :			:	:	:	:
Quota limittons:	2.322	: 0	: 0:	: 0	: 0	2.322
Importsdo:	2,311	: 0	: 0	. 0	: 0	2.311
Percent of guota filled:	99.5	. 0	: 0	. 0	: 0	99.5
Other"Column 1": 7/8/ :			:		:	•
Quota limit 3/4/tons:	10,782	3,003	1.025	5.370	. 0	1.384
Importsdo:	10.531	3,003	. 774	5,370	. 0	1.384
Percent of quota filled:	97.7	100.0	75.5	100.0		100.0
All sources:			• • • • • •	:	•	:
Quota limittons:	151.511	74.003	13,500	24.902	17.600	21,506
Imports	147,551	73.947	10.411	24,108	17.523	21,472
Percent of guota filled	97 4	99.9	77.1	97.2	99.6	. 99.8
1	<i></i>		:	:	:	:

1/ Proclamation No. 4445 of June 11, 1976, as amended.

 $\overline{2}/$ Superseded earlier designation, TSUS item 923.24, effective Nov. 21, 1976; Proclamation No. 4477.

3/ Quantity changed effective Apr. 12, 1978 (43 F.R. 14366, Apr. 5, 1978).
4/ Quantity changed effective June 12, 1978 (43 F.R. 24921, June 8, 1978).
5/ Quantity changed effective Apr. 5, 1978 (43 F.R. 14366, Apr. 5, 1978).

6/ Quantity changed effective June 8, 1978 (43 F.R. 24921, June 8, 1978).

7/ Other MFN countries.

 $\frac{\overline{8}}{8}$ / Under the first reallocation, Austria received a separate country quota of 6 tons for alloy tool steel.

Source: U.S. Department of Commerce, Bureau of Resources and Trade Assistance.

Source	: Sheets : and strip	* P1			Leel		Alloy	•			
Source	and strip	' Pl	: Sheets :								
	: (923.20)	(92	ates 23.21)	; ;(9	Bars 23.22)	Rods (923.23)	steel (923.26)		Total		
	:	:		:		:	:	:			
Dreakdowni	1 167	•	•	1	•		:	:			
Belgium and Luxembourg	. 157		0	•	0	: 999	: 0	:	1,1		
Denmark	·: U		.0	:	0	: 0	: 0	:			
France	13,020	:	18	:	624	: 5,127	: 180	:	18,9		
Germany	• 2,177	: 1	,187	:	940	: 485	: 1,685	:	6,4		
Ireland	-: 0	:	0	ŧ	1	: 0	: 0	:			
Italy	-: 0	5	0	1	5	: 1,422	: 22	:	1,4		
Netherlands	•: 0	:	0	:	. 0	: 0	: 0	:			
United Kingdom	·: <u> 1,446</u>	: 2	,644	:	1,107	: 9	: 1,613	:	6,8		
Total	: 16,800	: 3	,849	:	2,677	: 8,042	: 3,500	:	34.8		
pplying countries included in	:	•		:		:	:	:			
Other countries-Col. 1:	:	:		:		:	:	.:			
Argenting	•: 0	:	0	:	99	: 0	: 449	:	5		
Australia	• 1	:	0	:	0	: 0	: 0	:	-		
Austria	. 0	:	2	:	. 75	: 0	: 0	:			
Brazil	. 0	:	0	:	707	: 0	: 9	•	7		
Finland	: 304	1	Ó	:	0	2 0	: 0	•	3		
Korea	: 2.650	:	0	:	191	. 0	: 0		2.8		
Norway	. 0	:	0	:	497	. 0	, ,	•	-,-		
Poland	. 0	1	Ō	:	0	. 0	: 689	-	6		
South Africa	: 45	:	772	:	Ō		: 0	;	Å		
	: 0	:	0	:	3.801	. 0	237	;	4.0		
Veneguela	. 3		õ	:		. 0	• 10	:	-,0		
Total	3,003	·	774	•	5.370	<u> </u>	1 184	÷	10 5		
	: 5,005			•	,,,,,,,,,	, ,	• 1,504	:	10,5		

Table 5.—Stainless steel and alloy tool steel: U.S. imports subject to quota limitations, by principal sources, second quota year, June 14, 1977-June 13, 1978

Table 6.--Stainless steel and alloy tool steel: U.S. imports subject to quota limitations, by principal sources, quota limits, and actual count, first half of third quota year, June 14,-December 8, 1978

	Specialty steel,	:		: Alloy tool : steel (except		
:	total (except	: Sheets and	: Plates	: Bars	Rods	: bearing
:	: bearing steel)	strip :	: TSUS	: TSUS	: TSUS	: steel 1/2/
		: TSUS 923.20	923.21	923.22	923.23	: TSUS 923.26
•		:	:	:	:	:
Japan:	· · · · · · · · · · · · · · · · · · ·	• • • • • • •	. 3 790	. 9 700	:	:
	. 42,240	• 19 6/1	· 2 210	. 7 050	: 3,600	: 2,280
		• 783	• 61 1	. 00 3	; 3,340	2,280
Percent of quota filled	. 02.1	. /0.5	• • • •	. 90.3	. 98.5	: 100.0
European Community:	20.080		. 1 000	. 1 (00		:
Quota limittons	20,080	9,900	: 1,000	1,620	: 4,740	: 1,900
Importsdo	20,080	9,900	: 1,800	: 1,620	: 4,740	: 1,900
Percent of quota filled	100.0	: 100.0	: 100.0	: 100.0	: 100.0	: 100.0
Canada:	:		:	:	:	:
Quota limittons	8,040	: 5,520 :	: 300	: 1,020	: 0	: 1,200
Importsdo	5,788	: 4,130	: 0	: 754	: 0	: 904
Percent of quota filled	: 72.0	: 74.8	: 0	: 73.9	: 0	: 75.3
Sweden:	-	:	:	:	:	:
Quota limittons:	: 15,057	: 4,440 :	: 2,160	: 960	: 2,520	: 4,977
Importsdo:	: 10,019	: 3,152 :	: 568	: 660	: 1,767	: 3,872
Percent of quota filled	. 66.5	: 71.0 :	: 26.3	: 68.8	: 70.1	: 77.8
Austria:	:	:	:	:	:	:
Quota limittons	: 1,426	: 0:	: 0	: 0	: 0	: 1,426
Importsdo	922	: 0:	: 0	: 0	: 0	: 922
Percent of quota filled	64.7	: - :	: -	: -	: -	: 64.7
Spain:	:	:	:	:	:	:
Quota limittons:	: 1,899	: 0:	: 0	: 1,899	: 0	: 0
Importsdo	: 1,899	: - :	: -	: 1,899	: -	: -
Percent of quota filled		: :	:	: 100.0	:	:
Other col. 1 countries:	8	:	:	:	:	:
Quota limittons	4.290	: 1.740 :	: 420	: 1.281	: 0	: 849
Importsdo	4.179	: 1.740 :	: 309	: 1.281	: 0	: 849
Percent of guota filled	97.4	100.0	: 73.6	: 100.0	: -	: 100.0
Column 2 countries:			:	:	:	:
Quota limittons	7	2	: 0	: 1	: 0	: 4
Importsdo	0	. 0 .	: 0	: 0	: 0	: 0
Percent of quota filled	_	-	-		: -	: -
Total:				:	:	
Quota limittone	93,039	45.542	8,520	15.481	. 10.860	. 12.636
Tmootte	77 572	37.673	5.047	14.072	10.053	• 10 707
Percent of quote filled	83.4	·	• 50 2	90.0	• 97 6	• 10,727
Tercent of doors IIII60	33.4		•	• • • • • •	• 92.0	• 04.9
			•	•	•	•

.

Source: Compiled from official statistics of the U.S. Customs Service.

Table 7.--U.S. imports subject to quota limitations, as reported by the U.S. Customs Service, first half of third quota year, June 14 to December 8, 1978

		(In tons)						
:		Stainl	ess	s steel		:	177	:	
	Sheete	•	•		•	- too	,y 1	•	
Source	and	• • Plates	:	Bars	• : Rods	: stee	,1	•	Total
•	etrin	• (023 21	$\frac{1}{2}$	(923.22)	. (923.23):(923.	26)		
	(923,20)	:	:	()23•22)	:	:	207	:	
	()=====	:		·····	:	:		:	
EC breakdown:		:	:		:	:		:	
Belgium and Luxembourg:	156	: 0	:	1	: 234	:	0	:	391
Denmark:	0	: 0	:	0	: 0	:	0	:	0
France:	4,391	: 0	:	529	: 4,214	: 1	.67	:	9,301
West Germany:	4,883	: 833	:	448	: 25	: 8	352	:	7,041
Ireland:	0	: 0	:	0	: 0	:	0	:	0
Italy:	0	: 0	:	4	: 267	:	12	:	283
Netherlands:	0	: 0	:	0	: 0	:	1	:	1
United Kingdom:	530	: 1,027	:	638	: 0	: 8	868	:	3,063
Total:	9,960	: 1,860	:	1,620	: 4,740	: 1,9	000	:	20,080
Supplying countries :		:	:		:	:		:	-
included in Other :		:	:		:	:		:	
countries-Col. 1: :		:	:		:	:		:	
Argentina:	0	: 0	:	13	: 0	: 3	327	:	340
Australia:	. 0	: 0	:	0	: 0	:	0	:	· 0
Austria:	i	: 2	:	112	: 0	:	0	:	115
Brazil	• 0	: 0	:	787	: 0	:	3	:	790
Finland:	130	: 0	:	0	: 0	:	0	:	130
Korea	1,571	: 0	:	332	: 0	:	0	:	1,903
Norway:	: O	: 0	:	37	: 0	:	0	:	37
Poland	: 0	: 0	:	0	: 0	: 3	336	:	336
South Africa:	38	: 307	:	0	: 0	:	0	:	345
Spain:	• 0	: 0	:	0	: 0	: 1	83	:	183
Venezuela:	0	: 0	:	0	: 0	:	0	:	0
Tota1:	1,740	: 309	:	1,281	: 0	: 8	349	:	4,179
		:	:		:	:		:	

Source: Compiled from official statistics of the U.S. Customs Service.

				-		-		_		_		_		_		_	
Source	1970	:	1971	:	1972	:	1973	:	1974	:	1975	:	1976	:	1977	:	1978
							Quant	i	ty (tons)							
1		:		:		:		:		:		:		:		:	
Japan	: 86,319	: '	92,159	:	42,140	:	33,976	:	59,191	:	73,819	:	73,427	:	61,188	:	66,991
France	: 13,509	:	18,682	:	20,798	:	14,054	:	16,893	:	11,103	:	20,787	:	20,567	:	15,574
Canada	: 10,909	:	10,860	:	8,200	:	9,164	:	11,278	:	8,963	:	6,278	:	8,590	:	9,801
Sweden	: 8,473	:	12,645	:	21,295	:	16,497	:	15,046	:	11,962	:	10,984	:	10,997	:	15,518
West Germany:	: 1,124	:	5,120	:	2,910	:	1,844	:	4,161	:	4,405	:	6,072	:	3,620	:	11,741
Korea	: 34	:	0	:	1,550	:	1,400	:	1,641	:	2,133	:	4,421	:	2,668	:	2,948
United Kingdom	: 1,929	:	2,780	:	3,363	:	3,932	:	5,906	:	4,380	:	3,610	:	3,630	:	4,465
Austria	: 134	:	457	:	557	:	655	:	821	:	427	:	672	:	77	:	80
Spain	: 850	:	661	:	1,641	:	3,557	:	4,659	:	5,133	:	5,267	:	4,216	:	3,374
Belgium:	: 1,764	:	2,237	:	2,635	:	2,550	:	1,797 [.]	:	3,775	:	3,207	:	1,149	:	647
Brazil	: 251	:	106	:	192	:	1,491	:	2,434	:	1,221	:	1,182	:	1,023	:	1,373
All other	: <u> </u>	:	1,430	:	2,995	:	3,733	:	3,373	:	2,164	:	4,269	:	2,314	:	4,549
Total:	126,258	:1	47,137	:	108,276	:	92,853	:	127,200	:	129,485	:	140,176	:	120,039	:	137,061
					-	_	Value ((1	,000 dol	1	ars)						
:		:		:		:		:		:		:		:	· · · · ·	:	
Japan	74,669	:	76,942	:	35,815	:	32,595	:	70,286	:	91,810	:	87,265	:	87,438	:	100,069
Spain	: 626	:	551	:	1,435	:	3,281	:	4,786	:	6,119	:	6,525	:	6,047	:	4,874
Brazil	: 251	:	102	:	152	:	1,568	:	3,041	:	1,619	:	1,465	:	1,361	:	2,056
Sweden	9,146	:	12,206	:	19,088	:	16,630	:	17,997	:	14,061	:	17,501	:	19,219	:	27,282
United Kingdom	: 2,484	:	2,845	:	3,213	:	4,156	:	8,231	:	6,944	:	5,204	:	5,441	:	6,530
Canada	: 6,896	:	5,909	:	5,198	:	6,422	:	10,733	:	8,279	:	5,843	:	10,236	:	11,546
France	: 9,579	:	14,415	:	16,099	:	12,704	:	18,011	:	13,726	:	25,004	:	27,643	:	21,550
Austria	: 69	:	346	:	558	:	930	:	1,151	:	780	:	1,235	:	128	:	214
West Germany	: 666	:	3,037	:	2,415	:	1,916	:	5,137	:	5,757	:	8,707	:	5,496	:	16,586
Belgium:	: 1,923	:	2,288	:	2,453	:	2,670	:	3,023	:	6,337	:	5,286	:	1,947	:	1,033
Korea	: 18	:	-	:	1,125	:	1,102	:	1,843	:	2,372	:	4,371	:	3,711	:	3,501
All other	. 482	:	916	:	2,831	:	2,507	:	3,452	:	2,273	:	4,526	:	2,886	:	5,342
Total	106,809	:1	19,557	:	90,382	:	86,481	:	147,691	:	160,077	:	172,932	:	171,553	:	206,583
							Percer	1t	of tota	1	quantit	y					
	:	:		:	··	:		:		:		:		:		:	
Japan	: 68.4	:	62.5	:	38.9	:	36.6	:	46.5	÷	57.0	:	52.4		51.0	:	48.8
France	: 10.7	:	12.7	:	19.2		15.1	:	13.3		8.6		14.8		17.1	:	11.3
Canada:	8.6	:	7.4	:	7.6	:	9.9	:	8.9	•	6.9	:	4.5	:	7.2	:	7.1
Sweden	: 6.7	:	8.6	:	19.7	:	17.8		11.8		9.2	•	7.8		9.2	:	11.3
West Germany	9	:	3.7	:	2.7	:	2.0		3.3		3.4		4.3	:	3.0	:	8.6
Korea	: 1/	:	_		1.4	:	1.5		1.3	-	1.6		3.2	•	2.2	•	2.2
United Kingdom	: 1.5	:	1.9	:	3.1		4.2		4.6		3.4		2.6		3.0	:	3.3
Austria	: .1	:	.3	:	.5		.7		6	;	.3		.5		.1	:	0.1
Spain	: .7	:	.4	:	1.5		3.8		3.7	;	4.0	:	3.8		3.5	:	2.5
Belgium	: 1.4	:	1.5	:	2.4	;	2.8		1.4	;	2.9	;	2.3		1.0	:	.5
Brazil	: .2	:	.1	:			1.6		1.0	•		;				:	1.0
All other	: .8	:	.9	:	2.8	:	4.0		2.7	;	1.8	:	3.0		1.9	:	3.3
Total	: 100.0	:	100.0	÷	100.0	÷	100.0	;	100.0	<u>.</u>	100.0	•	100.0	÷	100.0	÷	100.0
	:	:				•	100.0	:	100.0	:	100.0	:	100.0		10010		

Table 8.—All stainless steel subject to quota limitations: U.S. imports for consumption, by principal sources, 1970-78

1/ Less than 0.05 percent.

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

Table 9.--Stainless steel sheets and strip: U.S. imports for consumption, by principal sources, 1970-78

: Quantity (tons)	Quantity (tons)													
	:	:												
Japan: 64,868 : 71,344 : 25,694 : 18,038 : 33,294 : 36,973 : 43,984 : 37,4	96 :	: 40,232												
France: 7,790 : 13,130 : 13,007 : 8,630 : 9,967 : 7,902 : 14,736 : 15,4	19 :	: 9,133												
Canada: 10,318: 10,216: 7,603: 8,184: 9,200: 6,252: 5,364: 7,1	72 :	: 8,529												
Sweden: 4,215 : 5,828 : 6,976 : 5,630 : 6,681 : 6,855 : 5,081 : 5,3	78 :	: 8,983												
West Germany: 940 : 5,067 : 2,654 : 1,263 : 3,085 : 1,754 : 2,277 : 1,4	41 :	: 8,570												
Korea: 0: 0: 1,550: 1,400: 1,641: 2,127: 4,191: 2,4	73 :	: 2,467												
United Kingdom: 637: 674: 1,016: 1,022: 860: 1,507: 1,109: 9	14 :	: 906												
Austria: 19: 126: 88: 81: 56: 11: 109:	0 :	: 1												
Spain: 0: 0: 3: 38: 28: 348: 632:	0 :	: 0												
Belgium: 40 : 381 : 135 : 58 : 17 : 2,177 : 741 : 1)5 :	: 312												
Brazil:: 0: 0: 0: 0: 0: 0: 0:	0 :	: 0												
All other: 5: 422: 919: 357: 59: 57: 75:	72 :	: 1.575												
Total: 88,832 :107,188 : 59,645 : 44,701 : 64,888 : 65,963 : 78,299 : 70,4	70 :	: 80,708												
	"-1													
· Value (1,000 dollars)														
	:	:												
Japan: 57,465 : 59,416 : 21,386 : 16,979 : 39,201 : 43,162 : 50,438 : 51,9	45 :	: 56,396												
France: 5,466 : 10,244 : 9,515 : 6,854 : 9,784 : 8,848 : 16,438 : 19,8	32 :	: 11,883												
Canada: 6,446 : 5,376 : 4,656 : 5,527 : 7,987 : 5,255 : 4,585 : 8,2	70 :	: 9,606												
Sweden: 5,424 : 6,370 : 7,133 : 6,597 : 9,812 : 10,970 : 8,796 : 10,2	17 :	: 16,868												
West Germany: 605 : 2,998 : 2,184 : 1,336 : 4,093 : 2,269 : 3,490 : 2,0	70 :	: 11,962												
Korea: -: 1,125: 1,102: 1,843: 2,367: 4,169: 3,4	94 :	: 3,004												
United Kingdom: 1,064 : 1,032 : 1,192 : 1,407 : 1,552 : 2,481 : 1,612 : 1,4	55 :	: 1.475												
Austria: 32: 54: 90: 151: 80: 26: 209:	- :	: 3												
Spain: -: 3: 38: 31: 382: 672:	- :	: -												
Belgium: 25 : 301 : 73 : 41 : 22 : 2.951 : 956 : 1	51 :	: 422												
Brazil	- :	: -												
All other: 5: 334: 1.419: 347: 60: 80: 93: 1	02 :	: 2.082												
Total: 76.532 : 86.125 : 48.776 : 40.379 : 74.465 : 78.791 : 91.458 : 97.6	06 :	: 113,701												
		:												

Source	1970	:	1971	:	1972	:	1973	:	1974	:	1975	:	1976	:	1977	:	1978
					Avera	age	unit	va	lue (ce	nts	per p	our					
:		:		:		:		:		:		:		:		:	
Japan:	44	:	42	:	42	:	47	:	59	:	58	:	57	:	69	:	70
France:	33	:	39	:	37	:	40	:	49	:	60	:	56	:	64	:	65
Canada:	31	:	26	:	31	:	34	:	43	:	42	:	43	:	58	:	56
Sweden:	64	:	55	:	51	:	59	:	73	:	80	:	87	:	95	:	94
West Germany:	32	:	30	:	41	:	53	:	66	:	65	:	70	:	72	:	70
Korea:	-	:	-	:	36	:	39	:	56	:	56	:	50	:	70	:	61
United Kingdom:	83	:	77	:	59	:	69	:	90	:	82	:	73	:	80	:	81
Austria:	84	:	21	:	51	:	93	:	71	:	118	:	96	:	-	:	150
Spain:	-	:	-	:	50	:	50	:	55	:	55	:	53	:	-	:	-
Belgium:	31	:	40	:	28	:	35	:	65	:	68	:	65	:	77	:	68
Brazil:	-	:	-	:	-	:	-	:	-	:	-	:	-	:	-	:	-
A11 other:	50	:	40	:	77	:	49	:	51	:	70	:	62	:	71	:	66
Tota1;	43	:	40	:	41	:	45	:	57	:	60	:	58	:	69	:	70
							Perce	nt	of tota	a 1	quanti	^t y					
		:	······	•		:		:		•		•				:	
Japan:	73.0		66.6		43.1		40.4		51.3		56.0	-	56.2	-	53.2	:	49.8
France:	8.8	:	12.3		21.8		19.3		15.4		12.0	-	18.8		21.9	:	11.3
Canada:	11.6	:	9.5	:	12.7	:	18.3		14.2		9.5	:	6.9		10.2	:	10.6
Sweden:	4.7	:	5.4	:	11.7		12.6		10.3	:	10.4	:	6.5	:	7.6	:	11.1
West Germany:	1.1	:	4.7	:	4.4	:	2.8	:	4.8	:	2.7	:	2.9	:	2.0	:	10.6
Korea:	-	:	_	:	2.6	:	3.1	:	2.5	:	3.2	:	5.4	:	3.5	:	3.1
United Kingdom:	.7	:	.6	:	1.7	:	2.3	:	1.3	:	2.3	:	1.4	:	1.3	:	1.1
Austria:	1/	:	.1	:	.1	:	.2	:	.1	:	1/	:	.1	:	_	:	1/
Spain:		:	_	:	1/	:	.1	:	1/	:	5	:	.8	:	-	:	
Belgium:	1/ -	:	.4	:	2	:	.1	:	ī/	:	3.3	:	.9	:	0.1	:	0.4
Brazi1:		:	-	:	-	:	_	:		:	-	;		:	-	:	-
All other:	1/	:	.4	:	1.5	:	.8	•	1/	:	1/	:	.1	:	0.1	:	2.0
Total:	100.0	:	100.0	÷	100.0	:	100.0	:	100.0	:	100.0	:	100.0	:	100.0	:	100.0
		:	· · · •	:		:		:		:		:		:		:	•

Table 9.--Stainless steel sheets and strip: U.S. imports for consumption, by principal sources, 1970-78--Continued

1/ Less than 0.05 percent.

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

Table	10Stainless	steel bars:	v.s.	imports	for	consumption,
	Ъу ј	principal sou	irces,	1970-78		

Source	1970	:	1971	:	1972	:	1973	:	1974	:	1975	:	1976	:	1977	:	1978
:							Quant	:i	ty (ton	3)							
		:		:		:	0.000	:		:		:		:		:	
Japan:	12,366	:	12,962	:	11,274	1	8,889	:	12,403	:	16,157	:	11,651	:	13,631	:	15,591
Spain:	837	:	661	:	1,638	:	3,519	:	4,631	:	4,785	:	4,635	:	4,216	:	3,367
Brazil:	251	:	106	:	192	:	1,491	:	2,434	:	1,221	:	1,182	:	1,023	:	1,373
Sweden:	230	:	624	:	1,347	:	1,540	:	2,137	:	1,342	:	2,059	:	1,109	:	1,416
United Kingdom:	84	:	151	:	463	:	1,556	:	1,603	:	986	:	98	:	1,048	:	880
Canada:	589	:	531	:	502	:	760	:	1,510	:	1,592	:	806	:	1,333	:	1,239
France:	4 30	:	642	:	1,849	:	1,313	:	882	:	456	:	315	:	996	:	966
Austria:	105	:	331	:	469	:	570	:	758	:	416	:	563	:	77	:	76
West Germany:	2	:	27	:	69	:	44	:	275	:	1,783	:	344	:	962	:	1,494
Belgium:	37	:	34	:	354	:	10	:	1/	:	0	:	43	:	0	:	23
Korea:	34	:	0	:	0	:	0	:	_ 0	:	6	:	2 2 0	:	195	:	455
All other:	230	:	160	:	352	:	445	:	1,259	:	439	:	1,230	:	624	:	392
Total:	15,195	:	16,229	:	18,509	:	20,137	:	27,892	:	29,183	:	23,146	:	25,214	:	27,272
:							Value (1	,000 do	118	ars)						
		:		:		:		:		:		:		:		:	
Japan:	10,077	:	11,528	:	10,606	:	9,161	:	15,018	:	21,741	:	14,801	:	21,002	:	27,125
Spain:	621	:	551	:	1,432	:	3,243	:	4,755	:	5,737	:	5,853	:	6,047	:	4,863
Brazil:	250	:	102	:	152	:	1,568	:	3,041	:	1,619	:	1,465	:	1,361	:	2,056
Sweden:	214	:	646	:	1,313	:	1,671	:	2,550	:	1,891	:	3,154	:	1,765	:	2,211
United Kingdom:	78	:	184	:	466	:	1,551	:	1,990	:	1,363	:	168	:	1.532	:	1,367
Canada:	446	:	511	:	474	:	707	:	1,875	:	2,222	:	1.104	:	1.828	:	1,915
France:	384	:	427	:	1.508	:	1.315	:	943	:	673	:	469	:	1.313	:	1.383
Austria:	64	:	292	:	468	:	775	:	1.061	:	754	:	1.026	:	128	:	200
West Germany:	4	:	21	:	82	:	54	:	365	:	2.232	:	555	:	1.410		2.257
Belgium:	44	:	31	:	321	:	9	:	1	:		:	40	:	-,	:	29
Republic of Korea:	18	:	-	:	-	:	-	:	_	:	5	:	190	:	217	:	457
All other:	203	:	153	:	308	:	415	:	1.596	:	597	:	1.423	:	917	:	551
Total:	12,403	:	14,446	:	17,130	;	20,469	:	33,195	:	38,834	:	30,248	:	37,520	:	44,414
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See footnotes at end of table.

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Source	1970	:	1971	:	1972	:	1973	:	1974	:	1975	::	1976	::	1977	:	1978
:					Aver	age	e unit	va	lue (ce	nts	per po		nd)	-			
-		:		:		:		:		:		:		:		:	
Japan:	41	:	44	:	47	:	52	:	61	:	67	:	64	:	77	:	87
Spain:	37	:	42	:	44	:	46	:	51	:	60	:	63	:	72	:	72
Brazil:	50	:	48	:	40	:	53	:	62	:	66	:	62	:	67	:	75
Sweden:	47	:	52	:	49	:	54	:	60	:	70	:	77	:	80	:	78
United Kingdom:	46	:	61	:	50	:	50	:	62	:	69	:	86	:	73	:	78
Canada:	38	:	48	:	47	:	47	:	62	:	70	:	68	:	69	:	77
France:	45	:	33	:	39	:	50	:	53	:	74	:	74	:	66	:	72
Austria:	30	:	44	:	50	:	68	:	70	:	91	:	91	:	83	:	132
West Germany:	100	:	39	:	59	:	61	:	66	:	63	:	81	:	73	:	76
Belgium:	59	:	46	:	45	:	45	:	-	:	-	:	47	:	-	:	63
Korea:	26	:		:	-	:	-	:	-	:	42	:	43	:	56	:	50
All other:	44	:	48	:	40	:	47	:	63	:	68	:	58	:	73	:	70
Total:	41	:	46	:	46	;	51	:	60	:	67	:	65	:	74	:	81
:					•		Perce	nt	of tot	a 1	quanti	t y					
-	······	:	······	:	·	:		:		:		:	-	:		:	
Japan:	81.4	:	79.9	:	60.9	:	44.1	:	44.5	:	55.4	:	50.3	:	54.1	:	57.2
Spain:	5.5	:	4.1	:	8.8	:	17.5	:	16.6	:	16.4	:	20.0	:	16.7	:	12.4
Brazil:	1.7	:	.7	:	1.0	:	7.4	:	8.7	:	4.2	:	5.1	:	4.1	:	5.0
Sweden:	1.5	:	3.8	:	7.3	:	7.6	:	7.7	:	4.6	:	8.9	:	4.4	:	5.2
United Kingdom:	.6	:	.9	:	2.5	:	7.7	:	5.7	:	3.4	:	.4	:	4.2	:	3.2
Canada:	3.9	:	3.3	:	2.7	:	3.8	:	5.4	:	5.4	:	3.5	:	5.3	:	4.5
France:	2.8	:	4.0	:	10.0	:	6.5	:	3.2	:	1.6	:	1.4	:	4.0	:	3.5
Austria:	.7	:	2.0	:	2.5	:	2.8	:	2.7	:	1.4	:	2.4	:	.3	:	.3
West Germany:	2/	:	.2	:	.4	:	.2	:	1.0	:	6.1	:	1.5	:	3.8	:	5.5

Table 10.--Stainless steel bars: U.S. imports for consumption, by principal sources, 1970-78--Continued

 $\frac{1}{2}$ Less than 0.5 tons. 2/ Less than 0.05 percent.

-1

-:

Belgium-

Korea-----

All other----;

Total----

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

Note.-Because of rounding, figures may not add to the totals shown.

.2 :

1.0:

- :

:

1.9 :

2.0:

- :

:

<u>2</u>/

:

:

:

100.0: 100.0: 100.0: 100.0: 100.0: 100.0: 100.0: 100.0:

2.4 :

<u>2</u>/ :

- :

:

4.5 :

.2 :

1.0 :

5.3 :

:

:

:

:

:

<u>2/</u> 1.5

- :

.8:

:

2.5 :

.1

1.7

1.4

100.0

.

.2 :

.2 :

:

1.5 :

Source	1970	:	1971	:	1972	:	1973	:	1974	:	1975	:	1976	:	1977	:	1978
:							Quanti	it	y (tons	3)		-					<u> </u>
		:		;		:		;		:		:		:		:	
Japan:	3,602	:	4,019	:	2,831	:	3,837	:	7,398	:	9,325	:	6,881	:	6,464	:	5,701
France:	5,236	:	4,624	:	4,517	:	3,843	:	6,004	:	2,481	:	5,215	:	4,113	:	5,399
Sweden:	2,448	:	2,271	:	2,982	:	4,722	:	4,972	:	2,498	:	2,573	:	3,601	:	4,001
Belgium:	1,687	:	1,822	:	1,984	:	2,482	:	1,747	:	1,552	:	2,342	:	1,044	:	312
West Germany:	182	:	22	:	61	:	59 :	:	570	:	139	:	596	:	463	:	46
Canada:	0	:	22	:	0	:	5 :	:	20	:	0	:	44	:	0	:	0
Austria:	10	:	0	:	0	:	4 :	:	6	:	0	:	0	:	0	:	0
Brazil:	0	:	0	:	0	:	0 :	:	0	:	0	:	0	:	0	:	0
Korea:	0	:	0	:	0	:	0 :	:	0	:	0	:	0	:	0	:	26
Spain:	0	:	0	:	0	:	0 :	:	0	:	· 0	:	0	:	0	:	7
United Kingdom:	0	:	0	:	0	:	0 :	:	0	:	0	:	73	:	0	:	0
All other:	725	:	619	:	631	:	1,812	:	1,352	:	855	:	2,367	:	1,119	:	2,224
Total;	13,890	:	13,399	:	13,006	:	16,764	:	22,069	:	16,850	;	20,091	:	16,804	:	17,716
							Value ()	1,	000 do1	11	ars)					_	
•_		:	·····	:		:		;		:		:		:		:	
Japan:	2,002	:	2,693	:	1,890	:	3,301	:	8,157	:	11,178	:	8,115	:	9,246	:	8,620
France:	3,693	:	3,534	:	3,907	:	4,270 :	:	7,013	:	3,934	:	7,632	:	6,399	:	8,200
Swede	1,884	:	1,755	:	2,214	:	4,103	:	5,773	:	3,633	:	3,663	:	5,668	:	6,141
Belgium:	1,854	:	1,956	:	1,916	:	2,620	:	2,981	:	3,327	:	4,172	:	1,806	:	582
West Germany:	57	:	14	:	49	:	67 :	:	301	:	87	:	766	:	577	:	57
Canada:	-	:	4	:	-	:	5 :	:	25	:	-	:	62	:	-	:	-
Austria:	5	:	-	:	-	:	4 :	:	9	:	-	:	-	:	-	:	-
Brazil:	-	:	-	:	-	:	- :	:	-	:	-	:	-	:	-	:	-
Korea:	-	:	-	:	-	:	- :	:	-	:	-	:		:	-	:	40
Spain:	-	:	-	:	-	:	- :	:	-	:	-	:	-	:	-	:	11
United Kingdom:	-	:	-	:	-	:	- :	:	-	:	-	:	102	:	-	:	-
A11 other:	273	:	251	:	262	:	754 :	:	800	:	749	:	2,154	:	1,123	:	2, <u>210</u>
Total:	9,768	:	10,207	:	10,238	:	15,124	:	25,059	:	22,908	:	26,666	:	24,819	:	25,861
:		:		:		:		:		:		:		:		:	

Table 11.--Stainless steel wire rods: U.S. imports for consumption, by principal sources, 1970-78

See footnotes at end of table.

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Source	1970	:	1971	:	1972	:	1973	:	1974	:	1975	:	1976	:	1977	:	1978
					Avera	ge	unit v	al	ue (cer	its	per po	un	.d)				
		:		:		:		:		:		:		:		:	
Japan:	28	:	34	:	33	:	43	:	55	:	60	:	59	:	72	:	76
France:	35	:	38	:	43	:	56	:	58	:	79	:	73	:	78	:	76
Sweden:	38	:	39	:	37	:	43	:	58	:	73	:	71	:	79	:	77
Belgium:	55	:	54	:	48	:	53	:	85	:	107	:	89	:	86	:	93
West Germany:	16	:	32	:	40	:	57	:	26	:	31	:	64	:	62	:	62
Canada:	-	:	9	:	-	:	50	:	63	:	-	:	70	:	-	:	-
Austria:	25	:	-	:	-	:	50	:	75	:	-	:	-	:	-	:	-
Brazil:	-	:	-	:	-	:	-	:	-	:	-	:	-	:	-	:	-
Republic of-Korea:	-	:	-	:	-	:	-	:	-	:	-	:	-	:	-	:	77
Spain:	-	:	-	:	-	:	-	:	-	:	-	:	-	:	-	:	79
United Kingdom:	-	:	-	:	-	:	-	:	-	:	-	:	70	:	-	:	-
All other:	19	:	20	:	21	:	21	:	30	:	44	:	46	:	50	:	50
Total:	35	:	38	:	39	:	45	:	57	:	68	:	66	:	74	:	73
:							Percer	ıt	of tota	1	quantit	:y					
		:		:		:		:		:		:		:		:	
Japan:	25.9	:	30.0	:	21.8	:	22.9	:	33.5	:	55.4	:	34.2	:	38.5		32.1
France:	37.7	:	34.5		34.7	:	22.9	:	27.2	:	14.7	:	26.0	:	24.5	:	30.4
Sweden:	17.6	:	16.9	:	22.9	:	28.2	:	22.5	:	14.8	:	12.8	:	21.4	:	22.6
Belgium:	12.1	:	13.6	:	15.3	:	14.8	:	7.9	:	9.2	:	11.6	÷	6.2	:	1.8
West Germany:	1.3	:	.2	:	.5	:	.4	:	2.6	:	.8	:	3.0	:	2.8	:	.3
Canada:	-	:	.2	:	-	:	1/	:	.1	:	_	:	.2	:		:	-
Austria:	.1	:	_	:	-	:	Ī/	:	1/	:	-	:	_	:	-	:	-
Brazil:	-	:	-	:	-	:		:		:	-	:	-	:	-	:	-
Korea:	-	:	-	:	-	:	-	:	-	:	-	:	-	:	_	:	.2
Spain:	-	:	-	:	-	:	-	:	-	:	-	:	-	:	-	:	1/
United Kingdom:	-	:	-	:	· _	:	-	:	-	:	-	:	.4	:	-	:	
All other:	5.3	:	4.6	:	4.9	:	10.8	:	6.2	:	5.1	:	11.8	:	6.7	:	12.6
Tota1:	100.0	:	100.0	:	100.0	:	100.0	:	100.0	:	100.0	:	100.0	:	100.0	:	100.0
:		:		:		:_		:		:_		:		:	-	:	

Table 11.--Stainless steel wire rods: U.S. imports for consumption, by principal sources, 1970-78--Continued

1/ Less than 0.05 percent.

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

Source	1970	:	1971	1972	:	1973	:	1974	:	1975	:	1976	:	1977	:	1978
:			. <u></u>			Quant	:i1	ty (ton	s)							
-		•		•	<u>.</u>		•		•		•		•		•	
Japan	5,483	:	3.834	2.341	:	3.212	:	6.096	:	11.364	:	10,911	:	3.597	:	5,467
United Kingdom:	1,208	:	1,955	1.884	:	1,354	:	3.443	:	1.887		2,330	:	1,668		2.679
Sweden:	1,580	:	3,922	9,990	:	4,605	:	1,256	:	2,008	:	1,271	:	909	:	1,115
Canada:	2,500	:	91	95	:	215	:	548	:	489	:	64	:	85	:	33
West Germany:	ō	:	4	126	:	478	:	231	:	729	:	2.855	:	754	:	-1.631
Branco	53	:	286	1.425		268	:	40	:	264	:	521	:	0	:	76
Belgium:	0	:	0	: 162	:	0	:	33	:	46	:	81	:	39	:	0
Austria	õ	:	Ō	: 0	:	Ō	:	1	:	0	:	0	:	0	:	3
Spain:	13	:	Õ	. 0	:	Ő	:	0	:	Ő	:	Õ		Õ		0
Brazil:	0	•	Ō	: 0	••	Ő	:	0	:	Ō	:	Ő	•	Ő	:	0
Korea:	Ő	:	Ő	. 0	:	Ő	:	ő	:	Ő		10	:	õ	:	0
All other	2	:	229	1.093		1.119	:	703		702	:	597	:	499	:	361
Total:	8,341	:	10,321	: 17,116	:	11,251	:	12,351	:	17,489	:	18,640	:	7,551	:	11,365
:						Value ((1)	,000 do	11	ars)						
		:		:	:		:		:		:		:		:	
Japan:	5,125	:	3,305	1.973	:	3,154	:	7.910	:	15,729	:	13.911	:	5.245	:	7,928
United Kingdom:	1.342	:	1,629	: 1,555	:	1,198	:	4,689	:	3,100	:	3,322	:	2,444	:	3.688
Sweden:	1.624	:	3,435	8.428	:	4,259	:	1.687	:	3,282	:	1.888	:	1.569	:	2.062
Canada:	4	:	18	: 68	:	183	:	846	:	ُ 802	:	9 2	:	138	:	25
West Germany:	-	:	4	: 100	:	459	:	378	:	1,169	:	4,196	:	1,439	:	2,310
France:	36	:	210	: 1,169	:	265	:	54	:	271	:	465	:	-	:	84
Belgium:	-	:	-	: 143	:	-	:	19	:	59	:	118	:	49	:	-
Austria:	-	:	-	: -	:	-	:	1	:	-	:	-	:	-	:	11
Spain:	5	:	- :	: -	:	-	:	-	:	-	:	-	:	-	:	-
Brazil:	-	:	- :	: -	:	-	:	-	:	-	:	-	:	-	:	-
Korea:	-	:	- :	: -	:	-	:	-	:	-	:	12	:	-	:	-
All other:	1	:	178	842	:	991	:	755	:	847	:	853	:	724	:	499
Tota1:	8,137	:	8,779	: 14,278	:	10,509	:	16,339	:	25,259	:	24,857	:	11,608	:	16,607
:		:	:	•	:		:		:		:		:		:	

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Table 12.--Stainless steel plates: U.S. imports for consumption, by principal sources, 1970-78

Source	1970	:	1971	:	1972	:	1973	:	1974	::	1975	:	1976	:	1977	:	1978
					Avera	ge	unit	val	lue (cer	nts	per po	un	ıd)				
		:		:	_	:		:		:		:		:		:	,,
Japan:	47	:	43	:	42	:	49	:	65	:	69	:	64	:	73	:	73
United Kingdom:	56	:	42	:	41	:	44	:	68	:	82	:	71	:	73	:	51
Sweden:	51	:	44	:	42	:	46	:	67	:	82	:	74	:	86	:	92
Canada:	100	:	10	:	36	:	43	:	77	:	82	:	72	:	81	:	38
West Germany:	-	:	50	:	40	:	48	:	82	:	80	:	73	:	95	:	71
France:	34	:	37	:	40	:	. 49	:	68	:	51	:	45	:	63	:	55
Belgium:	-	:	-	:	41	:	· -	:	29	:	64	:	73	:	-	:	-
Austria:	-	:	-	:	44	:	-	:	50	:	·	:	-	:	-	:	183
Spain:	19	:	-	:	-	:	-	:	-	:	-	:	-	:	-	:	-
Brazil:	-	:	-	:	-	:	·	:	-	:		:	-	:	-	:	-
Korea:	-	:	-	:	-	:	-	:	. –	:	-	:	60	:	-	:	-
A11 other:	25	:	39	:	39	:	44	:	54	:	60	:	71	:	73	:	69
Total;	49	:	43	:	42	:	47	:	66	:	72	:	67	:	77	:	73
:							Perce	nt	of tota	al	quantit	y					
•								_								_	
• ·	(5.7	:	27 0	:	12 7	:	00 F	:	10 1	:	~ ~	:	F0 (:	17 6	:	
Japan:	05./	:	3/.0	:	13./	:	28.5	•	49.4	:	04.9	:	20.0		4/.0	:	40.1
United Kingdom:	14.5	:	18.9	:	11.0	:	12.0	:	2/.9	:	10.8	•	12.5	:	22.1	:	23.5
Sweden:	18.9	:	38.2	:	58./	:	40.9	•	10.2	•	11.5		0.8	1	12.0	:	9.0
Canada:	<u>1</u> /	:	.,9	:	.0	:	1.9	:	4.4	:	2.8	-		:	1.1	:	
West Germany:	-	:	1/	:	./	:	4.2	:	1.9	:	4.2	:	15.3	:	10.0	:	14.4
France:	.6	:	2.8	:	8.3	:	2.4	:		:	1.5	:	2.8	:	•2	:	• /
Belgium:	-	:	-	:	.9	:	-	:	3	:	• 3	:	•4	:	-	:	., -
Austria:	-	:	-	:	-	:	-	:	1/ -	:	-	:	-	:	-	:	<u>1</u> /
Spain:	.2	:	-	:	-	:	-	:	-	:	-	:	-	:	-	:	-
Brazil:	-	:	-	:	-	:	-	:	-	:	-	:	-	:	-	:	-
Korea:	-	:	-	:	-	:	-	:	-	:	-	:	.1	:	-	:	-
All other:	.1	:	2.2	:	6.4	:	10.1	:	5.7	:	4.0	:	3.2	:	6.6	:	3.2
Total:	100.0	:	100.0	:	100.0	:	100.0	:	100.0	:	100.0	:	100.0	:	100.0	:	100.0
:		:		:		:		:		:		:		:		:	•

Table 12.--Stainless steel plates: U.S. imports for consumption, by principal sources, 1970-78--Continued

1/ Less than 0.05 percent.

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

Table 13.--Alloy tool steel: U.S. imports for consumption, by principal sources, 1970-78

Source	1970	:	1971	:	1972	:	1973	:	1974	:	1975	:	1976	:	1977	:	1978
:							Quant	i	ty (tone)					_		
:		:		:		:		:		:		:		:		:	
Sweden:	6,038	:	3,814	:	6,248	:	9,460	:	9,544	:	10,118	:	10,518	:	7,058	:	8,66
West Germany:	1,145	:	596	:	590	:	1,975	:	2,803	:	2,370	:	1,173	:	1,916	:	1,44
Austria:	2,013	:	1,531	:	1,594	:	3,130	:	2,631	:	2,416	:	2,522	:	2,000	:	1,38
Japan:	2,289	:	2,502	:	2,873	:	3,634	:	2,186	:	4,674	:	5,894	:	4,753	:	5,23
Canada:	2,955	:	2,221	:	1,485	:	1,657	:	2,163	:	956	:	1,439	:	1,983	:	2,49
Spain:	0	:	0	:	0	:	568	:	1,217	:	589	:	499	:	341	:	31
United Kingdom:	1,018	:	540	:	700	:	1,106	:	1,092	:	969	:	2,164	:	1,751	:	1,52
Poland:	187	:	394	:	440	:	390	:	814	:	1/	:	i/	:	676	:	51
Finland:	315	:	12	:	6	:	140	:	412	:	ī/	:	1/	:	0	:	(
All other:	1,389	:	991	:	875	:	1,023	:	1,078	:	2,152	:	2,491	:	852	:	1,25
Tota1:	17,349	:	12,601	:	14,811	:	23,083	:	23,940	:	24,244	:	26,700	:	21,330	:	22,82
							Value (1	,000 dol	11	ars)						
		:		:		:		:		;		:		:		:	<u> </u>
Sweden:	5,800	:	4.166	:	7.154	1	10,703	:	12,969	:	16,225	:	18,693	:	14,514	:	22.22
West Germany:	842	:	655	:	637	:	1,336	:	2,182	:	2,387	:	1,192	:	2,504	:	2,19
Austria:	1.646	:	1,229	:	1.659	:	3,621	:	3,011	:	3,467	:	3,671	:	3,173	:	2.96
Japan:	1.158	:	1.577	:	2,912	:	2,413	:	2,765	:	7.003	:	8,526	:	9.755	:	13.91
Canada:	2,973	:	1.813	:	1,621	:	1,629	:	3,019	:	1.212	:	1.974	:	3.034	:	3.17
Spain:	-,	:	-	:		:	578	:	1,020	:	515	:	427	:	269	1	26
United Kingdom:	989	:	687	:	1.097	:	1,755	:	1,921	:	2,007	:	3.471	:	4,038	:	3.47
Poland:	89	:	204	:	231	:	251	:	502	:	2/	:	2/	:	590	:	46
Finland:	48	:	2	:	4	:	37	:	122	:	$\frac{1}{2}/-$:	2/ -	:	-	:	
All other:	647	:	531	:	691	:	677	:	827	:	1,769	:	2.386	:	1,304	:	1.58
Total:	14.192	:	10.864	:	16.006	:	23,000	:	28,338	:	34,585	:	40.340	:	39,181	:	50.27
	,	:	,	:	,	:	,	:	•	:		:		:		:	-,
See footnotes at en	nd of tab	1	e.														

				•		•		•						-		-	·
Source	1970	:	1971	:	1972	:	1973	:	1974	:	1975	;	1976	:	1977	:	1978
:		-			Avera	ge	unit v	7a]	lue (cer	nts	per po	our	ud)				
-		:		:		:		:		:		:		:		:	
Sweden:	48	:	55	:	57	:	57	:	68	:	80	:	89	:	103	:	128
West Germany:	37	:	55	:	54	:	34	:	39	:	50	:	51	:	65	:	76
Austria:	41	:	40	:	52	:	58	:	57	:	72	:	73	:	79	:	107
Japan:	23	:	32	:	51	:	33	:	63	:	75	:	72	:	103	:	133
Canada:	50	:	41	:	55	:	49	:	70	:	63	:	69	:	77	:	64
Spain:	-	:	. –	:	-	:	51	:	42	:	44	:	43	:	39	:	42
United Kingdom:	49	:	64	:	78	:	79	:	88	:	104	:	80	:	115	:	114
Poland:	24	:	26	:	26	:	32	:	31	:	-	:	-	:	44	:	46
Finland:	8	:	8	:	33	:	13	:	15	:	-	:	-	:	-	:	-
All other:	_23	:	27_	:	39	:	33	:	38	:	41	:	48	:	77	:	63
Total:	41	:	43	:	54	:	50	:	59	:	71	:	76	:	92	:	110
:							Percen	nt	of tota	a1	quanti	ty					
-		:		:		:		:		:	- <u></u>	:		;		:	
Sweden:	34.8	:	30.3	:	42.2	:	41.0	:	39.9	:	41.7	:	39.4	:	33.1	:	37.9
West Germany:	6.6	:	4.7	:	4.0	:	8.6	:	11.7	:	9.8	:	4.4	:	9.0	:	6.3
Austria:	11.2	:	12.2	:	10.8	:	13.3	:	11.0	:	10.0	:	9.4	:	9.4	:	6.1
Japan:	13.2	:	19.9	:	19.4	:	15.7	:	9.1	:	19.3	:	22.1	:	22.3	:	22.9
Canada:	17.1	:	17.6	:	10.0	:	7.2	:	9.0	:	3.9	:	5.4	:	9.3	:	10.9
Spain:	-	:	-	:	-	:	2.5	:	5.1	:	2.4	:	1.9	:	1.6	:	1.4
United Kingdom:	5.9	:	4.3	:	4.7	:	4.8	:	4.6	:	4.0	:	8.1	:	8.2	:	6.7
Poland:	1.1	:	3.1	:	3.0	:	1.7	:	3.4	:	3/ -	:	3/ -	:	3.2	:	2.2
Finland:	1.8	:	3/	:	<u>3/</u>	:	.6	:	1.7	:	3/ -	:	3/ -	:	-	:	-
All other:	8.0	:	7.8	:	5.9	:	4.4	:	4.5	:	8.9	:	9.3	:	4.0	:	5.6
Total:	100.0	:	100.0	:	100.0	:	100.0	:	100.0	:	100.0	:	100.0	:	100.0	:	100.0
				•		•		•									

Table 13.--Alloy tool steel: U.S. imports for consumption, by principal sources, 1970-78--Continued

 $\frac{1}{2}$ Less than 0.5 tons. $\frac{2}{2}$ Less than \$500. $\frac{3}{2}$ Less than 0.05 percent.

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

Table 14.--Stainless steel and alloy tool steel: U.S. producers' shipments, exports of domestic merchandise, imports for consumption, and apparent consumption, by product groups, 1970-78 and, by quarters, 1976-78

	U.S.	:		:		:	Apparent	:	Ratio of
Period :	producers'	:	Exports	:	Imports	:	consump-	::	imports to
	shipments	:		:		:	tion	: (consumption
:		:	1,000	:	1,000	:	1,000	:	
:	<u>1,000 tons</u>	:	tons	:	tons	:	tons	:	Percent
:		:		:	- •	:		:	
1970:	651.5	:	73.5	:	143.6	:	721.6	:	19.9
1971:	680.5	:	46.8	:	159.7	:	793.4	:	20.1
1972:	821.5	:	47.1	:	123.1	:	897.5	:	13.7
1973:	1,091.6	:	75.6	:	115.9	:	1,132.9	:	10.2
1974:	1,264.3	:	90.5	:	151.1	:	1,324.9	:	11.4
1975:	743.9	:	47.4	:	153.7	:	850.3	:	18.1
1976 1/:	993.5	:	59.5	:	166.9	:	1,100.9	:	15.2
1977 1/:	1,057.0	:	55.9	:	141.4	:	1,142.6	:	12.3
1978 1/:	1,208.2	:	58.7	:	159.2	:	1,308.8	:	12.2
1976: :	·	:		:		:		:	
January-March:	238.0	:	15.9	:	41.7	:	263.8	:	15.8
April-June:	254.3	:	14.3	:	50.8	:	290.8	:	17.5
July-September:	248.1	:	15.7	:	42.2	:	274.8	:	15.4
October-December:	255.5	:	13.5	:	32.0	:	274.0	:	11.6
1977: :		:		:		:		:	
January-March:	270.2	:	13.7	:	23.8	:	280.2	:	8.5
April-June:	296.0	:	13.1	:	45.4	:	328.4	:	13.8
July-September:	256.3	:	18.1	:	33.1	:	271.3	:	12.2
October-December:	245.8	:	11.0	:	39.0	:	273.8	:	14.2
1978: :		:		:		:		:	
January-March:	288.4	:	12.1	:	36.5	:	312.7	:	11.7
April-June:	321.5	:	16.2	:	55.8	:	361.0	:	15.4
July-September:	291.7	:	14.1	:	27.9	:	305.5	:	9.1
October-December:	294.0	:	16.3	:	39.1	:	316.8	:	12.3
		:		:		:		:	

1/ Quarterly data may not conform to total for year; corrections and adjustments for the year were not distributed to individual quarters.

Source: U.S. producers' shipments, compiled from data submitted in response to questionnaires of the U.S. International Trade Commission; exports and imports, compiled from official statistics of the U.S. Department of Commerce.

Table 15.--Stainless steel: U.S. producers' shipments, exports of domestic merchandise, imports for consumption, and apparent consumption, 1970-78 and, by quarters, 1976-78

••••••••••••••••••••••••••••••••••••••	U.S.	:		:		;	Apparent	:	Ratio of
Period :	producers'	:	Exports	:	Imports	:	consump-	:	imports to
	shipments	:		:		:	tion	:	consumption
:		:	1,000	:	1,000	:	1,000	:	
:	1,000 tons	:	tons	:	tons	:	tons	:	Percent
:		:		:		:		:	
1970:	570.2	:	71.8	:	126.3	:	624.8	:	20.2
1971:	612.3	:	44.7	:	147.1	:	714.8	:	20.6
1972:	742.0	:	45.2	:	108.3	:	805.2	:	13.5
1973:	993.6	:	71.8	:	92.9	:	1,014.9	:	9.2
1974:	1,159.7	:	85.8	:	127.2	:	1,201.1	:	10.6
1975:	672.6	:	41.7	:	129.5	:	760.3	:	17.0
1976 1/:	924.4	:	55.5	:	140.2	:	1,009.1	:	13.9
1977 1/:	989.1	:	52.6	:	120.0	:	1,056.5	:	11.3
1978 1/:	1,134.2	:	55.5	:	137.1	:	1,215.8	:	11.3
1976: :		:		:		:		:	
January-March:	221.0	:	14.7	:	35.9	:	242.1	:	14.8
April-June:	236.6	:	13.3	:	44.0	:	267.3	:	16.5
July-September:	231.9	:	14.6	:	35.2	:	252.5	:	13.9
October-December:	237.9	:	12.8	:	25.1	:	250.1	:	10.0
1977: :		:		:		:		:	
January-March:	253.5	:	12.8	:	19.1	:	259.8	:	7.4
April-June:	277.6	:	12.4	:	39.2	:	304.4	:	12.9
July-September:	241.1	:	17.4	:	28.0	:	251.6	:	11.1
October-December:	228.8	:	9.9	:	33.7	:	252.8	:	13.3
1978: :		:		:		:		:	
January-March:	271.9	:	11.6	:	31.7	:	292.0	:	10.8
April-June:	302.0	:	15.5	:	48.6	:	335.1	:	14.5
July-September:	272.7	:	13.1	:	23.6	:	283.2	:	8.3
October-December:	275.2	:	15.3	:	33.2	:	293.1	:	11.3
:		:		:		:		:	

1/ Quarterly data may not conform to total for year; corrections and adjustments for the year were not distributed to individual quarters.

Source: U.S. producers' shipments, compiled from data submitted in response to questionnaires of the U.S. International Trade Commission; exports and imports, compiled from official statistics of the U.S. Department of Commerce.

Note.--Because of rounding, figures may not add to the totals shown.

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(In millions of dollars)													
			Stai	ln	less st	te	el			:	Alloy tool		
i ear	Sheets and strip	;1	Plates	:	Bars	:	Rods	:	Total	- : :	steel, all forms		
:		:		:		:		:		:			
1970:	435.9	:	119.8	:	151.8	:	13.1	:	720.6	:	133.4		
1971:	502.7	:	70.2	:	149.0	:	12.9	:	734.8	:	121.4		
1972:	579.5	:	76.1	:	172.1	:	16.2	:	843.9	:	143.4		
1973:	776.7	:	142.8	:	234.8	:	29.0	:	1,183.3	:	185.1		
1974:	1,142.0	:	246.8	:	328.6	:	45.0	:	1,762.4	:	234.4		
1975:	655.0	:	237.1	:	241.8	:	20.7	:	1,154.6	:	202.5		
1976:	1,012.6	:	190.2	:	276.4	:	32.6	:	1,511.8	:	232.5		
1977:	1,093.4	:	203.0	:	345.6	:	43.6	:	1,685.6	:	238.6		
1978:	1,279.6	:	236.4	:	365.7	:	47.8	:	1,929.5	:	321.2		
:		:		:		:		:	-	:			

Table 16.--Stainless steel and alloy tool steel: U.S. producers' shipments, by types, 1970-78

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

Table 17.--Stainless steel sheets and strip: U.S. producers' shipments, exports of domestic merchandise, imports for consumption, and apparent consumption, 1970-78, and, by quarters, 1976-78

:	U.S.	:		:		:	Apparent	:	Ratio of
Period :	producers'	:	Exports	:	Imports	:	consump-	:	imports to
:	shipments	:	-	:	_	:	tion	:	consumption
		:	1,000	:	1,000	:	1,000	:	
:	1,000 tons	:	tons	:	tons	:	tons	:	Percent
:		:		:		:		:	
1970:	393.9	:	62.7	:	88.8	:	420.0	:	21.1
1971:	444.2	:	38.0	:	107.2	:	513.4	:	20.9
1972:	552.0	:	39.0	:	59.6	:	572.8	:	10.4
1973:	734.9	:	60.8	:	44.7	:	718.8	:	6.2
1974:	825.3	:	67.1	:	64.9	:	823.1	:	7.9
1975:	440.7	:	28.1	:	66.0	:	478.5	:	13.8
1976 1/:	692.4	:	46.9	:	78.3	:	723.8	:	10.8
1977 1/:	728.5	:	45.6	:	70.5	:	753.4	:	9.3
1978 1/:	826.1	:	35.6	:	80.7	:	871.2	:	9.3
1976: :		:		:		:		:	
January-March:	163.3	:	12.1	:	21.2	:	172.4	:	12.3
April-June:	175.4	:	11.1	:	24.1	:	188.4	:	12.8
July-September:	174.5	:	12.4	:	20.5	:	182.6	:	11.2
October-December:	179.5	:	11.2	:	12.5	:	180.9	:	6.9
1977: :		:		•		:		:	
January-March:	188.4	:	11.0	:	10.9	:	188.3	:	5.8
April-June:	205.9	:	10.8	:	22.6	:	217.7	:	10.4
July-September:	179.5	:	15.5	:	16.5	:	180.5	:	9.2
October-December:	166.3	:	8.2	:	20.4	:	178.5	:	11.4
1978: :		:		:		:		:	
January-March:	197.2	:	7.7	:	21.4	:	210.8	:	10.1
April-June:	223.8	:	9.4	:	27.2	:	241.6	:	11.3
July-September:	201.4	:	8.5	:	12.7	:	205.6	:	6.2
October-December:	198.5	:	9.9	:	19.4	:	208.0	:	9.3
		:		;		:		:	

1/ Quarterly data may not conform to total for year; corrections and adjustments for the year were not distributed to individual quarters.

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

•	IL.S.	•			· · · · · · · · · · · · · · · · · · ·		Apparent	•	Ratio of
Period	producers'		Exports	•	Imports	:	consump-		imports to
	shinnents	;	DAPOLCO		Importo		tion	•	consumption
		÷	1.000	÷	1,000	÷	1.000		como ampezon
•	1 000 tone	•	tone	•	tone		tons	:	Percent
•	1,000 10113	:	20113	:		•	Lons	:	rereene
1970:	59.3	:	3.1	:	8.3	:	64.5	:	12.9
1971:	50.3	:	3.0	:	10.3	:	57.8	:	17.8
1972:	56.7	:	2.1	:	17.1	:	71.7	:	23.9
1973:	82.0	:	4.1	:	11.3	:	89.2	:	12.6
1974:	140.2	:	6.9	:	12.4	:	145.6	:	8.9
1975:	109.7	:	4.4	:	17.5	:	122.7	:	14.2
1976 1/:	93.7	:	3.2	:	18.6	:	109.1	:	17.1
1977 1/:	98.6	:	2.9	:	7.5	:	103.2	:	7.3
1978 1/:	129.8	:	6.1	:	11.4	:	135.1	:	8.4
1976: :		:		:		:		:	
January-March:	24.4	:	.9	:	4.4	:	27.8	:	15.8
April-June:	25.6	:	.8	:	7.7	:	32.3	:	24.0
July-September:	23.4	:	.7	:	4.7	:	27.5	:	17.1
October-December:	22.9	•	.8	:	1.8	:	23.9	:	7.6
1977: :		:		:		:		:	
January-March:	22.3	:	.7	:	.9	:	22.4	:	3.9
April-June:	26.8	:	.6	:	2.2	:	28.4	:	7.7
July-September:	25.6	:	.9	:	2.0	:	26.7	:	7.6
October-December:	23.8	:	.1	:	2.4	:	25.6	:	9.4
1978: :		:		:		:		:	
January-March:	33.1	:	.9	:	2.4	:	34.6	:	7.0
April-June:	29.4	:	1.1	:	3.8	:	32.2	:	11.9
July-September:	30.5	:	1.8	:	2.3	:	31.0	:	7.4
October-December:	30.7	:	2.3	:	2.8	:	31.2	:	8.9
:		:		:		:		:	

Table 18.--Stainless steel plates: U.S. producers' shipments, exports of domestic merchandise, imports for consumption, and apparent consumption, 1970-78, and, by quarters, 1976-78

1/ Quarterly data may not conform to total for year; corrections and adjustments for the year were not distributed to individual quarters.

Source: U.S. producers' shipments, compiled from data submitted in response to questionnaires of the U.S. International Trade Commission; exports and imports, compiled from official statistics of the U.S. Department of Commerce.

• .

:	U.S.	:		:		Apparent	:	Ratio of
Period :	producers'	:	Exports	:	Imports	consump-	:	imports to
:	shipments	:		:		tion	:	consumption
:		:	1,000	:	1,000	1,000	:	
:	1,000 tons	:	tons	:	tons	tons	:	Percent
:		:		:		:	:	
1970:	105.9	:	5.4	:	15.2	: 115.7	:	13.1
1971:	107.3	:	3.5	:	16.2	: 120.1	:	13.5
1972:	120.5	:	3.6	:	18.5	: 135.5	:	13.7
1973:	155.8	:	6.4	:	20.1	: 169.5	:	11.9
1974:	168.5	:	9.9	:	27.9	: 186.4	;	15.0
1975:	111.8	:	7.0	:	29.2	: 133.9	:	21.8
1976 <u>1</u> /:	120.9	:	5.0	:	23.1	: 139.1	:	16.6
1977 1/:	139.0	:	3.4	:	25.2	: 160.8	:	15.6
1978 1/:	152.9	:	12.9	:	27.3	: 167.3	;	16.3
1976: :		:		:		:	:	:
January-March:	30.3	:	1.6	:	5.8	: 34.5	-	16.7
April-June:	32.0	:	1.2	:	6.7	: 37.5	;	17.8
July-September:	29.3	:	1.4	:	4.7	: 32.6	;	: 14.3
October-December:	29.5	:	.8	:	6.0	: 34.8	ł	: 17.3
1977: :		:		:		:	1	:
January-March:	36.7	:	.9	:	4.9	: 40.8	-	12.1
April-June:	38.1	:	.8	:	8.5	: 45.7	5	: 18.6
July-September:	30.8	:	.8	:	5.8	: 35.7	1	16.1
October-December:	33.7	:	.9	:	6.0	: 38.9	-	: 15.4
1978: :		:		:		:	5	
January-March:	36.3	:	2.7	:	5.4	: 39.0	1	: 13.9
April-June:	41.8	:	4.7	:	8.5	: 45.6	1	18.6
July-September:	34.7	:	2.6	:	6.7	: 38.8	1	: 17.2
October-December:	38.1	:	2.9	:	6.7	: 42.0	3	16.0
:		:		:		:	1	l

Table 19.--Stainless steel bars: U.S. producers' shipments, exports of domestic merchandise, imports for consumption, and apparent consumption, 1970-78, and, by quarters, 1976-78

1/ Quarterly data may not conform to total for year; corrections and adjustments for the year were not distributed to individual quarters.

Source: U.S. producers' shipments, compiled from data submitted in response to questionnaires of the U.S. International Trade Commission; exports and imports, compiled from official statistics of the U.S. Department of Commerce.

Table 20.--Stainless steel rods: U.S. producers' shipments, exports of domestic merchandise, imports for consumption, and apparent consumption, 1970-78, and, by quarters, 1976-78

:	U.S.	:		:		: Apparent	:	Ratio of
Period :	producers'	:	Exports	:	Imports	: consump-	:	imports to
	shipments	:		:		: tion	:	consumption
:		:	1,000	:	1,000	: 1,000	:	
:	1,000 tons	:	tons	:	tons	: tons	:	Percent
:		:		:		:	:	
1970:	11.1	:	.7	:	13.9	: 24.4	:	57.0
1971:	10.3	:	.3	:	13.4	: 23.4	:	57.2
1972:	12.8	:	.6	:	13.0	: 25.3	:	51.4
1973:	21.0	:	.5	:	16.8	: 37.3	:	45.0
1974:	25.8	:	1.8	:	22.1	: 46.1	:	47.9
1975:	10.5	:	2.2	:	16.9	: 25.1	:	67.0
1976 <u>1</u> /:	17.4	:	.4	:	20.1	: 37.1	:	54.2
1977 <u>1</u> /:	23.0	:	.7	:	16.8	: 39.1	:	42.9
1978 <u>1</u> /:	25.3	:	.9	:	17.7	: 42.2	:	42.0
1976: :		:		:		:	:	
January-March:	3.0	:	.1	:	4.5	: 7.5	:	60.7
April-June:	3.9	:	.2	:	5.5	: 9.2	:	60.1
July-September:	4.6	:	.1	:	5.3	: 9.8	:	53.9
October-December:	5.9	:	.1	:	4.7	: 10.6	:	44.7
1977: :		:		:		:	:	
January-March:	6.1	:	.3	:	2.4	: 8.3	:	29.1
April-June:	6.7	:	.2	:	5.9	: 12.5	:	47.3
July-September:	5.2	:	.1	:	3.7	: 8.8	:	42.1
October-December:	4.9	:	.1	:	4.8	: 9.6	:	49.9
1978: :		:		:		:	:	
January-March:	5.3	:	.3	:	2.5	: 7.5	:	32.8
April-June:	7.0	:	.3	:	9.1	: 15.7	:	57.6
July-September:	6.1	:	.1	:	1.8	: 7.9	:	23.4
October-December:	7.9	:	.2	:	4.4	: 12.1	:	36.1
:		:		:		:	:	

1/ Quarterly data may not conform to total for year; corrections and adjustments for the year were not distributed to individual quarters.

Source: U.S. producers' shipments, compiled from data submitted in response to questionnaires of the U.S. International Trade Commission; exports and imports, compiled from official statistics of the U.S. Department of Commerce.

	U.S.	:		:		:	Apparent	:	Ratio of
Period :	producers'	: E	xports	:	Imports	:	consump-	:	imports to
:	shipments	:		:		:	tion	:	consumption
		:	1,000	:	1,000	:	1,000	:	
:	1,000 tons	:	tons	:	tons	:	tons	:	Percent
:		:	•	:		:		:	
1970:	81.2	:	. 1.7	:	17.3	:	96.8	:	17.9
1971:	68.1	:	2.1	:	12.6	:	78.6	:	16.0
1972	79.4	:	1.9	:	14.8	:	92.3	:	16.0
1973:	97.8	:	3.8	:	23.1	:	117.1	:	19.7
1974:	104.6	:	4.7	:	23.9	:	123.8	:	19.3
1975:	71.3	:	5.6	:	24.2	:	89.9	:	26.9
1976 1/:	69.1	:	4.0	:	26.7	:	91.8	:	29.1
1977 1/:	68.0	:	3.3	:	21.3	:	86.0	:	24.8
1978 1/:	74.1	:	3.2	:	22.2	:	93.0	:	23.9
1976:	:	:		:		:		:	:
January-March:	17.1	:	1.2	:	5.8	:	21.6	:	26.7
April-June:	17.7	:	1.0	:	6.8	:	23.5	:	29.0
July-September	16.3	:	1.1	:	7.2	:	22.8	:	32.1
October-December	17.6	:	.7	:	6.9	:	23.9	:	28.8
1977:	:	:		:		:		:	
January-March	16.7	:	.9	:	4.7	:	20.5	:	22.9
April-June:	18.4	:	.6	:	6.2	:	24.0	:	25.8
July-September:	15.2	:	.7	:	5.1	:	19.6	:	26.0
October-December	17.0	:	1.1	:	5.4	:	21.3	:	25.1
1978:	:	:		:		:		:	;
January-March:	16.5	:	.6	:	4.8	:	20.7	:	23.1
April-June:	19.4	:	.7	:	7.2	:	25.9	:	27.7
July-September	19.0	:	1.0	:	4.4	:	22.3	;	19.5
October-December	18.8	:	1.0	:	5.9	:	23.6	:	24.8
:		:		:		:		:	

Table 21.--Alloy tool steel: U.S. producers' shipments, exports of domestic merchandise, imports for consumption, and apparent consumption, 1970-78, and, by quarters, 1976-78

1/ Quarterly data may not conform to total for year; corrections and adjustments for the year were not distributed to individual quarters.

Source: U.S. producers' shipments, compiled from data submitted in response to questionnaires of the U.S. International Trade Commission; exports and imports, compiled from official statistics of the U.S. Department of Commerce.

Table 22.--Stainless steel and alloy tool steel: U.S. capacity, by types, 1970-78

_				(In th	ousands of	tons)						
	Capa	acity to	o me	elt	: Capacity : stainles:	to roll s steel	:	Capacit	У	to manuf	fact	ure
Year	: Stainless steel	Alloy tool steel		Stainless and alloy tool steel, total	: Plates <u>1</u> /	Sheets and strip <u>1</u> /	:	Stainless steel rods	S	tainless steel bars	: : :al	Alloy tool steel, 1 forms
1070	169 .	:	:	0 461 0	:	:	:	60.0	:	175 7	:	1/2 0
1970	2,100.2 2,179.5	: 284.3		2,461.2	: 162.0	986.0	:	67.9	; ;	175.7	:	143.8
1972	: 2,250.0	: 285.2	: :	2,535.2	: 191.0	: 1,030.0	:	71.4	:	176.7	:	139.8
1973	: 2,279.5	: 285.2		2,564.7	: 198.0	: 1,074.0	:	73.3	:	201.9	:	139.8
1974	2,295.7	: 255.5		2,382.0	: 208.0	: 1.098.0	:	67.4	:	188.0	:	139.7
1976	2,345.5	: 256.5	:	2,602.0	: 223.0	: 1,163.0	:	69.6	:	191.0	:	136.3
1977	: 2,480.0	: 252.0	:	2,732.0	: 230.0	: 1,148.0	:	68.0	:	192.0	:	140.4
19/8	2,2/6.5	: 221.1		2,497.6	: 262.0 :	: 1,214.0	:	55.8	:	184.6	:	103.7

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

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

oy 1 2el, Forms
loy >1 el, forms
55
54
65
82
89
48
50
48
70
43
46
50
59
52
62
40
46
40
60
72
90
00
0)

Table 23.--Stainless steel and alloy tool steel: U.S. capacity utilization, by types, 1970-78, and, by quarters, 1976-78

1/ Partially estimated.

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

Table 24.--Stainless steel and alloy tool steel: U.S. production, by types, 1970-78, and, by quarters, 1976-78

Year Shoots and Stainless steel Allo	tool eel, forms
lear . Shoote and the state is the state of	forms
strip : Bars Rods Total all	
; ; ; ; ; ;	
1970: 415.0: 60.6: 108.6: 37.6: 621.9:	78.4
1971: 480.0: 49.9: 107.8: 35.0: 672.8:	75.1
1972: 609.4 : 60.5 : 123.9 : 46.3 : 840.0 :	90.9
1973: 763.8 : 83.2 : 150.7 : 58.4 : 1,056.1 :	114.1
1974	124.5
1975: 417.3 : 111.8 : 100.1 : 28.3 : 657.4 :	65.5
$1976 \ 1/: 743.0: 95.9: 119.5: 36.2: 994.6:$	68.7
$1977 \overline{1}/=:$ 754.2 : 106.1 : 142.5 : 31.5 : 1.034.3 :	67.5
$1978 \overline{1/}:$ $859.9:$ $133.0:$ $148.1:$ $39.9:$ $1.180.9:$	72.9
1976:	
JanMar: 182.1: 23.0: 27.1: 7.8: 240.0:	14.8
Apr June: $196.7: 27.1: 31.3: 10.7: 265.8:$	15.8
July-Sept: $180.6: 24.6: 29.2: 9.3: 243.6:$	17.1
Oct. $-Dec_{}:$ 183.0 : 21.3 : 31.9 : 8.2 : 244.4 :	20.1
Jap - Mar : 196.3 : 24.7 : 34.8 : 7.6 : 263.3 :	17.0
AprJune: $225.5:$ $29.8:$ $40.5:$ $9.0:$ $304.8:$	20.2
$Iu_1v_{-Sept}: 173.5: 23.7: 33.0: 8.3: 238.6:$	13.9
$Oct_{-} - Dec_{} = 170.0 : 28.0 : 34.4 : 6.7 : 239.0 :$	16.2
	10.2
Iap - Maranza = 102.0 + 32.5 + 37.8 + 6.5 + 260.6 +	18.0
Apr = Jupper	18.6
$I_{11} = S_{20} = S_{10} = S$	18 0
$0at = D_{00} = \cdot 210 \cdot 0 \cdot 27 \cdot 30 \cdot 0 \cdot 11 \cdot 11 \cdot 200 \cdot 7 \cdot 200 \cdot 2$	26.3
	20.5

(In thousands of tons)

1/ Quarterly data may not conform to total for year; corrections and adjustments for the year were not distributed to individual quarters.

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

	Stainless steel									Alloy tool			
Year :	Sheets	:		:	:	•	:		:	steel,			
:	and	:	Plates	:	Bars :	Rods	:	Total	:	all forms			
:	strip	:		:	:;		:		:				
	Quantity (1,000 tons)												
		:		;	:		:		:				
1970:	38.2	:	1.3	:	1.7 :	0.1	:	41.2	:	1.7			
1971:	21.8	:	1.7	:	1.3 :	.1	:	24.9	:	2.1			
1972:	22.9	:	1.3	:	.9:	.1	1	25.3	:	1.7			
1973:	29.3	:	2.3	:	2.1 :	.2	:	34.0	:	2.2			
1974:	33.5	:	2.8	:	2.9 :	.2	:	39.4	:	2.3			
1975:	21.0	:	.6	:	.8 :	.1	:	22.5	:	1.8			
1976:	27.9	:	.8	:	.8 :	<u>1</u> /	:	29.5	:	1.2			
1977:	29.8	:	1.8	:	1.0 :	.2	:	32.8	:	.3			
1978:	28.0	:	1.3	:	<u> 1.7 :</u>	.2	:	31.2	:	.8			
:				Va	lue (1,00	00 dolla	ars	;)					
		:		:	:		:		:	· · · · · · · · · · · · · · · · · · ·			
1970:	26,225	:	1,656	:	2,116 :	126	:	30,123	:	3,078			
1971:	17,371	:	2,382	:	1,583 :	104	:	21,440	:	3,525			
1972:	18,660	:	1,673	:	1,305 :	144	:	21,782	:	3,116			
1973:	31,089	:	3,141	:	2,863 :	273	:	37,366	:	3,853			
1974:	35,000	:	3,391	:	3,966 :	192	:	42,549	:	5,029			
1975:	27,778	:	1,255	:	3,930 :	60	:	33,023	:	5,735			
1976:	39,745	:	1,662	:	3,155 :	65	:	44,627	:	4,353			
1977:	47,543	:	3,856	:	3,144 :	482	:	55,025	:	1,956			
1978:	36,176	:	2,505	:	4,522 :	516	:	43,719	:	5,338			
		:		:	:		:		:				

Table 25.--Stainless steel and alloy tool steel: U.S. producers' exports, 1970-78

1/ Less than 50 tons.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.
				(In thous	an	ds of to	ns)				
	'n	:		Stain	le	ess steel				:	Alloy tool
	D.	ale :	Sheets and : strip :	Plates	:	Bars	Rods	:	Total	:	all forms
	•	:	:		:	:		:		:	
Jan.	1,	1974:	188.3 :	28.7	:	49.4 :	5.9	:	272.3	:	70.9
Apr.	1,	1974:	167.4 :	33.4	;	48.8 :	6.6	:	256.3	:	72.6
July	1,	1974:	158.6 :	31.1	:	52.3 :	. 6.9	:	248.8	:	75.9
Oct.	1,	1974:	160.3 :	35.6	:	52.2 :	6.9	:	255.0	:	73.3
Jan.	1,	1975:	165.7 :	39.7	:	56.8 :	6.7	:	268.9	:	76.8
Apr.	1,	1975:	153.9 :	38.6	:	53.9 :	5.6	:	251.9	:	75.8
July	1,	1975:	147.4 :	38.4	:	49.4 :	5.7	:	240.9	:	69.6
Oct.	1,	1975:	149.0 :	31.9	:	45.9 :	4.7	:	231.5	:	63.1
Jan.	1,	1976:	178.1 :	35.8	:	30.0:	5.3	:	249.3	:	58.4
Apr.	1,	1976:	197.7 :	35.4	:	31.6 :	4.9	:	269.6	:	55.7
		:	:		:	:		:		:	
July	1,	1976:	225.3 :	39.5	:	30.9 :	4.3	:	300.0	:	56.7
Oct.	1,	1976:	222.2 :	35.8	:	30.7 :	4.6	:	293.2	÷	56.0
Jan.	1,	1977:	213.2 :	39.8	:	31.4 :	4.8	:	289.2	:	55.6
Apr.	1,	1977:	220.8 :	34.3	:	46.3 :	6.0	:	307.4	:	61.3
July	1,	1977:	230.6 :	35.3	:	46.7 :	7.9	:	320.5	:	63.4
Oct.	1,	1977:	210.2 :	28.4	:	50.2 :	. 6.0	:	294.8	:	50.8
Jan.	1,	1978:	223.2 :	32.1	: '	52.3 :	5.7	:	313.3	:	49.7
Apr.	1,	1978:	223.6 :	34.9	:	48.4 :	7.5	:	314.4	:	50.3
July	1,	1978:	242.3 :	37.7	:	48.7 :	8.3	:	337.2	:	58.6
Oct,	1,	1978:	247.0 :	37.2	:	45.9:	8.8	:	338.9	:	58.0
Jan.	1,	1979:	253.5 :	36.6	:	50.9:	8.1	:	349.1	:	60.6
		:	:		:	. :		:		:	

Table 26.--Stainless steel and alloy tool steel: U.S. producers'inventories, as of specified dates, Jan. 1, 1974-Jan. 1, 1979

					(In thous	an	ds of to	<u>ns)</u>				
	_	:			Stain	16	ss steel				:	Alloy tool
	Da	ate :	Sheets and strip	:	Plates	:	Bars :	Rods	:	Total	:	steel, all forms
		:		:		:	:		:		:	
Jan.	1,	1974:	1.9	:	0.4	:	7.6 :	0.2	:	10.1	:	8.6
Apr.	1,	1974:	1.3	:	0.4	:	7.3 :	0.3	:	9.2	:	6.9
July	1,	1974:	1.7	:	0.3	:	6.5 :	0.2	:	8.7	:	9.1
Oct.	1,	1974:	1.8	:	0.4	:	7.4 :	0.2	:	9.8	:	9.4
Jan.	1,	1975:	4.9	:	1.0	:	11.0 :	0.6	:	17.5	:	10.6
Apr.	1,	1975:	6.5	:	1.2	:	14.8 :	2.2	:	24.7	:	11.5
July	1,	1975:	6.9	:	1.8	:	11.5 :	3.1	:	23.4	:	12.6
Oct.	1,	1975:	7.1	:	2.1	:	16.9 :	3.4	:	29.6	:	12.7
Jan.	1,	1976:	6.1	:	1.9	:	21.5 :	2.3	:	31.9	:	13.1
Apr.	1,	1976:	5.3	:	1.7	:	20.4 :	1.7	:	29.2	:	13.4
-		:		:		:	:		:		:	
July	1,	1976:	5.2	:	1.4	:	18.9 :	1.3	:	26.7	:	13.7
Oct.	1,	1976:	4.0	:	2.2	:	16.6 :	1.1	:	23.9	:	12.8
Jan.	1,	1977:	5.1	:	2.3	:	16.4 :	1.1	:	24.9	:	12.6
Apr.	1,	1977:	6.3	:	0.3	:	10.8 :	3.5	:	20.9	:	8.5
July	1,	1977:	6.9	:	0.2	:	11.1 :	5.8	:	24.0	:	8.7
Oct.	1,	1977:	4.1	:	0.8	:	19.3 :	2.8	:	27.0	:	8.5
Jan.	1,	1978:	4.6	:	0.8	:	14.7 :	3.8	:	23.9	:	8.0
Apr.	1,	1978:	11.9	:	1.2	:	8.5 :	4.4	:	26.0	:	7.5
July	1,	1978:	11.1	:	1.5	:	7.6 :	4.2	:	24.4	:	7.3
Oct,	1,	1978:	11.5	:	1.5	:	8.6 :	5.0	:	26.6	:	6.5
Jan.	1,	1979:	12.3	:	1.5	:	9.0 :	1.8	:	24.7	:	7.8
•	-	:		:		:	:		:		:	

Table 27.--Stainless steel and alloy tool steel: U.S. importers' inventories, as of specified dates, Jan. 1, 1974-Jan. 1, 1979

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

					(In thou	san	ds of to	ns)	_			
	~	:			Stai	nle	ss steel				A	lloy tool
_	ע		Sheets and strip	:	Plates	:	Bars	Rods	:	Total	::	steel, all forms
		:		:		:	:		:		:	
Jan.	1,	1974:	270.5	:	55.1	:	40.6:	10.4	:	376.7	:	25.0
Apr.	1,	1974:	266.0	:	60.0	:.	44.9 :	13.7	:	384.5	:	25.7
July	1,	1974:	255.3	:	58.0	:	57.2 :	14.6	:	385.1	:	28.6
Oct.	1,	1974:	235.3	:	67.4	:	57.5 :	14.4	:	374.6	:	32.5
Jan.	1,	1975:	143.4	:	58.3	:	43.0 :	8.6	:	253.4	:	27.1
Apr.	1,	1975:	76.6	:	41.5	:	28.1 :	4.0	:	150.1	:	20.9
July	1,	1975:	66.8	:	28.5	:	16.5 :	2.7	:	114.6	:	15.0
Oct.	1,	1975:	72.2	:	22.4	:	12.5 :	2.6	:	109.7	:	14.1
Jan.	1,	1976:	73.5	:	15.4	:	11.9 :	2.5	:	103.2	:	9.8
Apr.	1,	1976:	82.4	:	13.6	:	11.9 :	2.2	:	110.0	:	6.8
		:		:		:	:		:		:	
July	1,	1976:	100.1	:	15.0	:	11.8 :	3.4	:	130.3	:	6.6
Ōct.	1,	1976:	110.7	:	14.9	:	14.2 :	4.2	:	144.0	:	6.3
Jan.	1,	1977:	114.8	:	14.0	:	14.3 :	4.0	:	147.1	:	6.6
Apr.	1,	1977:	113.6	:	15.7	:	18.1 :	4.6	:	152.0	:	8.1
July	1,	1977:	117.7	:	16.2	:	17.0 :	4.8	:	155.7	:	8.9
Oct.	1,	1977:	116.8	:	12.9	:	18.7 :	3.9	:	152.3	:	8.5
Jan.	1,	1978:	124.3	:	17.0	:	19.9 :	3.4	:	164.6	:	9.2
Apr.	1,	1978:	138.2	:	15.2	:	21.1 :	4.6	:	179.1	:	8.4
July	1,	1978:	141.1	:	16.2	:	26.7 :	5.5	:	189.5	:	8.5
Oct,	1,	1978:	140.0	:	15.6	:	29.0 :	7.9	. :	192.5	:	8.4
Jan.	1,	1979:	162.2	:	18.9	:	35.8 :	9.4	:	226.3	:	9.1
				i		:	:		:		:	
Sou	irce	e: Compile	ed from data		submitted	in	respons	e to que	est	ionnaire	28	of the

Table 28.--Stainless steel and alloy tool steel: U.S. producers' unshipped orders, as of specified dates, Jan. 1, 1974-Jan. 1, 1979

U.S. International Trade Commission.

Table 29.--Stainless steel and alloy tool steel: U.S. importers' unshipped orders, as of specified dates, Jan. 1, 1974-Jan. 1, 1979

				(In thousa	nds of ton	.s)	·		
	v	:		Stainl	ess steel			A	lloy tool
	Γ¢	:	Sheets and : strip :	Plates :	Bars	Rods :	Total	:	all forms
		:	:	:	:	:		:	
Jan.	1,	1974:	7.8 :	4.1 :	6.9 :	6.7 :	25.5	:	5.9
Apr.	1,	1974:	6.6 :	2.1 :	7.1 :	7 .5 :	23.2	:	6.1
July	1,	1974:	11.9 :	3.1 :	8.1 :	5.5 :	28.7	:	7.8
Oct.	1,	1974:	11.5 :	3.7 :	13.8 :	6.1 :	35.2	:	7.9
Jan.	1,	1975:	9.3 :	3.5 :	10.4 :	5.6 :	28.9	:	9.0
Apr.	1,	1975:	6.4 :	.9 :	6.8 :	3.1 :	17.2	:	8.0
July	1,	1975:	8.4 :	1.0 :	6.1 :	2.3 :	17.8	:	7.2
Oct.	1,	1975:	11.1 :	2.3 :	7.5 :	2.2 :	23.1	:	5.6
Jan.	1,	1976:	8.5 :	3.6 :	1.8 :	4.3 :	18.2	:	3.3
Apr.	1,	1976:	13.3 :	2.9 :	1.3 :	4.2 :	21.7	:	4.6
		:		:	:	:		:	
July	1,	1976:	11.3 :	2.0 :	1.4 :	5.1 :	19.8	:	.5.0
Oct.	1,	1976:	6.7 :	1.2 :	1.8 :	3.9 :	13.6	:	4.4
Jan.	1,	1977:	7.0:	.6 :	2.6 :	4.0 :	14.1	:	4.8
Apr.	1,	1977:	13.4 :	1.0 :	2.3 :	5.6 :	22.3	:	2.2
July	1,	1977:	13.1 :	1.8 :	3.6 :	3.6 :	22.1	:	2.6
Oct.	1,	1977:	15.0 :	.6 :	5.0 :	2.9 :	23.5	:	4.1
Jan.	1,	1978:	12.4 :	1.1 :	4.6 :	6.7 :	24.8	:	4.5
Apr.	1,	1978:	19.7 :	1.2 :	2.7 :	4.8 :	28.4	:	2.3
July	1,	1978:	15.8 :	0.8 :	2.2 :	3.2 :	22.0	:	2.3
Oct,	1,	1978:	13.5 :	1.1 :	2.8:	4.5 :	21.9	:	2.1
Jan.	1,	1979:	11.0 :	0.7 :	3.7 :	4.6 :	20.0	:	2.2
	2	:	•	•	- · · ·	:		:	

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

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										in week	(8)			_					
		:					5	Sta	inless	steel						:	Allov	t	001
		Date	Sheets	and	l strip	:	P1 4	ate	8		Ba	ars	:	R	ods	3	steel, a	s 1]	1 forms
			Range	į	verage	. F	lange	Å	verage	Rang	e	A	verage	Range		verage	Range	:	Average
	_			:		:		:	1	-		:	:	· · · · · ·	:	:	1	:	
Jan.	1,	1974:	: 4-30	:	13	:	4-22	:	. 15 :	: 7-	29	:	16 :	6-26	:	14 :	: 9-31	:	18
Apr.	1,	1974:	: 6-34	:	14	:	6-44	:	16 :	: 7-	39	:	20 :	6-30	:	16 :	: 11-33	:	20
July	1,	1974	: 6-32	:	14	:	6-44	:	17 :	: 8-	39	:	21 :	6-28	:	15 :	: 11-34	;	21
Oct.	ı,	1974:	: 6-30	:	13	:	6-44	:	16 :	: 8-	·28	:	17 :	6-26	:	13 :	9-32	:	18
		:	:	•		:		:	:	•		:	:		:	:	:	:	
Jan.	1,	1975	: 4–16	:	9	:	5-12	:	9 :	: 7-	17	:	12 :	6-12	:	8 :	: 9-22	:	15
Apr.	1,	1975;	: 3-13	:	8	:	4-13	:	7 :	: 6-	13	:	9:	5-11	:	7 :	7-23	:	12
July	1,	1975:	: 3-14	:	8	:	3-13	:	7 :	: 6-	12	:	9:	5-11	:	7 :	: 7-14	:	10
Oct.	1,	1975:	: 3-14	:	7	:	3-13	:	6 :	6-	12	:	8:	5-11	:	7 :	; 7-14	:	10
		:	:	:		:		:	:	•		:	:		:	:	:	:	
Jan.	1,	1976	: 3-9	:	7	:	3-13	:	6 :	: 6-	12	:	8:	5-11	:	7 :	: 7-13	:	10
Apr.	1,	1976:	: 3-9	:	7	:	3-13	:	7 :	: 6-	12	:	8 :	3-9	:	7 :	7-13	:	11
July	1,	1976:	: 3-9	:	7	:	3-13	:	7 :	: 6-	12	:	8:	5-11	:	7 :	7-13	:	10
Oct.	1,	1976:	: 3-9	:	7	:	3-13	:	6 :	: 6-	12	:	8 :	5-11	:	7 :	; 7-13	:	10
		:		:		:		:	:			:	:		:		:	:	
Jan.	1.	1977:	: 3-9	:	7	:	3-13	:	6 :	; 6-	12	:	8:	5-11	:	7 :	; 7-13	:	9
Apr.	1.	1977:	4-9	:	7	:	3-13	:	7 :	: 6-	15	:	9:	5-13	:	8 :	8-15	:	11
July	ı.́	1977	4-9	:	7	:	3-13	:	7 :	: 6-	14	:	9 :	5-11	:	8 :	8-15		12
Oct.	1.	1977	3-9	:	6	:	4-13		7	. 7-	12	:	9 :	6-12	:	8	9-13		11
	-,				•	:						•			:				
Jan.	1.	1978	3-9	•	7		4-13	•	7		12		9 -	6-12	•	8	10-13	•	12
ADT.	1.	1978	4-9		7	:	4-13	:	8		14	•	10 :	6-12	:	8	8-15		12
July	1.	1978	4-10	-	7	•	4-14	•	8		16	•	11 1	6-18		9	8-15	:	12
Oct.	1.	1978	4 10	-	7	•	4-16	;	8 .		18		11 .	6-18		11	8-17	:	13
	-,	17/0		:	'	•	- 1 0	;			10	•		0 10				:	15
.Tan	1.	1979	. 4-10	:	7	•	4-16		Я.	. 7_	20	;	12.	6-20	;	13	8_10	:	12
- un 1	-,	17770	, 4-10	:	,	:		:		· /	20	:	14 .	0 20	:	13	. 3-10	:	15

Table 30.--Stainless steel and alloy tool steel: Lead times for delivery from melt of new orders of U.S. producers, as of specified dates, Jan. 1, 1974-Jan. 1, 1979 (In weeks)

								(1	In wee	ks)								
							St	ainless	steel	-						Allo	y t	001
		Date	Sheets a	m	l strip	P1	at	e 8	:	Ba	ars	:	R	od	ls	steel,	al	1 forms
		:	Range	1	verage	Range	:	Average	Ran	ıge	A	verage	Range	:	Average	Rang	e :	Average
		:		:	:		:		:		:	:		:	: :		:	
Jan.	1,	1974:	10-38	:	22 :	15-32	:	21	: 15	5-33	:	24 :	10-35	:	: 23 :	: 15-4	1:	28
Apr.	1,	1974:	10-45	:	23 :	15-29	:	21	: 12	2-35	:	25 :	10-38	3 :	: 23 :	: 15-4	2:	29
July	1,	1974:	10-39	:	22 :	14-25	:	21	: 10)-42	:	24 :	10-38	: :	: 23 :	: 15-4	B :	27
Oct.	1,	1974:	10-34	:	20 :	15-25	:	21	: 10)36	:	23 :	10-36	; :	: 23 :	: 15-4	5:	28
		:	:	:	:	1	:		:		:	:		:	:	:	:	
Jan.	1,	1975:	9-37	:	19 :	15-24	:	19	: 15	5-35	:	22 :	10-30):	: 20 :	: 15-4	4:	27
Apr.	1,	1975:	9-28	:	17 :	12-24	:	17	: 15	5-35	:	21 :	10-30) :	: 18 :	: 15-3	8:	26
July	1,	1975:	9-28	:	17 :	15-24	:	18	: 15	5-35	:	21 :	10-30) :	: 18	: 15-2	8:	24
Oct.	1,	1975:	9-28	:	16 :	: 13-24	:	20	: 14	-35	:	21 :	10-30) :	: 18	: 15-2	8:	21
		:	:	:	:	1	:		:		:	:		:	:	:	:	
Jan.	1.	1976:	9-24	:	18 :	9-24	:	17	: 13	3-35	:	20 :	13-30) :	: 18	: 12-2	8:	22
Apr.	1.	1976:	9-24	:	18 :	9-24	: :	17	: 11	l-35	:	20 :	13-30) :	: 18	: 12-2	6:	21
July	1.	1976:	9~24	:	18 :	9-24	:	17	: 11	1-35	:	20 :	12-30) :	: 18	: 12-2	7 :	21
Oct.	ī.	1976:	12-24	:	18 :	13-24	:	18	: 11	1-35	:	20 :	12-30) :	: 19	: 10-2	8 :	21
	-,		:	:	:	:	:		:		:	:		:	:	:	;	
Jan.	1.	1977	12-24	:	18 :	: 7-28	: :	18	: 11	l-35	:	20 :	12-30) :	: 19	: 10-2	8 ;	21
Apr.	ī.	1977	12-24	:	17 :	11-24	:	17	: 12	2-35	:	20 :	12-30) :	: 19	: 11-4	0 :	21
July	ī.	1977	11-24	:	17 :	11-26	. :	17	: 12	2-35	:	20 ;	12-30) :	: 19	: 11-4	0 ;	21
Oct.	1.	1977	12-24	:	17 :	11-22	: :	17	: 14	4-35	:	21 :	12-30) :	: 19	: 15-2	4 :	20
	-,			:		•	:		:		:				:	:		
Tan	1	1978	. 12-24	•	17 :	11-24	. :	17	: 14	4-35	:	21 •	12-30	n Ì	. 19	· 15-2	4	20
Apr.	1,	1978	8-22	;	16	12-26		16	: 1	8-30	-	18 •	8-22	2	16	11-3		20
Tu 1.	1,	1978	10-24		16	12-26		17	: :	8-30	:	18 •	8-25	5	17	11-3	0	21
Oct	1,	1978	11-26	;	16	12-26		18		8-30		19 •	8-22	2	• 17	11-3		21
	+,	1970		;			:	10	•	5 50	;		0 22		• 17	• • •	× ;	. 21
Tan	1	1070	8-26	;	17 •	. 12-26		18	• •	8-30	:	10.	8-24	ς .	• 17	· 12-3		. ?1
Jan.	т,	1919	. 020	;				10	•		;		0 20		• 17	• • •	• ;	

Table 31.--Stainless steel and alloy tool steel: Lead times for delivery from melt of new orders of imports, as of specified dates, Jan. 1, 1974-Jan. 1, 1979

		Stainl	less steel			Alloy tool
Period :	Sheets and : strip :	Plates	Bars	Rods	Total	all forms
:	:		:	:		:
1974:	15,271 :	3,130 :	6,666 :	734 :	25,801	: 6.210
1975:	9,288 :	2,236 :	5,050 :	386 :	16,960	: 4,741
1976 1/:	11,903 :	2,307 :	5,249 :	618 :	20,077	: 4,690
1977 1/:	11,566 :	2,253 :	5,703 :	656 :	20,178	: 4,157
1978 1/:	11,788 :	2,507 :	5,919 :	686 :	20,900	: 4.286
1976: :	•		:	:		:
JanMar:	10,636 :	1,708 :	5,128 :	416 :	17.888	: 4.394
AprJune:	10,747 :	1,838 :	5,252 :	516 :	18,353	: 4.584
July-Sept:	11,999 :	2,371 :	5,339 :	703 :	20,412	: 4.716
OctDec:	12,973 :	2.367 :	5,281 :	760 :	21,381	: 4.878
1977: :	- ,	· · ·	:	:	,	:
JanMar:	12.592 :	2,117 :	5,936 :	656 :	21.301	: 4.528
AprJune:	12.350 :	2,333 :	6.130 :	772 :	21,585	: 4.649
July-Sept:	11,512 :	2,316 :	5,648 :	632 :	20,108	4.089
OctDec:	10.742 :	2.140 :	5,799 :	538 :	19,218	: 3.360
1978: :		:	:	:	,	: 3,500
JanMar:	11.934 :	2,628 :	5,832 :	535 :	20.929	: 3.886
AprJune:	11.274 :	2,389 :	6,137 :	643 :	20,443	: 4.102
July-Sept:	12.131 :	2.575 :	5,742 :	723 :	21.171	: 4.622
OctDec:	11.810 :	2,437 :	5,966 :	844 :	21,057	: 4.535
·	,	•	•	•	, .	•

Table 32.--Stainless steel and alloy tool steel: Average number of all persons employed in U.S. establishments in which stainless steel and alloy tool steel were produced, 1974-78, and, by quarters, 1976-78

1/ Quarterly data may not conform to total for year; corrections and adjustments for the year were not distributed to individual quarters.

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

		Stair	le	ss steel				;	Alloy tool
Period :	Sheets and : strip :	Plates	:	Bars :	Rods	:	Total	:	all forms
:	:		:	:		:		:	
1970:	7,762 :	1,555	:	3,155 :	242	:	12,714	:	4,718
1971:	8,231 :	1,297	:	2,838 :	250	:	12,616	:	3,758
1972:	8,641 :	1,272	:	2,749 :	267	:	12,929	:	3,969
1973:	10,853 :	1,662	:	3,355 :	378	:	16,248	:	4,611
1974:	12,439 :	2,397	:	4,136 :	501	:	19,473	:	4,351
1975:	7,331 :	1.807	:	3,255 :	288	:	12,681	:	3,421
1976 1/:	9,360 :	1,715	:	3,613 :	439	:	15,127	:	3,497
1977 1/:	9,302 :	1,656	:	4,001 :	455	:	15,414	:	3,059
1978 1/:	9,425 :	1,857	:	4,152 :	482	:	15,916	:	3,100
1976: :	:	,	:	:		:		:	•
JanMar:	8,608 :	1,568	:	3,404 :	265	:	13.845	:	3,232
AprJune:	9,023 :	1.674	:	3.566 :	356	:	14.619	:	3,491
July-Sept:	9.406 :	1.861	:	3.731 :	495	:	15.493	:	3,567
OctDec:	10.377 :	1.747	:	3.682 :	540	:	16.346	:	3,688
1977: :	:	,	:			:		:	
JanMar	9,960 :	1.561	:	4,169 :	481	:	16,171	:	3,414
AprJune:	9,939 :	1,761	:	4,401 :	544	:	16,645	:	3,493
July-Sept:	9,166 :	1.714	:	3,967 :	426	:	15,273	:	2,865
OctDec:	8,145 :	1,577	:	4.165 :	359	:	14.246	:	2,466
1978: :	:	-,	:	:		:	_ , ,	:	,
JanMar	9.468 :	2.008	:	4.086 :	368	:	15,930	:	2.797
AprJune:	9.132 :	1.725	:	4.328 :	470	:	15,655	:	2,930
July-Sept:	9,781 :	1.872	:	3.999 :	501	:	16.153	:	3,363
OctDec:	9.320 :	1.824	:	4.195 :	589	:	15,926	:	3,308
	- ,	-,		.,					

Table 33.--Stainless steel and alloy tool steel: Average number of production and related workers employed in U.S. establishments in which stainless steel and alloy tool steel were produced, 1970-78, and, by quarters, 1976-78

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

Table 34.--Stainless steel and alloy tool steel: Man-hours worked by production and related workers in U.S. establishments in which stainless steel and alloy tool steel were produced, 1970-78, and, by quarters, 1976-78

Period Stainless steel Alloy tool steel, all forms 1970					18	ands/		. <u> </u>				
Period : Sheets and : strip Plates : Bars : Rods : Total : all forms 1970				Stainl	le	ss stee	1				A	lloy tool
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	Period :	Sheets and strip	:	Plates	:	Bars	:	Rods	:	Total	:	steel, all forms
197015,160 :2,911 :7,345 :596 :26,012 :8,2151971:16,293 :2,450 :6,727 :578 :26,048 :6,7881972:17,587 :2,413 :7,213 :645 :27,858 :7,7501973:21,379 :3,247 :8,751 :895 :34,272 :9,3221974:21,858 :4,977 :9,748 :1,068 :37,651 :9,9421975:12,974 :3,266 :6,604 :428 :22,272 :5,6241976 1/:16,767 :3,033 :7,014 :682 :27,496 :6,0251977 1/:17,816 :3,044 :8,201 :917 :29,878 :5,6281978 1/:18,849 :3,580 :8,546 :961 :31,936 :5,2101976 :::::::::JanMar:4,067 :725 :1,686 :117 :6,595 :1,417AprJune:4,362 :797 :1,838 :200 :7,197 :1,525OctDec:4,702 :753 :1,900 :242 :7,597 :1,6341977:::::::::JanMar:4,687 :949 :2,105 :212 :7,141 :1,221OctDec:4,024 :740 :2,005 :202 :6,971 :1,3441978::::::::			:		:		:		:		:	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1970:	15,160	:	2,911 :	:	7,345	:	596	:	26,012	:	8,215
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1971:	16,293	:	2,450 :	:	6,727	:	578	:	26,048	:	6,788
1973: $21,379:$ $3,247:$ $8,751:$ $895:$ $34,272:$ $9,322$ $1974:$ $21,858:$ $4,977:$ $9,748:$ $1,068:$ $37,651:$ $9,942$ $1975:$ $12,974:$ $3,266:$ $6,604:$ $428:$ $23,272:$ $5,624$ $1976:$ $1/:$ $16,767:$ $3,033:$ $7,014:$ $682:$ $27,496:$ $6,025$ 1977 $1/:$ $17,816:$ $3,044:$ $8,201:$ $917:$ $29,878:$ $5,628$ 1978 $1/:$ $18,849:$ $3,580:$ $8,546:$ $961:$ $31,936:$ $5,210$ $1976:$:::::::JanMar: $4,067:$ $725:$ $1,666:$ $117:$ $6,595:$ $1,417$ AprJune: $4,362:$ $797:$ $1,838:$ $200:$ $7,197:$ $1,525$ OctDec: $4,702:$ $753:$ $1,900:$ $242:$ $7,597:$ $1,634$ $1977:$:::::::JanMar: $4,769:$ $732:$ $1,987:$ $229:$ $7,717:$ $1,417$ AprJune: $4,252:$ $772:$ $1,905:$ $212:$ $7,141:$ $1,221:$ OctDec: $4,024:$ $740:$ $2,005:$ $202:$ $6,971:$ $1,344$ $1978:$::::::JanMar: $4,687:$ $949:$ $2,110:$ $174:$ $7,920:$ $1,355$ AprJune: $4,68$	1972:	17,587	:	2,413 :	:	7,213	:	645	:	27,858	:	7,750
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1973:	21,379	:	3,247	:	8,751	:	895	:	34,272	:	9,322
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1974:	21,858	:	4,977 :	:	9,748	:	1,068	:	37,651	:	9,942
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1975:	12,974	:	3,266	:	6,604	:	428	:	23,272	:	5,624
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1976 1/:	16,767	:	3,033 :	:	7,014	:	682	:	27,496	:	6,025
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1977 1/:	17,816	:	3,044	:	8,201	:	917	:	29,878	:	5,628
1976: : <td:< td=""> <td:< td=""></td:<></td:<>	1978 1/:	18,849	:	3,580	:	8,546	:	961	:	31,936	:	5,210
JanMar: 4,067: 725: 1,686: 117: 6,595: 1,417 AprJune: 4,299: 759: 1,865: 166: 7,089: 1,497 July-Sept: 4,362: 797: 1,838: 200: 7,197: 1,525 OctDec: 4,702: 753: 1,900: 242: 7,597: 1,634 1977: : <t< td=""><td>1976: :</td><td></td><td>:</td><td>-</td><td>:</td><td>•</td><td>:</td><td></td><td>:</td><td></td><td>:</td><td>·</td></t<>	1976: :		:	-	:	•	:		:		:	·
AprJune: 4,299 : 759 : 1,865 : 166 : 7,089 : 1,497 July-Sept: 4,362 : 797 : 1,838 : 200 : 7,197 : 1,525 OctDec: 4,702 : 753 : 1,900 : 242 : 7,597 : 1,634 1977: : <td>JanMar:</td> <td>4,067</td> <td>:</td> <td>725 :</td> <td>:</td> <td>1,686</td> <td>:</td> <td>117</td> <td>:</td> <td>6,595</td> <td>:</td> <td>1,417</td>	JanMar:	4,067	:	725 :	:	1,686	:	117	:	6,595	:	1,417
July-Sept: 4,362: 797: 1,838: 200: 7,197: 1,525 OctDec: 4,702: 753: 1,900: 242: 7,597: 1,634 1977: :	AprJune:	4,299	:	759 :	:	1,865	:	166	:	7,089	:	1,497
OctDec: 4,702: 753: 1,900: 242: 7,597: 1,634 1977: : <td< td=""><td>July-Sept:</td><td>4,362</td><td>:</td><td>797 :</td><td>:</td><td>1,838</td><td>:</td><td>200</td><td>:</td><td>7,197</td><td>:</td><td>1,525</td></td<>	July-Sept:	4,362	:	797 :	:	1,838	:	200	:	7,197	:	1,525
1977: : <td>OctDec:</td> <td>4,702</td> <td>:</td> <td>753</td> <td>:</td> <td>1,900</td> <td>:</td> <td>242</td> <td>:</td> <td>7,597</td> <td>:</td> <td>1,634</td>	OctDec:	4,702	:	753	:	1,900	:	242	:	7,597	:	1,634
JanMar: 4,769: 732: 1,987: 229: 7,717: 1,417 AprJune: 4,829: 801: 2,245: 278: 8,153: 1,665 July-Sept: 4,252: 772: 1,905: 212: 7,141: 1,221 OctDec: 4,024: 740: 2,005: 202: 6,971: 1,344 1978: : <td< td=""><td>1977: :</td><td>•</td><td>:</td><td>:</td><td>:</td><td>•</td><td>:</td><td></td><td>:</td><td></td><td>:</td><td></td></td<>	1977: :	•	:	:	:	•	:		:		:	
AprJune: 4,829: 801: 2,245: 278: 8,153: 1,665 July-Sept: 4,252: 772: 1,905: 212: 7,141: 1,221 OctDec: 4,024: 740: 2,005: 202: 6,971: 1,344 1978: : <td>JanMar:</td> <td>4,769</td> <td>:</td> <td>732</td> <td>:</td> <td>1,987</td> <td>:</td> <td>229</td> <td>:</td> <td>7,717</td> <td>:</td> <td>1,417</td>	JanMar:	4,769	:	732	:	1,987	:	229	:	7,717	:	1,417
July-Sept: 4,252 : 772 : 1,905 : 212 : 7,141 : 1,221 OctDec: 4,024 : 740 : 2,005 : 202 : 6,971 : 1,344 1978: : <td< td=""><td>AprJune:</td><td>4,829</td><td>:</td><td>801 :</td><td>:</td><td>2,245</td><td>:</td><td>278</td><td>:</td><td>8,153</td><td>:</td><td>1,665</td></td<>	AprJune:	4,829	:	801 :	:	2,245	:	278	:	8,153	:	1,665
OctDec: 4,024 :: 740 :: 2,005 :: 202 :: 6,971 :: 1,344 1978: :	July-Sept:	4,252	:	772	:	1,905	:	212	:	7,141	:	1,221
1978: : <td>OctDec:</td> <td>4,024</td> <td>:</td> <td>740 :</td> <td>:</td> <td>2,005</td> <td>:</td> <td>202</td> <td>:</td> <td>6,971</td> <td>:</td> <td>1,344</td>	OctDec:	4,024	:	740 :	:	2,005	:	202	:	6,971	:	1,344
JanMar:4,687 :949 :2,110 :174 :7,920 :1,355AprJune:4,979 :869 :2,291 :229 :8,368 :1,479July-Sept:4,749 :907 :1,854 :241 :7,751 :1,465OctDec:4,553 :846 :2,044 :297 :7,740 :1,558::::::::	1978: :	-	:	:	:		:		:		:	
AprJune:4,979:869:2,291:229:8,368:1,479July-Sept:4,749:907:1,854:241:7,751:1,465OctDec:4,553:846:2,044:297:7,740:1,558::::::::	JanMar:	4,687	:	949	:	2,110	:	174	:	7,920	:	1,355
July-Sept: 4,749: 907: 1,854: 241: 7,751: 1,465 OctDec: 4,553: 846: 2,044: 297: 7,740: 1,558 	AprJune:	4,979	:	869	:	2,291	:	229	:	8,368	:	1,479
OctDec: 4,553: 846: 2,044: 297: 7,740: 1,558 : : : : : : : :	July-Sept:	4,749	:	907	:	1,854	:	241	:	7,751	:	1,465
· · · · · · · · · · · · · · · · · · ·	OctDec:	4,553	:	846	:	2,044	:	297	:	7,740	:	1,558
		- -	:		:		:		:		:	

(In thousands)

1/ Quarterly data may not conform to total for year; corrections and adjustments for the year were not distributed to individual quarters.

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

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·			(Per	: I	ound)						
Veen			Stair	116	ess stee	e1				:	Alloy tool
iear	Sheets and strip	:	Plates	:	Bars	:	Rods	:	Average	:	steel, all forms
:		:		:		:		:		:	
1970:	\$0.63	:	\$1.01	:	\$0.72	:	\$0.59	:	\$0.62	:	\$0.82
1971:	.57	:	.69	:	.69	:	.62	:	.59	:	.89
1972:	.52	:	.67	:	.71	:	.63	:	.56	:	.90
1973:	.53	:	.87	:	.75	:	.69	:	.59	:	.95
1974:	.69	:	.88	:	.98	:	.87	:	.74	:	1.12
1975:	.75	:	1.08	:	1.08	:	.99	:	.86	:	1.42
1976:	.73	:	1.02	:	1.15	:	.94	:	.82	:	1.68
1977:	.77	:	1.03	:	1.20	:	.95	:	.84	:	1.76
1978:	.79	:	1.03	:	1.20	:	.96	:	•85	:	2.17
		:		:		:		:		:	

Table 35.--Stainless steel and alloy tool steel: Average unit values of U.S. producers' shipments, by types, 1970-78

Table 36.--Stainless steel and alloy tool steel: Average costs of goods sold for U.S. producers, by types, 1970-78

:			Stain	le	ss stee	21				A	lloy tool
Year :	Sheets and strip	:	Plates	:	Bars	:	Rods	:	Average	:	all forms
:		:		:		:		:		:	
1970:	65	:	59	:	64	:	52	:	64	:	77
1971:	56	:	87	:	62	:	71	:	58	:	85
1972:	50	:	88	:	64	:	65	:	54	:	85
1973:	50	:	81	:	74	:	68	:	54	:	100
1974:	59	:	86	:	84	:	67	:	65	:	102
1975:	75	:	75	:	98	:	93	:	78	:	124
1976:	69	:	80	:	93	:	92	:	74	:	140
1977:	70	:	91	:	96	:	92	:	72	:	146
1978:	71	:	91	:	93	:	93	:	73	:	170
:		:		:		:		:		:	

(In cents per pound)

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

·	(In cents p	er	pound))				
		Stain	le	ss stee	e1			A11	oy tool
iear :	Sheets and strip	Plates	:	Bars	:	Rods	Average	al	1 forms
:			:		:			:	
1970:	(2):	42	:	8	:	7	: (2)	:	5
1971:	1 :	(18)	:	7	:	(9)	: 1	:	4
1972:	2 :	: (21)	:	7	:	(2)	: 2	:	5
1973:	3 :	: 6	:	2/ 1	:	1	: 5	:	(5)
1974:	10 :	: 2	:	- 14	:	20	: 9	:	10
1975:	0 :	33	:	20	:	6	: 8	:	18
1976:	4	22	:	22	:	2	: 8	:	28
1977:	7	12	:	24	:	3	: 12	:	30
1978:	8 :	: 12	:	27	:	3	: 13	:	47
••••		•	:		:		:	:	

Table 37.--Stainless steel and alloy tool steel: Average profit-and-loss margins 1/ for U.S. producers', by types, 1970-78

1/ Profit-or-loss data are the difference between unit values of shipments and unit costs of goods sold as presented in tables 35 and 36.

2/ This figure is not representative because of very high costs reported by 1 \overline{U} .S. producer.

Table 38.--Stainless steel and alloy tool steel: Average unit values of U.S. importers' shipments to U.S. customers, by types, 1970-78

	(In_	cei	nts per	<u>r</u> 1	pound)	_					
Period			:	: :Alloy tool								
	: She	ets	:		;		:		:		-:	steel,
	: ar	nd	:	Plate	5:	Bars	:	Rods	:	Average	:	all forms
	: sti	ip	:		:		:		:		:	
	:		:		:		:		:		:	
1970	:	62	:	46	:	57	:	66	:	60	:	101
1971	:	48	:	42	:	59	:	42	:	49	:	116
1972	:	54	:	46	:	61	:	40	:	52	:	105
1973	:	59	:	61	:	67	:	51	:	60	:	91
1974	:	74	:	77	:	75	:	67	:	73	:	109
1975	:	80	:	80	:	90	:	77	:	83	:	124
1976	:	80	:	73	:	90	:	76	:	79	:	151
1977	: .	83	:	99	:	100	:	85	:	86	:	155
1978	:	85	:	95	:	110	:	85	:	93	:	163
	:		:		:		:		:		:	

	(In	ce	nts per	I	ound)							
Year	:	Stainless steel										
	Sheets and strip	:	Plates	:	Bars	:	Rods	:	Average	- : :	steel, all forms	
		:		:		÷		÷		÷		
1970	: 43	:	49	:	41	:	35	:	39	:	41	
1971:	: 40	:	43	:	45	:	- 38	:	39	:	43	
1972	: 41	:	42	:	46	:	39	:	40	:	54	
1973	: 50	:	47	:	51	:	45	:	45	:	50	
1974	57	:	66	:	60	:	57	:	56	:	59	
1975	; 73	:	80	:	79	:	75	:	76	:	94	
1976	: 70	:	79	:	84	:	72	:	75	:	114	
1977:	: 72	:	88	:	86	:	79	:	76	:	122	
1978	82	:	89	:	93	:	81	:	84	:	118	
•	•			•				•		٠		

Table 39.--Stainless steel and alloy tool steel: Average unit cost to importers for foreign merchandise, by types, 1970-78

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

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Table 40.--Stainless steel and alloy tool steel: Average profit-and-loss margins <u>l</u>/ for U.S. importers, by types, 1970-78

	(111)		nro per j	<u>Jouna</u>	_					
		:	: :Alloy tool							
Year :	Sheets and strip	:	: Plates: ;	Bars	:	Rods	:	Average	- : :	steel, all forms
: 1970:	19	:	(3):	16	:	31	:	21	:	60
1971:	8	:	(01):	14	:	4	:	10	:	73
1972:	13	:	4:	15	:	1	:	12	:	51
1973:	9	:	14 :	16	:	6	:	15	:	41
1974:	17	:	11 :	15	:	10	:	17	:	50
1975:	7	:	0:	11	:	2	:	7	:	30
1976:	10	:	(06):	6	:	4	:	4	:	. 37
1977:	11	:	11 :	14	- :	6	:	10	:	33
1978:	3	:	6:	17	:	4	:	9	:	45
:		:	:		:		:		:	

(In cents per pound)

<u>1</u>/ Profit-and-loss data obtained by comparing the unit value of shipments with the cost of imports as presented in table 38 and 39.

Table 41.--Stainless steel sheets (cold-rolled): Lowest net selling prices received by U.S. producers and importers for sales of selected types of sheets to steel service centers or distributors, 1970-78, and, by quarters, 1976-78

	(Price	s in cents	per pound	1)	
:	Domes	tic :	Impo	orted	:Ratio (percent) : of average
Period : :	Range : a	Weighted verage <u>1</u> /	Range :	Weighted average <u>1</u> /	import price to average domestic price
:	Grade	304, 2B fi	nish, 8-14	gauge x 3	36" x coil
:	:	:	:		•
1970:	52-64 :	59 :	43-58 :	50	: 85
1971:	48 - 58 :	52 :	42-53 :	46	: 89
1972:	44-61 :	51 :	42-50 :	47	: 92
1973:	47-54 :	49 :	55-56 :	56	: 114
1974:	47-81 :	. 63 :	61-86 :	72	: 114
1975:	51-81 :	71 :	57-74 :	67	: 94
1976:	60-86 :	72 :	56-75 :	66	: 92
1977:	67-89 :	79 :	64-69 :	65	: 82
1978:	68-80 :	74 :	69-99 :	77	: 104
1976: :	:	:	:		:
January-March:	61-78 :	72 :	58-70 :	63	: 88
April-June:	60-86 :	, 82 :	58-70 :	66	: 80
July-September:	63-69 :	65 :	56-75 :	66	: 102
October-December:	65-69 :	68 :	65-72 :	68	: 100
1977: :	:	:	:		:
January-March:	69-74 :	72 :	66-74 :	70	: 97
April-June:	67-72 :	72 :	70-78 :	72	: 100
July-September:	84-89 :	85 :	60-77 :	69	: 81
October-December:	84-89 :	85 :	73-95 :	78	: 92
1978: :	•	:	:		:
January-March:	69-78 :	73 :	75-78 :	76	: 104
April-June:	68-78 :	71 :	70-77 :	76	: 107
July-September:	68-74 :	73 :	75-99 :	81	: 111
October-December:	73-80 :	78 :	69-81 :	74	: 95
	:	:	:		•

See footnote at end of table.

Table 41.--Stainless steel sheets (cold-rolled): Lowest net selling prices received by U.S. producers and importers for sales of selected types of sheets to steel service centers or distributors, 1970-78, and, by quarters, 1976-78--Continued

(Prices in cents per pound)													
:	Don	nestic	:	Imp	ort	ed	:Ratio : of a	(percent) verage					
Period : :	Range	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	import: avo domest:	price to erage lc price_									
:		Grade	430, 2	2B finish	n, 20	0 gauge	x coil						
:		:	:		:		:						
1970:	43-49	:	46 :	36-39	:	38	:	83					
1971:	41-53	:	47 :	35-38	:	37	:	79					
1972:	44-51	:	47 :	36-40	:	38	:	81					
1973:	48-50	:	49 :	44-50	:	48	:	98					
1974:	51-76	:	64 :	49-75	:	59	:	92					
1975:	65-79	:	73 :	51-68	:	56	:	77					
1976:	67-80	:	77 :	52-63	:	55	:	71					
1977:	63-89	:	82 :	64-69	:	65	:	79					
1978:	102-103	:	102 :	60-87	:	70	:	69					
1976: :		:	:		:		:						
January-March:	80	:	80 :	53	:	53	:	66					
April-June:	67-80	:	74 :	52-55	:	54	:	73					
July-September:	-	:	· - :	54	:	54	:	-					
October-December:	-	:	- :	54-63	:	60	:	-					
1977: :		:	3		:		:						
January-March:	63-73	:	72 :	65-66	:	66	:	92					
April-June:	79-84	:	81 :	65-66	:	66	:	81					
July-September:	79-88	:	86 :	64	:	64	:	74					
October-December:	89	:	89 :	60-69	:	65	:	73					
1978: :		:	:		:		:						
January-March:	102-103	:	102 :	60-71	:	68	:	67					
April-June:	_	:	- :	68-70	:	69	:	-					
July-September:	_	:	- :	67-87	:	71	:	-					
October-December:	_	:	- :	70	:	70	:	-					
		:	:		:		:						

1/ Arithmetic average prices for data presented for 1970 through September 1975 and weighted average prices for data presented for period beginning in October 1975.

Table 42.--Stainless steel strip: Lowest net selling prices received by U.S. producers and importers for sales of a selected type of strip to end-use customers, 1970-78, and, by quarters, 1976-78

		rces III	cento	per pour	107	
:	Dor	nestic	:	Im	ported	Ratio (percent) of average
Period : :	Period Domestic Importer Range Weighted Range Weighted average 1/: Grade 430, 2 finish, .060" x	Weighted average <u>1</u>	import price to: average domestic price			
:;	Gra	ade 430,	2 fir	ish, .00	60" x 3" to	12" x coil
1070	1.2-1.6	:	:	21	:	:
1971	43-40	÷	45 +	71	•	• 09
1971	42-49	:	45	-	• • • • • • • • • • • • • • • • • • •	
1072	40-46	:	44 :	35	: 35	· 00
1973:	42-47	:	43:	30	: 30	: 84
19/4:	40-72	:	56 :	4/	: 4/	: 84
19/5:	51-72	:	68 :	-	: -	-
19/6:	65-77	:	69 :	-	: -	: -
19//:	73-84	:	80 :	-	: -	: -
1978:	77-82	:	80 :	-	: -	: -
19/6: :		:	:		:	:
January-March:	65-77	:	65 :	-	: -	: -
April-June:	68-75	:	69 :	-	: -	: -
July-September:	65-75	:	68 :	-	: -	: -
October-December:	71-74	:	73 :	-	: -	· : -
1977: :		:	:		:	:
January-March:	73-78	:	75 :		: -	: -
April-June:	75-81	:	78 :	-	:	: -
July-September:	81-84	:	82 :	-	: -	: -
October-December:	81-84	:	83 :	-	: -	: -
1978: :		:	:		:	:
January-March:	79-81	:	81 :	-	: -	: -
April-June:	79-81	:	79 :	-	: -	: -
July-September:	80-82	:	81 :	-	: -	: -
October-December:	77	:	77 :	-	: -	: -
•	.,	•	•		•	•

(Prices in cents per pound)

<u>1</u>/ Arithmetic average prices for data presented for 1970 through September 1975 and weighted average prices for data presented for period beginning in October 1975.

Table 43.--Stainless steel plates (hot-rolled): Lowest net selling prices received by U.S. producers and importers for sales of a selected type of plate to steel service centers or distributors, 1970-78, and, by quarters, 1976-78

:	Don	nestic	:	Im	ported		:Ratio : of a	(percent) verage
Period : 	Range	Weigh averag	ted e <u>1</u> /	Range	Wei aver	ghted age <u>1</u> /	import: av: domest:	price to erage ic price
:		Grad	e 304,	HRAP,	1/4" x	72" 3	c 240"	
:		:	:		:		:	
1970:	63-68	:	66 :	35-50	:	45	:	68
1971:	55-63	:	59 :	39-53	:	45	:	76
1972:	56-62	:	59 :	43-50	:	47	:	80
1973:	65-67	:	66 :	45-63	:	50	:	76
1974:	67-98	:	80 :	56-92	:	74	:	93
1975:	93-98	:	95 :	67-89	:	76	:	80
1976:	82-98	:	91 :	62-85	:	71	:	78
1977:	84-98	:	85 :	74-84	:	79	:	93
1978:	78-93	:	86 :	74-89	:	83	:	97
1976: :		:	:		:		:	
January-March:	87-98	:	98 :	62-84	:	67	:	68
April-June:	93-98	:	97 :	65-85	:	72	:	74
July-September:	84-87	:	84 :	69-84	:	72	:	86
October-December:	82-92	:	84 :	71-76	:	74	:	88
1977: :		:	:		:		:	
January-March:	84-98	:	86 :	76-83	:	78	:	91
April-June:	84-86	:	85 :	74-84	:	77	:	91
July-September:	84-89	:	85 :	76-83	:	82	:	96
October-December:	84-89	:	85 :	76-83	:	78	:	92
1978: :		:	:		:		:	
January-March:	82-89	:	85 :	64-86	:	81	:	95
April-June:	84-89	:	86 :	75-89	:	81	:	94
July-September:	83-90	:	84 :	76-89	:	82	:	98
October-December:	78-93	:	87 :	87-87	:	87	:	100
:		:	:		:		:	

(Prices in cents per pound)

1/ Arithmetic average prices for data presented for 1970 through September 1975 and weighted average prices for data presented for period beginning in October 1975.

Table 44.--Stainless steel bars: Lowest net selling prices received by U.S. producers and importers for sales to steel service centers or distributors of selected types of bars, 1970-78, and, by quarters, 1976-78

	(11)	Les In Cent	s per poun				
:	Don	nestic	Imp	orted	<pre>:Ratio (percent) : of average</pre>		
Period :	Range	Weighted average <u>1</u> /	Range	Weighted average <u>1</u> /	import price to average domestic price		
:		Grade 303	, cold fin	ished, 1/2	' round		
		:	:	:	:		
1970:	66-83	: 75	: 48-68	: 55	: 73		
1971:	70-83	: 73	: 47-67	: 60	: 82		
1972:	52-73	: 65	: 49-69	: 59	: 91		
1973:	65-90	: 80	: 52-80	: 65	: 81		
1974:	81-113	: 98	: 57-105	: 83	: 85		
1975:	102-145	: 114	: 63-102	: 83	: 73		
1976:	80-159	: 101	: 65-115	: 112	: 111		
1977:	94-119	: 111	: 84-113	: 103	: 93		
1978:	109-130	: 121	: 72-140	: 106	: 87		
1976: :		*	:	:	:		
January-March:	88-142	: 103	: 66-101	: 89	: 86		
April-June:	80-101	: 90	: 66-110	: 87	: 97		
July-September:	82-159	: 98	: 66-108	: 91	: 93		
October-December:	100-119	: 113	: 65-115	: 91	92		
1977: :		:	:	:	:		
January-March:	94-119	: 107	: 84-108	: 102	: 95		
April-June:	94-119	: 110	: 100-113	: 107	: 97		
July-September:	102-119	: 112	: 92-112	: 107	: 96		
October-December:	101-119	: 115	: 88-113	: 96	: 83		
1978: :		:	:	:	:		
January-March:	109-119	: 113	: 92-151	: 98	: 87		
April-June:	109-130	: 118	: 92-130	: 112	: 95		
July-September:	111-130	: 123	: 72-136	: 105	: 85		
October-December:	118-130	: 128	92-140	: 109	: 85		
:	10 100	:		:	:		

(Prices in cents per pound)

See footnote at end of table.

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Table 44.--Stainless steel bar: Lowest net selling prices received by U.S. producers and importers for sales to steel service centers or distributors of selected types of bars, 1970-78, and, by quarters, 1976-78--Continued

	(Pr	ices in	<u>n cent</u>	: 5	per pour	ıd)			
:	Domestic				Imp	orte	ed	:Ratio (percent) : of average	
Period : : 	Range	Weig aver	ghted age <u>1</u> /	:	Range	We ave	eighted erage <u>1</u> /	import: av: domest:	price to erage ic price
:		Grade	304,	c	old finis	hed,	, 1-1/2'	' round	
:		:		:		:		:	
1970:	64-77	:	71	:	33-60	:	47	:	66
1971:	61-79	:	68	:	44-68	:	54	:	79
1972:	48-79	:	61	:	38-63	:	53	:	87
1973:	52-70	:	63	:	49-68	:	59	:	94
1974:	55-196	:	86	:	52-89	:	73	:	85
1975:	92-206	:	112	:	62-88	:	77	:	69
1976:	79-132	:	86	:	55-93	:	80	:	93
1977:	90-104	:	98	:	72-108	:	94	:	96
1978:	94-116	:	101	:	86-126	:	101	:	100
1976: :	• •	:		:		:		:	
January-March:	79-132	:	81	:	66-86	:	81	:	100
April-June:	79-90	:	85	:	58-86	:	76	:	89
July-September:	80-98	:	89	:	55-92	:	79	:	89
October-December:	82-98	:	91	:	59-93	•	84	:	92
1977:		:	-	:		:	• • •	:	72
January-March:	92-98	:	95	:	75-100	:	88	:	93
April-June:	90-101	:	95	:	75-100	:	91	:	96
July-September:	93-104	:	100	:	78-106	•	96	•	96
October-December:	98-103	:	100	:	84-108	:	100	:	100
1978:		:		:	0. 20-	•		•	200
January-March:	94-104	•	99		86-126		96	•	97
April-June:	94-106	:	96	:	92-122	:	100	•	104
July-September:	97-112	•	103	:	92-113	•	102	•	104
October-December:	101-116	•	104		92-120	•	102	•	101
	101 110	•	104	:	72 120	•	105	•	101

See footnote at end of table.

Table 44.--Stainless steel bars: Lowest net selling prices received by U.S. producers and importers for sales to steel service centers or distributors of selected types of bars, 1970-78, and, by quarters, 1976-78--Continued

	(Pr)	ces in c		<u> </u>					
:	Dor	nestic	:	Imj	ported		: of average		
Period : : :	Range	Weight average	ed : 1/:	Range	Weigh averag	ted e <u>1</u> /	import price to average domestic price		
:		Grade	416,	cold fi	inished,	2"	round		
:		:	:		:		:		
1970:	47-52	:	48 :	30-51	:	37	:	77	
1971:	43-52	:	46 :	33-52	:	41	:	89	
1972:	36-46	:	43 :	30-54	:	39	:	91	
1973:	39-53	:	47 :	33-57	:	45	:	96	
1974:	46-87	:	67 :	33-79	:	57	:	85	
1975:	77-101	:	84 :	41-84	: /	63	:	75	
1976:	66-103	:	78 :	50-97	:	73	:	94	
1977:	80-122	:	87 :	61-87	:	80	:	92	
1978:	85-111	:	93 :	66-121	:	87	:	94	
1976: :		:	:		:		:		
January-March:	66-73	:	70 :	63-92	:	69	:	99	
April-June:	66-79	:	74 :	71-82	:	73	:	99	
July-September:	72-103	:	85 :	55-97	:	72	:	85	
October-December:	69-85	:	82 :	50-90	:	78		95	
1977: :		:	:	-	:		:		
January-March:	81-118	:	88 :	75-85	:	82	:	93	
April-June:	80-122	:	86 :	65-86	:	76	:	88	
July-September:	81-93	:	85 :	61-87	:	79	:	93	
October-December:	85-93	:	88 :	78-87	:	83	:	94	
1978: :		:	:		:		:		
January-March:	85-111	:	88 :	66-121	:	85	:	97	
April-June:	89-95	:	90 :	73-106	:	85	:	94	
July-September:	91-98	:	95 :	71-99	:	85	:	89	
October-December:	94-108		98 :	74-110	•	94	•	96	
• • • • • • • • • •	. 	:	: :	.,	:	- 1	•		

(Prices in cents per pound)

1/ Arithmetic average prices for data presented for 1970 through September 1975 and weighted average prices for data presented for period beginning in October 1975.

Table 45.--Alloy tool steel, high-speed rods: Lowest net selling prices received by U.S. producers and importers for sales of a selected type of rod to end-use customers, 1970-78, and, by quarters, 1976-78

	(111	, conce per pedite/						
:	Dom	estic	:	Imp	orted	:Ratio (percent) : of average		
Period	Range	Weighted average <u>1</u>	; /: 1	Range	Weighted average <u>1</u>	import price to average domestic price		
	Grade M-7	, .250", r	ound	x hot-	rolled ann	ealed (HRA) coils		
:		:	:		:	:		
1970	: 116-144	: 127	:	91	: 91	: 72		
1971:	: 118-150	: 130	:	93-110	: 101	: 78		
1972:	: 118-162	: 137	:	98	: 98	: 72		
1973	: 133-168	: 144	:	-	: -	: -		
1974	: 138-230	: 175	:	89-114	: 96	: 55		
1975	: 154-250	: 221	: 1	03-126	: 112	: 51		
1976	: 171-201	: 186	: 14	40-152	: 149	: 80		
1977	: 182-292	: 218	:	163	: 163	: 75		
1978	: 213-245	: 235	:	-	: -	: -		
1976:	:	:	:		:	:		
January-March	: 179-184	: 181	:	-	: -	: -		
April-June	: 171-179	: 173	: 1	40-145	: 145	: 84		
July-September	: 197	: 197	:		: -	: -		
October-December	: 189-201	: 194	:	152	: 152	: 78		
1977:	:	:	:		:	:		
January-March	: 190-292	: 245	:	163	: 163	: 67		
April-June	: 193-213	: 200	:	-	: -	:		
July-September	: 182-240	: 210	:		: -	: -		
October-December	216	: 216	:	-	: -	: -		
1978:	:	:	:		:	:		
January-March	: –	: -	:	-	: -	: -		
April-June	: -	: -	:	-	: -	: -		
July-September	: 213-245	: 224	:	-	: -	: -		
October-December	: 245	: 245	:	-	: -	: -		
		:	:		•	- -		

(Prices in cents per pound)

 $\underline{1}$ / Arithmetic average prices for data presented for 1970 through September 1975 and weighted average prices for data presented for period beginning in October 1975.

Table 46.--Alloy tool steel, bars: Lowest net selling prices received by U.S. producers and importers for sales of a selected type of bar to steel service centers or distributors, 1970-78, and, by quarters, 1976-78

					iu)			
:	Dor	nesti	c :	Imj	ported	Ratio : of a	(percent) verage	
Period :	Range	We ave	ighted rage <u>1</u> /	Range	Wei aver	ghted age <u>1</u> /	import price: average: domestic pric	
	Grade	0-1,	1" x 4"	cold fi	nished	flat,	decar b	free
:		:	:		:		:	
1970:	75-79	:	// :	-	:		:	-
1971:	75-85	:	81 :	58	:	58	:	72
1972:	83-85	:	84 :	65	:	65	:	77
1973:	75-92	:	85 :	6 8- 70	:	69	:	81
1974:	80-116	:	102 :	71-139	:	88	:	86
1975:	111-130	:	121 :	105-150	:	110	:	91
1976:	117-150	:	126 :	114-152	:	124	:	98
1977:	130-153	:	138 :	92-156	:	135	:	98
1978:	134-177	:	157 :	147	:	147	:	94
1976: :		:	:		:		:	
January-March:	117-150	:	125 :	114-150	:	118	:	101
April-June:	117	:	117 :	114-137	:	117	:	93
July-September:	117-133	:	126 :	117-152	:	129	:	102
October-December:	127-144	:	136 :	126-151	:	130	:	96
1977: :		:	:		:		:	
January-March:	130-145	:	132 :	92-127	:	115	:	87
April-June:	135-153	:	139 :	136-156	:	149	:	107
July-September:	135-150	:	141 :	135-140	:	138	:	98
October-December:	135-150	:	138 :	135-141	:	138	:	100
1978: :		:	:		:		:	
January-March:	134-157	:	146 :	147	:	147	:	101
April-June:	141-159	:	153 :	147	:	147	:	96
July-September:	140-172	:	159 :	147	:	147	:	92
October-December:	161-177	:	171 :	147	:	147	:	86
:		:	:		:	-	:	

(Prices in cents per pound)

1/ Arithmetic average prices for data presented for 1970 through September 1975 and weighted average prices for data presented for period beginning in October 1975.

Table 47.--Alloy tool steel, high-speed bars: Lowest net selling prices received by U.S. producers and importers for sales of selected types of bars to end-use customers, 1970-78, and, by quarters, 1976-78

	(Pr:	ices :	in cents	per pour	nd j)			
:	Dot	nesti	c :	Im	poi	rted	:Ratio (percent) : of average		
Period : : :	Range	We ave	ighted rage $\frac{1}{2}$	Range	:	Weighted average <u>1</u> /	impo ; :domo	ort price to average estic price	
:	Grade	M-2,	1" round	l x rand	Om	lengths,	cold	finished	
:		:	:		:		:		
1970:	127-165	:	143 :	-	:	-	:	-	
1971:	130-160	:	142 :	114-129	:	121	:	85	
1972:	129-188	:	150 :	122-133	:	128	:	85	
1973:	131-180	:	149 :	125-141	:	133	:	89	
1974:	134-269	:	183 :	130-179	:	146	:	80	
1975:	170-294	:	224 :	133-222	:	180	:	80	
1976:	195-417	:	230 :	205-238	:	222	:	97	
1977:	240-338	:	293 :	191-351	:	256	:	87	
1978:	255-436	:	318 :	258-328	:	294	•	92	
1976: :		:	:		:		:		
January-March:	200-286	:	220 :	205-225	:	217	:	99	
April-June:	219-286	:	230 :	206-238	:	222	:	97	
July-September:	195-269	:	231 :	211-227	:	222	:	96	
October-December:	219-417	:	239 :	220-236	:	227	:	95	
1977: :		:	:		:		:		
January-March:	241-293	:	266 :	226-275	:	250	:	94	
April-June:	240-263	:	252 :	226-265	:	259	:	103	
July-September:	294-338	:	326 :	191-351	:	261	:	80	
October-December:	264-338	:	326 :	201-294	:	252	:	77	
1978: :		:	:		:		:		
January-March:	263-436	:	300 :	258-305	:	275	:	92	
April-June:	280-394	:	317 :	266-328	:	293	:	92	
July-September:	258-394	:	311 :	286-311	:	295	:	. 95	
October-December:	255-417	:	344 :	286-320	:	311	:	90	
:		:	:		:		:		

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See footnote at end of table.

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Table 47.--Alloy tool steel, high-speed bars: Lowest net selling prices received by U.S. producers and importers for sales of selected types of bars to end-use customers, 1970-78, and, by quarters, 1976-78--Continued

:	Don	nestic	:	Imp	orted	:Ratio (percent) : of average		
Period :	Range	Weight average	ed 1/	Range	Weighted average <u>1</u>	import price to average domestic price		
:		Grade 1	M-7,	1" round	x cold fin	nished		
:		:	:		:	:		
1970:	121-147	: 13	36 :	-	: -	: -		
1971:	123-134	: 1:	29 :	-	: -	: -		
1972:	129-145	: 1	37 :	125	: 125	: 91		
1973:	128-151	: 1:	39 :	-	: -	: -		
1974:	129-209	: 10	52 :	200	: 200	: 123		
1975:	154-303	: 19	90:	179-200	: 190	: 100		
1976:	176-248	: 20	: 00	197	: 197	: 99		
1977:	182-246	: 2	10 :	253	: 253	: 120		
1978:	203-268	: 23	29 :	231-270	: 248	: 108		
1976: :		:	:		:	:		
January-March:	176-199	: 18	B1 :	197	: 197	: 109		
April-June:	177-233	: 20	: 00	-	: -	: -		
July-September:	191-228	: 20	07 :	-	: -	: -		
October-December:	180-248	: 2	12 :	-	: -	: -		
1977: :		:	:		:	:		
January-March:	194-246	: 22	20:	-	: -	: -		
April-June:	182-237	: 2	11 :	-	: . –	: -		
July-September:	193-212	: 19	98 :	-	: -	: -		
October-December:	191-223	: 2	11 :	253	: 253	: 120		
1978: :		:	:		:	:		
January-March:	203-264	: 2:	22 :	231	: 231	: 104		
April-June:	203-241	: 22	20:	231-250	: 240	: 109		
July-September:	203-268	: 2	24 :	250	: 250	: 112		
October-December:	229-264	: 2	50:	270	: 270	: 108		
•		:	:		:	:		

(Prices in cents per pound)

<u>1</u>/ Arithmetic average prices for data presented for 1970 through September 1975 and weighted average prices for data presented for period beginning in October 1975.

Item	1970	1971	1972	1973	1974	1975	1976	1977	1978
:	1 0(0 507	1 000 500		:	:	0.010.700	:	:	:
Net sales	1,009,007	: 1,000,002	: 1,323,/24	: 1,012,915	: 2,455,965 :	2,019,792	: 2,277,318	12,00/,0/9	:3,140,078
Cost of goods solddo:	928,678	: 966,920	: 1,139,707	: 1,535,100	: 2,032,893 :	: 1,752,792	: 2,010,635	:2,272,017	:2,648,386
Gross profitdo:	140,859	: 121,662	: 184,017	: 277,815	: 421,090 :	: 267,000	: 266,683	: 395,562	: 497,692
General, selling, and :	:	:	:	:	:	•	:	:	:
administrative expense :		:	:	:	:	: .	:	:	:
1,000 dollars:	103,843 :	: 103,250	: 105,102	: 122,061	: 147,676 :	: 169,275	: 168,082	: 183,079	: 197,304
Net operating profitdo:	37,016	: 18,412	: 78,915	: 155,754	: 273,414	97,725	: 98,601	: 212,483	: 300,388
Other expense netdo:	7,654	: 5,849	: 10,163	: 12,443	: 13,990 :	: 17,193	: 11,956	: 8,924	: 14,028
Net profit before taxes :		:	:	:	:	:	:	:	:
1,000 dollars:	29,362	: 12,563	: 68,752	: 143,311	: 259,424	: 80,531	: 86,645	: 203,559	: 286,360
Ratio of net operating profit:	-	:	:	:	:	:	:	:	:
to net salespercent:	2.8	: 1.2	: 5.2	: 7.9	: 10.6	: 4.0	: 3.8	: 7.6	: 9.1
		:	: <u> </u>	<u>:</u>	:	:	:	:	:

Table 48.--Stainless steel and alloy tool steel: Profit-and-loss experience of U.S. producers 1/ on their overall establishment operations, 1970-78

1/ 17 producers reported in 1970-74, 19 producers reported in 1975-78.

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

· · · · · · · · · · · · · · · · · · ·		: :		: General,	: Net	: Ratio of net
Year and item	Not sales	: Cost of :	Gross profit	: selling, and	: operating	: operating
leal and item	Het Sales	goods sold :	or (loss)	:administrative	: profit or	profit or (loss)
	: :	:		: expenses	: (loss)	to net sales
	: <u>1,000</u> :	<u>1,000</u> :		:	:	•
:	dollars :	dollars :	1,000 dollars	:1,000 dollars	:1,000 dollars	: <u>Percent</u>
:	: :	:		:	:	:
<u>1970</u>	: :	: :		:	:	:
	: :	: :		:	:	:
Stainless steel and alloy tool steel,	: :	:		:	:	:
total	<u>760,204</u>	663,557 :	96,647	<u>: 80,801</u>	: 15,846	2.1
Stainless steel, total	624,260	545,160 :	79,100	: 61,787	: 17,313	2.8
	34,541	29,110 :	5,431	: 2,178	: 3,253	: 9.1
Sheets and strip	423,930	3/1,668 :	52,262	: 33,101	: 19,161	: 4.5
Rod 8	12,3/5	11,359 :	1,016	: 3,005	: (1,989)	(16.1)
	153,414	133,023 :	20,391	: 23,503	(3,112)	: (2.0)
Alloy tool steel	: 135,944	: 118,397 :	17,547	: 18,914	: (1,367)	: (1.0)
1071		:		:	:	
<u>1971</u>		:		:	:	•
				•	:	:
Stainless steel and alloy tool steel,			00.000	. 70 000	. / 501	
	809,009	/20,009 :	82,800	<u> </u>	<u> </u>	0.6
Dieber	20 526	25 905	0/,/1/	: 00,027	<u> </u>	<u> </u>
		· · · · · · · · · · · · · · · · · · ·	3,721	: 1,990	· 1,725	: 4.4 . 9.7
Sheets and strip	12 4/5,100 3	429,000	40,302	. 33,910	· 12,044	. (20.0)
Roas	152 147 1	13,940 ;	17 025	. 2,292	. (2,793)	. (20.9)
	122,10/	112 2/9	17,933	. 17 502	• (2,400)	• (2.9)
Alloy tool steel	127,431	112,540 ;	15,005	• 17,502	• (2,499)	• (2.0)
1072				•	•	•
1972		•		•	•	•
Stainlage steel and allow tool steel				•	•	•
scaliness sceel and alloy cool sceel, a	05/ 531 0		117 355	• 79.696	• 38 871	• 41
Stainlage steel total	700 565	707 315	92 250	· 70,404	· 32 064	• • • • •
Plates-	45 418	42 198	3 220	• 2 059	· <u> </u>	
Shoote and strip	550 150	42,170	59 121	• 32 184	• 26 937	• 4.9
Podessand Strip	18 012	16 652 •	1 360	• 2 9/1	• (1 581)	• (8.8)
Bars	185,985	157.436 :	28,549	2,041	. 5.547	: 3.0
Allow tool steel	154,966	129.861 :	25,105	: 18,298	: 6.807	. 4.4
			25,105	:	:	:
1973				:	:	•
<u></u> -		:		:	:	:
Stainless steel and allow tool steel.				:	:	:
total	1.335.296	1.116.083 :	219.213	91.849	: 127.364	: 9.5
Stainless steel. total	1.135.085	955,419 :	179,666	: 71.079	: 108,587	: 9.6
Plates	71.747	60.344 :	11,403	: 2,801	: 8,602	: 12.0
Sheets and strip	779.775	657.316 :	122.459	: 36,961	: 85.498	: 11.0
Rods	29,118	26,693 :	2,425	: 3,831	: (1,406)	: (4.8)
Bars	254,445	211,066 :	43,379	: 27,486	: 15,893	: 6.2
Alloy tool steel	200,211	160.664 :	39,547	: 20,770	: 18,777	: 9.4
-	,			:	:	:

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Table 49.--Stainless steel and alloy tool steel: Profit-and-loss experience of U.S. producers 1/ on their production of stainless steel plates, sheets and strip, rods, and bars, and alloy tool steel, 1970-78

See footnote at end of table.

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				1 Cananal	No.*	. Datia of not
	· .	: Coat of	: · Cross profit	: General,	: Net	: Katio of net
Year and item	Net sales	· cost of	· or (loss)	· seiling, and	• operating	inrofit or (lose)
	•	• goods sold	•	• auminiociacive	\cdot (loss)	• to not cales
	• 1 000	1 000	•	· expenses	. (1058)	· LU HEL SATES
	<u>1,000</u>	$\frac{1}{000}$	• • 1 000 dollare	• •1 000 dollars	• •1 000 dollars	• Percent
	. dorrars	·	. <u>1,000 dollars</u>	. <u>1,000 dollars</u>	. <u>1,000 u011a18</u>	. <u>rercent</u>
107/	•	•	•	•	•	•
1374	•	•	•	•	•	•
Stainless steel and allow tool steel	•	•	•	•	•	•
total	• 1 876 000	• 1 516 785	• 350 226	• 11/ 060	• 244 264	• 13.0
	1 632 873	• 1 322 804	• 300 070	• 114,300	• 218 202	· 13.0
Platos	150 803	· 110 620	• 31 374	• • • • • • • •	• 26 900	· 15.4
Flates and stringer-	• 1 00% 063	· 203 /13	• 200 450	• • • • • • • • • • • • • • • • • • • •	· 150 / 02	· 17.0
Sneets and strip	· 1,094,003	. 3/ 202	. 200,000	· JU,130		i 1J.0
	· 43,994	· 34,292	. (9,702	· 4,/33	· 4,909	. 11.5
Bars	: 344,015	2/5,/00	08,233	: 32,412	: 35,841	
Alloy tool steel	: 243,130	193,891	49,245	23,183	20,002	: 10.7
1075	:					
1975	:		:	•		•
	:	:	•	•		•
Stainless steel and alloy tool steel,	:		:	:	:	:
total	: 1,337,621	: 1,1/5,166	: 162,455	109,068	: 53,38/	: 4.0
Stainless steel, total	: <u>1,118,756</u>	998,673	120,083	: 84,412	: 35,6/1	: 3.2
Plates	: 209,081	: 163,548	: 45,533	: 12,9//	: 32,556	: 15.6
Sheets and strip	: 635,113	: 599,911	: 35,202	: 40,070	: (4,868)	. (.8
Rods	: 34,032	: 27,570	: 6,462	: 5,482	: 980	: 2.9
Bars	: 240,530	: 207,644	: 32,886	: 25,883	: 7,003	: 2.9
Alloy tool steel	: 218,865	: 176,493	: 42,372	: 24,656	: 17,/16	: 8.1
	:	:	:	:	:	:
<u>1976</u>	:	:	:	:	:	:
	:	:	:	:	:	:
Stainless steel and alloy tool steel,	:	:	:	:	•	:
tota1	: 1,679,395	: 1,489,047	: 190,348	: 116,930	: 73,418	<u> </u>
Stainless steel, total	: <u>1,439,202</u>	: 1,296,462	: 142,740	: 88,960	: 53,780	: 3.7
Plates	: 173,282	: 148,559	: 24,723	: 12,633	: 12,090	: 7.0
Sheets and strip	: 967,597	: 883,354	: 84,243	: 45,149	: 39,094	: 4.0
Rods	: 48,298	: 42,378	: 5,920	: 5,743	: 177	: .4
Bars	: 250,025	: 222,171	: 27,854	: 25,435	: 2,419	: 1.0
Alloy tool steel	: 240,193	: 192,585	: 47,608	: 27,970	: 19,638	: 8.2
	:	:	:	:	:	:
<u>1977</u>	:	:	:	:	:	:
	:	:	:	:	:	:
Stainless steel and alloy tool steel,	:	:	:	:	:	:
total	: <u>1,686,394</u>	: 1,439,877	: 246,517	: 111,241	: 135,276	: 8.0
Stainless steel, total	: <u>1,450,346</u>	: 1,250,891	: 199,455	: 86,131	: 113,324	: 7.8
Plates	: 113,097	: 99,890	: 13,207	: 7,821	: 5,386	: 4.8
Sheets and strip	: 997,026	: 874,431	: 122,595	: 39,727	: 82,868	: 8.3
Rods	: 38,427	: 33,272	: 5,155	: 4,363	: 792	: 2.1
Bars	: 301,796	: 243,298	: 58,498	: 34,220	: 24,278	: 8.0
Alloy tool steel	: 236,048	: 188,986	: 47,062	: 25,110	: 21,952	: 9.3
	:	:	:	:	:	:

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Table 49.--Stainless steel and alloy tool steel: Profit-and-loss experience of U.S. producers 1/ on their production of stainless steel plates, sheets and strip, rods, and bars, and alloy tool steel, 1970-78--Continued

See footnote at end of table.

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Table 49	Stainless	steel	and allo	by tool	stee	1: Pr	ofit-a	nd-los	s exp	perie	nce of	E U.S.	produ	cers l	/ on	their	production	of
	stainless	steel	plates,	sheets	and	strip,	rods,	and b	ars,	and a	alloy	tool	steel,	1970-	780	Continu	ed	

Year and item	Net sales	: : Cost of : goods sold	: : Gross profit : or (loss)	: General, : selling, and :administrative	Net operating profit or	: Ratio of net : operating :profit or (loss) : to net sales
	<u>1,000</u> dollars	: <u>1,000</u> : dollars	: : 1,000 dollars	: : :1,000 dollars	: : :1,000 dollars	: Percent
<u>1978</u>		:	:	:	:	:
Stainless steel and alloy tool steel,	2.053.469	: : : 1.724.516	: : 328,953	: : : 126.239	: : : 202.714	: : . 9.9
Stainless steel, total	1,736,070	: 1,472,883	: 263,187	: 93,309	: 169,878	· 9.8
Sheets and strip	1,185,246	: 1,021,385	: 163,861	: 42,833	: 121,028	: 10.2
Rods	364,386	: 38,228 : 285,732	; 5,187 ; 78,654	: 4,214 : 37,218	: 41,436	: 2.2
Alloy tool steel	· 317,399	: 251,633	: 65,766	: 32,930	: 32,836	: 10.3

1/ 17 producers reported in 1970-74, 19 producers reported in 1975-77, and 18 producers reported in 1978.

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

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Firm	Net sales	::	Cost of goods sold	::	Gross profit	:	General, selling, and administrative expenses	: : : :	Net operating profit or (loss)	: : :p :	Ratio of net operating rofit or (loss) to net sales
	1,000	:	1,000	:		:		:		:	
:	dollars	:	dollars	:	1,000 dollar	8:	1,000 dollars	:1	,000 dollars	:	Percent
Teledyne:	***	:	***	:	***	:	***	:	***	:	***
Latrobe:	***	:	***	:	***	:	***	:	***.	:	***
Bethlehem	***	:	***	:	***	:	***	:	***	:	***
Republic::	***	:	***	:	***	:	***	:	***	:	***
Joss lyn	***	:	***	:	***	:	***	:	***	:	***
A1 Tech	***	:	***	:	***	:	***	:	***	:	***
Crucible	***	:	***	:	***	:	***	:	***	:	***
Washington Steel:	***	:	***	:	***	:	***	:	***	:	***
Braeburn	***	:	***	:	***	:	***	:	***	:	***
Carpenter	***	:	***	:	***	:	***	:	***	:	***
Jones& Laughlin	***	:	***	:	***	:	***	:	***	:	***
Armco	***	:	***	:	***	:	***	:	***	:	***
Alleghany	***	:	***	:	***	:	***	:	***	:	***
Jessop	***	:	***	:	***	:	***	:	***	:	***
Carlson	***	:	***	:	***	:	***	:	***	:	***
Columbia	***	:	***	:	***	:	***	:	***	:	***
Universal	***	:	***	:	***	:	***	:	***	:	***
McLouth	***	:	***	:	***	:	***	:	***	:	***
Total	2,053,469	:	1,724,516	:	328,953	:	126,239	:	202,714	:	9.9
	· · ·	:		:	·	:		:		:	

Table 50.--Profit-and-loss experience of U.S. producers on their production of stainless steel and alloy tool steel, by firm, 1978

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

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Table 51.--Stainless steel and alloy tool steel: U.S. producers' investment in productive facilities, by types, 1978

	021410/						
	Assets as	as of Dec. 31, 1978 <u>1</u>					
Item : :	Original- cost bæsis	Net book value	: Estimated : replace- : ment cost				
		8	:				
Investment in productive facilities :	:	:	:				
employed in the production of :		:	:				
Stainless steel sheets and strip:	1,150,539	: 649,715	: 2,103,060				
Stainless steel plates:	179,919	117,848	: 309,163				
Stainless steel bars:	311,448	: 190,308	: 615,628				
Stainless steel rods:	30,089	: 16,937	: 86,308				
Alloy tool steel:	303,504	: 165,041	: 612,130				
Total:	1,975,499	: 1,139,849	: 3,726,289				
:		•	:				

(In thousands of dollars)

<u>1</u>/ Partially estimated by the staff of the U.S. International Trade Commission.

Table 52.--Stainless steel and alloy tool steel: U.S. producers' shipments, exports, imports for consumption, and apparent consumption, by types, 1978, and estimated 1979, <u>1</u>/ without quotas

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		(In thousands	s of tons)		
Item and period	:U	I.S. producers':	Exports	Imports	: Apparent
	<u>.</u>	Bhipmenes	<u></u>	•	•
Shoots and strip.	•			•	•
		826	36	• 01	• 071
$1970 \ 27^{$		020		• 01	8/1
	•	705		•	
A	-:	/0) : 	40	106	: 851
	-:	7/1 3	40 40		841
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	-:	709 :	40	10/	: 836
Danaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa	- :	/56 :	40	: 105	: 821
Plates:	•	100		:	:
19/8 2/	-:	130	. 0	: 11	: 135
19/9 estimated:	:	· ·	_	:	:
A	-:	125 :	: 5	: 14	: 134
B	-:	119 :	5	: 15	: 129
C	-:	103 :	: 5	: 16	: 114
D	-:	107 :	: 5	: 13	: 119
Bars:	:	:	1	:	:
1978 <u>2</u> /	-:	153 :	13	: 27	: 167
1979 estimated:	:		:	:	:
A	-:	117 :	10	: 41	: 148
B	-:	128 :	10	: 40	: 158
C	-:	114 :	10	: 39	: 143
D	-:	106 :	10	: 42	: 138
Rods:	:		:	<b>:</b> .	:
1978 2/	-:	25 :	1	: 18	: 42
1979 estimated:	:	:	}	:	:
A	-:	:		: -	: -
B=====================================	-:	20 :	1	: 24	: 43
C	-:	18 :	1	: 23	: 40
D	-:	16 :	1	: 23	: 38
Allov tool steel:	:	:			:
1978 2/	-:	74 :	3	: 22	: 93
1979 estimated:	:		-	:	:
A	-:	76 :	4	. 31	: 103
B	-:	- 1	-		: -
 C	- :	73 :	4	. 37	• 101
D		73 •	4	. 30	: 00
_	•	,,,,	-	- 50	• • • • • •

1/ Estimates for 1979 were obtained from (A) a leading specialty steel firm, (B) the composite for the specialty steel industry excluding that firm, (C) the composite for the steel service center industry, and (D) a major raw material supplier to the specialty steel industry.

2/ Figure for 1978 is actual tonnage under quota conditions and is included to serve as a benchmark for 1979 estimates.

Table 53.--Stainless steel and alloy tool steel: U.S. producers' shipments, exports, imports for consumption, and apparent consumption, by types, 1978, and estimated 1979, <u>1</u>/ with quotas

	(In thousand	s of tons)		
Item and period	:U.S. producers' : shipments	Exports	Imports	: Apparent : consumption
	:	•	:	:
Sheets and strip:	:	:	:	:
1978	: 826	: 36	: 81	: 871
1979 estimated:	:	:	:	:
A <u>2</u> /	: 800	: 40	: 91	: 851
B 3/	: 790	: 40	: 91	: 841
C <u>3</u> /	: 785	: 40	: 91	: 836
D <u>2</u> /	: 770	: 40	: 91	: 821
Plates:	:	:	:	:
1978	: 130	: 6	: 11	: 135
1979 estimated:	•	:	:	:
A <u>2</u> /	: 125	: 5	: 14	: 134
B <u>3</u> /	: 120	: 5	: 14	: 129
C 3/	: 105	: 5	: 14	: 114
D 2/	: 110	: 5	: 14	: 119
Bars:	:	:	:	:
1978	: 153	: 13	: 27	: 167
1979 estimated:	:	:	:	:
A 2/	: 130	: 10	: 28	: 148
B 3/	: 140	: 10	: 28	: 158
C 3/	: 125	: 10	: 28	: 143
D 2/	: 120	: 10	: 28	: 138
Rods:	:	:	:	:
1978	: 25	: 1	: 18	: 42
1979 estimated:	:	:	:	:
A	: -	: -	: -	: -
B 3/	: 25	: 1	: 19	: 43
C 3/	: 22	: 1	: 19	: 40
D 2/	: 20	: 1	: 19	: 38
Allov tool steel:	:	:	:	:
1978	: 74	. 3	22	: 93
1979 estimated:	:	:	:	:
A 2/	. 84	• 4	• 23	: 103
B	: -	: -	: -	: -
C 3/	. 82	• 4	: 23	: 101
D 2/	: 80	: 4	: 23	: 99
~ _/	•	• T	•	•

1/ Estimates for 1979 were obtained from (A) a leading specialty steel firm, (B) the composite for the specialty steel industry excluding that firm, (C) the composite for the steel service center industry, and (D) a major raw material supplier to the specialty steel industry.

2/ Demand forecast based on estimates of apparent consumption in 1979.

 $\overline{3}$ / Demand forecast based on estimates of domestic shipments in 1979.

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## APPENDIX C

# DOMESTIC PRODUCERS
Allegheny Ludlum Steel Corp. 2000 Oliver Building Pittsburgh, Pennsylvania 15222

Al-Tech Specialty Steel Corp. P.O. Box 152 Dunkirk, New York 14048

Armco Inc. Advanced Materials Division Middletown, Ohio 45042

Bethlehem Steel Corporation Bethlehem, Pennsylvania 18016

Braeburn Alloy Steel Division Continental Copper & Steel Ind., Inc. Lower Burrell, Pennsylvania 15068

Carpenter Technology Corp. P.O. Box 662 Reading, Pennsylvania 19603

Columbia Tool Steel Company 400 Lincoln Highway Chicago Heights, Illinois 60411

Colt Industries, Inc. Crucible Materials Group P.O. Box 88 Pittsburgh, Pennsylvania 15230

Eastern Stainless Steel Company P.O. Box 1975 Baltimore, Maryland 21203

G. O. Carlson, Inc. Thorndale, Pennsylvania 19372

Ingersoll Steel Corp. New Castle, Indiana Jessop Steel Company Washington, Pennsylvania 15301

Jones & Laughlin Steel Corp. Three Gateway Center Pittsburgh, Pennsylvania 15230

Joslyn Stainless Steels 2400 Taylor Street, West Fort Wayne, Indiana 46801

Latrobe Steel Company Latrobe, Pennsylvania 15650

McLouth Steel 300 S. Livernois Street Detroit, Michigan 48209

Republic Steel Corp. 410 Oberlin Avenue, S.W. Massillon, Ohio 44646

Simonds Steel Division Guterl Special Steel Corp. P.O. Box 509 Lockport, New York 14094

Teledyne Vasco P.O. Box 151 Latrobe, Pennsylvania 15650

Universal-Cyclops Specialty Steel Division Cyclops Corporation Cyclops Building 650 Washington Road Pittsburgh, Pennsylvania 15228

Washington Steel Corp. Washington, Pennsylvania 15301

U.S. Steel Corp. Pittsburg, Pa.

## APPENDIX D

## INTERNATIONAL TRADE COMMISSION ECONOMETRIC ANALYSIS AND METHODOLOGY

Prepared by Clark Workman Office of Economic Research

March 27, 1979

## Results of Econometric Analysis of U.S. Shipments and U.S. Imports of Stainless Steel Sheets and Strip

As an aid in evaluating the impact on the domestic industry of the specialty steel import restraint program, an empirical analysis of U.S. demand for domestically produced sheets and strip and foreign-produced sheets and strip was undertaken during investigation No. TA-203-3, the report on which was published in March 1977. The estimates of imports and shipments for the first 3 quota years, assuming the absence of quotas, presented herein, are the results of that study. Demand was assumed to be a function of a business activity variable that reflected the input needs of user industries, and of a price variable that reflected the degree of cost advantage in substituting foreign sheets and strip for the domestic product. Demand functions for domestic and imported products were estimated accordingly, and with the aid of these functions quantitative estimates were made as to how U.S. shipments and imports would have behaved during the first and second quota year if the import restraint program had not been instituted, and how shipments and imports would behave in the third quota year in the absence of quota restraints. Projections of shipments and imports for an additional 3 years are also provided.

The estimated volumes of U.S. shipments and U.S. imports during the first, second, and third quota years in the absence of quotas are presented in the following table.

	(In tons)		
Item	lst quota year (1976-77)	: 2d quota year : (1977-78)	: 3d quota year : (1978-79)
U.S. producers' shipments U.S. imports	700,330 89,040	: : 792,500 : 100,600	: : 871,800 : 110,700
Total	789,370	: 893,100 :	982,500

The estimates for the first quota year are based on the change in U.S. production of durable manufactured goods during the first quota year, and estimates for the second and third quota years are based on forecasted changes in the durable manufactures' index for those periods. 1/ All estimates assume no change in foreign export prices of sheets and strip relative to domestic prices as of the imposition of quotas.

Although the assumption of a stable domestic-import price relationship is highly restrictive, there is no other suitable method for determining how relative import and domestic prices would have behaved during the 1976-78 period. In addition to the effects of exchange rate fluctuations, the ratio is determined by many variables including wage and material costs, capacity utilization rates and demand pressures in the United States and in other major producing and consuming nations. Since the industrial world has experienced an economic recovery throughout 1976-78, it is likely that the general upward movements in sheet and strip prices that have taken place during this period would have occurred in approximately the same magnitude even in the absence of quota restraints.

#### Impact of quotas during first and second quota year

The following table presents the actual volume of U.S. shipments and U.S. imports during the first quota year and the estimated volume of shipments and imports in the absence of quotas. The estimates suggest that, in the absence of quota restraints, U.S. shipments of sheets and strip during July-December 1976 and January-June 1977 would have been approximately 700,300 tons, imports about 89,000 tons, and the total demand as represented by U.S. shipments plus imports, 1/ about 789,400 tons.

Stainle	ss st	ee1	sheets	and	strip	: Actu	ual v	701ume	of	U.S.	prod	duce	rs'	shipm	ents
an	d U.S	. in	nports	durin	g the	first	quot	a yea:	<b>r (</b> )	1976-7	7) a	and e	esti	mated	
vo	lumes	ass	suming	absen	ice of	quota	rest	raint							

	(In to	ons)		
:	Actual volume with quotas	Estimated volume without quotas	:	Difference between actual volume and estimated volume
U.S. producers' : shipments: U.S. imports:	748,300 67,700	700,330 89,040	::	47,970 -21,340
Total:	816,000	789,370	:	26,630

Note.--Estimated volumes without quotas derived from econometric analysis made by the Commission staff in connection with investigation No. TA-203-3 (March 1977).

The more interesting figures, of course, are the differences between actual and estimated volumes. Actual imports in the first quota year fell short of estimated imports had quotas not been in effect by about 21,000 tons. Unless there is reason to believe that, in the absence of quotas, foreign prices would have risen substantially relative to domestic prices, the implication is that the import restraint program did restrain imports. The term "substantial" means a relative price increase of at least 6 percent because, according to the estimated price elasticity of substitution of imported for domestic sheets and strip (-.77), the increase in relative foreign prices needed to bring estimated imports down to the level allowed under the quota is roughly 6 percent.

1/ Shipments plus imports overstate total demand slightly by including U.S. exports which average roughly 6 percent of apparent U.S. consumption.

Actual U.S. shipments during the first quota year exceeded the estimated volume that would have been shipped in the absence of quotas by about 48,000 tons. Of this difference, 21,000 tons can be accounted for by the estimated reduction in imports due to the quota. The amount remaining (27,000 tons) probably indicates that the estimated quantities of U.S. shipments and U.S. imports during the first quota year were slightly low.

A likely explanation for slightly low estimates made in 1976 is that in connection with the U.S. business recovery in 1976, an inventory buildup began (by purchasers of sheets and strip) that was not completely accounted for by the estimating equations for sheet-and-strip demand. If the estimates in the preceding table were revised on the basis of an upgraded inventory buildup so as to eliminate the difference between actual and estimated U.S. shipments unaccounted for by the previous figures, the revised estimate of U.S. shipments during the first quota year (without quotas) would be 727,000 tons, and the revised estimate of imports would be 92,400 tons. These alternative figures represent an increase of approximately 3 percent over the figures in the preceding table, and the revised estimate of the reduction in imports due to the quota would be 24,700 tons, as compared with 21,300 tons from the preceding table. Thus, the revised estimates would imply a slightly larger impact of the import restraint program on holding down imports during the first quota year.

In evaluating the relative contributions of the business cycle and the import restraint program to the expansion of domestic sheets and strip production during the first quota year, the evaluation must be based on an explicit estimate of the increase in U.S. shipments in the absence of quota restraints, and on an explicit estimate of the reduction in U.S. imports due to the quota. 1/

Following this approach, and using the figures from the preceding table, the estimated increase in U.S. shipments during the first quota year as a combined result of U.S. business expansion and quota restraint was approximately 72,000 tons. Of this amount, about 51,000 tons or 71 percent, resulted from U.S. business expansion, and about 21,000 tons, or 29 percent, occurred at the expense of reduced imports.

In summary, the econometric demand analysis suggests that U.S. business expansion accounted for the greater part of the expansion of U.S. sheet-andstrip production during the first year of import quotas, but that the contribution of the import-restraint program was also important, approaching half of the contribution of the recovering business cycle.

1/ Parenthetically, the increase in U.S. shipments must be calculated as an increase above the annualized volume of (fitted) shipments for quarter-year immediately preceding the imposition of quotas, and not as on increase above the actual volume of shipments registered during the 12 months preceding the imposition of quotas.

Actual volumes of U.S. shipments and U.S. imports during the second quota year (1977-78) are presented in the following table along with estimates of shipments and imports for the second quota year made in the 1977 investigation. However, the numbers are not as easily interpreted as those for the first quota year. On the one hand, estimated imports (in the absence of quotas) exceeded actual imports by 26,600 tons, a result which again suggests that the quota was effective in restricting imports. Since the economy continued to recover during the second quota year with an accompanying increase in the demand for sheets and strip, this result is reasonable. On the other-hand, the model seemed to overestimate the demand for the domestic product as evidenced by the 25,700 ton excess of estimated shipments assuming the absence of quotas over actual shipments. However, there is evidence that the moderate rise in actual shipments that occurred between the first and second quota years tended to understate the real increase in demand for domestically produced sheet and strip that occurred during this period. Although actual shipments increased by only 18,500 tons during the second quota year, the thousand ton rise in unshipped orders during this period suggests that data on actual shipments are not an accurate indicator of the demand for sheets and strip.

Scaintess	steel sne	eets and s	crip: A	Actual	volume	OI U.S.	producers	snipments
and U.S.	imports	during th	e second	i quota	year	(1977 - 78)	and estim	ated
volumes	assuming	absence o	f quota	restra	int			

	(In tons	s)	•
Item	Actual volume with quotas	: Estimated : : volume : :without quotas:	Difference between actual volume and estimated volume
U.S. producers' shipments U.S. imports	: 766,800 74,000	: 792,500 : 100,600 :	-25,700 -26,600
Tota1	: 840,800	: 893,100 :	-52,300

Note.--Estimated volumes without quotas derived from econometric analysis made by the Commission staff in connection with investigation No. TA-203-3 (March 1977)

In view of the difficulties in interpreting the regression results, no attempt was made to allocate the relative contributions of the business cycle and the quota to the rise in domestic shipments during the second quota year.

# Impact of quota during third year and projections for an additional 3 years

The following table compares conditional estimates of U.S. imports during the first, second, and third quota years with corresponding figures in allowable imports under the import-restraint program:

	(Ir	tons)				
Item	:lst	quota yea	r:2nd	quota yea	r:3rd	l quota year
		(19/0-//)	:	(19/7 - 78)	<u> </u>	(1978-79)
	:		:		:	
Estimated imports in absence of	:		:		:	
quota restraint	-:	89,040	:	98,977	:	102,160
Imports permitted under import	:		:		:	
restraint program	-:	<u>1</u> / 67,727	:	<u>2</u> / 73,947	:	75,900
Reduction in imports due to	:		:		:	
quota	-:	21,313	:	25,030	:	26,260
	:		:		:	

1/ Actual volume of U.S. imports during first quota year.

 $\overline{2}$ / Actual volume of U.S. imports during second quota year.

The estimated reductions in U.S. imports in the second and third quota years were somewhat higher than in the first quota year. This is essentially because the forecasted rate of growth in production levels of sheet-and-strip user industries was larger than the rate of growth in allowable imports under the restraint program.

The table below provides forecasts of how shipments and imports of sheet and strip would perform during each of the next 3 years beginning in July of 1979 if quotas are discontinued. The results depend on projections of future trends in the index of durable goods production 1/, and continue to assume that the ratio of domestic to import prices will remain unchanged and assume that imports in the absence of quotas will achieve the same relationship to shipments as they had achieved in the several years prior to the imposition of the quota.

Stainless steel sheets and strip: Projections of U.S. producers' shipments and U.S. imports for each of the next 3 quota years beginning in July of 1979, assuming that quotas are discontinued

	(]	In tons)				
Item	:	July 1979- June 1980	:	July 1980- June 1981	:	July 1981- June 1982
U.S. producers shipments U.S. imports	•••	800,000 103,000	:	867,000 110,000	::	938,000 119,000
Tota1	:	903,000	:	977,000	:	1,057,000

1/ Forecast of future trends in index of durable goods production based on data developed by Predicasts, Inc.

#### Specification of the model

In conjunction with the econometric analysis of U.S. demand for domestically produced sheets and strip and for foreign-produced sheets and strip done in connection with investigation No. TA-203-3 (March 1977), estimates were generated of what U.S. shipments and U.S. imports would have been during the first quota year if the import restraint program had not been instituted, and of what U.S. producers' shipments and U.S. imports would be during the second and third quota years in the absence of quota restraint. This appendix describes the econometric analysis of U.S. demand, as well as the methodology by which estimates of U.S. shipments and U.S. imports were generated with the aid of the estimated demand relationships.

The point of departure for the econometric analysis was a type of market model sometimes termed a "demand-only" model. This type of model is characterized by the absence of an explicit supply function. In effect, supply is assumed to respond passively to changes in demand, and generally with some time lag. Under this assumption, the historical relationship between shipments and the variables underlying demand traces out a demand relationship, and not a hybrid relationship that incorporates elements of both supply and demand. Thus the demand function can readily be estimated.

A demand-only model was appropriate with regard to the U.S. stainlesssteel market, because the demand for stainless steel is a derived demand that depends predominantly on the level of business activity in user industries, and the price elasticity of total demand tends to be relatively low. 1/ The model is complicated, of course, by the presence of two sources of supply-domestic producers and foreign producers--which gives rise to pricesubstitution effects as between domestically produced and imported sheets and strip.

The functions explicitly specified were a total U.S. demand function for sheets and strip, a U.S. demand function for domestically produced sheets and strip, and a U.S. demand function for foreign produced sheets and strip. In the context of the model, the second and third functions translate into operational functions describing actual U.S. shipments and actual U.S. imports, and hence these functions will be denoted as simply the U.S. shipments function and the U.S. import function. Similarly, the first function translates into the shipments-plus-imports function.

The operational variables used as explanatory variables for U.S. shipments and U.S. imports were the followings:

--Federal Reserve Board index of U.S. industrial production of durable manufactured goods. This index was used to represent the level of business activity of user industries and sheets and strip.

<u>1</u>/ The presumedly low price elasticity stems largely from the lack of close substitutes for stainless steel in many engineering uses, and from the relatively small part of total product cost which is generally accounted for by stainless steel imports. A-146

--Ratio between the unit value of sheet-and-strip imports (indexed) and the Bureau of Labor Statistics' domestic price index of representative sheet and strip items (weighted average of sheet index and strip index). This variable was used to represent the degree of cost advantage to user industries (sometimes a disadvantage) of substituting foreign-produced sheets and strip for domestically produced items.

--Separate dummy variables to represent the first voluntary-restraint agreement (VRA) on steel imports into the United States, which ran from 1969 through 1971, the second VRA, which ran from 1972 through 1974, and periods during 1974 and 1975 judged to involve unusual market behavior in terms of inventory changes and order backlogs.

Using the acronyms SHIP, IMP, USIP, and UVOP to denote U.S. producers' shipments, U.S. imports, the durable manufactures index, and the ratio between unit value and domestic price, and abstracting from the special-effect dummy variable (which will be taken up more fully when sheet-and-strip estimated equations are presented), the general functional relationships for shipments, imports, and shipments plus imports were specified as follows:

> SHIP = f (+USIP, +UVOP) IMP = f (+USIP, -UVOP) (SHIP & IMP) = f (+USIP)

The algebraic signs placed before the independent variables specify the expected directions of the causal relationships running from the independent variables to the dependent variables. For example, an increase in unit value over prices is expected to cause a decrease in U.S. imports (as indicated by the negative sign preceding UVOP in the import function) and a corresponding increase in U.S. shipments (as indicated by the positive sign preceding UVOP in the U.S. shipments function).

A price variable was not included in the shipments-plus-imports function, in accordance with the assumption that the price elasticity of total demand was relatively low. In turn, the ratio between unit value and domestic price was employed in the U.S. shipment and U.S. import functions, instead of using (deflated) unit value and (deflated) domestic price as separate independent variables. The model would have been far less manageable and much more difficult to estimate if a relationship between total demand and price had been incorporated. Moreover, little stood to be gained and a good deal stood to be lost by specifying the model in that way. It was felt that in the U.S. sheetand-strip market in recent years, substitutional changes as between U.S. shipments and U.S. imports tended to far outweigh changes in shipments or imports related to changes in sheet-and-strip prices relative to prices of substitute products such as glass, ceramics, aluminum, and plastic. In addition, the primary price-related interest in the econometric analysis was to capture the price-substitution effect as between domestic and imported sheets and strip. Given the assumed nature of the market, the model presented above was the most appropriate model for capturing that effect. 1/

On the basis of economic theory, simple correlation analysis, and trial regressions, the following lag structure for the shipment and import functions was deemed most appropriate:

 $SHIP_t = f (UVOP_{t-1}, UVOP_{t-1})$ IMP_t = f (USIP_{t-1}, UVOP_t), where (t-1) denotes the period

(i.e., quarter year) preceding period t. According to this lag structure, U.S. shipments and U.S. imports respond with a one-quarter lag to changes in economic activity of riser industries. Imports are related to transaction prices in the preceding quarter, where the transaction prices for foreign items are revealed by the current unit value of imports, and the transaction prices for domestic items apparently are captured adequately by the current BLS price index. U.S. producers' shipments are related to transaction prices from two quarters prior to the shipments, where those transaction prices are revealed by UVOP of the preceding period. This last relationship embodies the notion that price-induced imports on average trend to displace U.S. shipments in the quarter following their arrival in the United States. This is a reasonable assumption, given that the bulk of U.S. imports of sheets and strip flow through service center/distributor channels rather than being purchased directly by end users.

The time lag by which U.S. imports tend to enter the consumption stream and displace U.S. producers' shipments makes it difficult to specify the timing of a shipments-plus-imports function in relation to the business activity variable. Trial regressions for shipments-plus-imports specified in several different ways bore out this difficulty, in that R2 at best was about 10 percent lower than was obtained in most U.S. shipments regressions; also, residual autocorrelation trended to be considerably higher than in U.S. shipments regressions. For this reason, the rest of this appendix omits further discussison of an explicit shipments-plus-imports function, and focuses only on the functions describing U.S. producers' shipments and U.S. imports.

<u>A priori</u>, the functional form most appropriate in the model is the multiplicative form. Under that specification the U.S. shipments and U.S. import functions are represented as:

 $\begin{array}{l} \mathrm{SHIP}_t = \mathrm{A}_o \ (\mathrm{USIP}_{t-1}) \ \mathrm{Al}(\mathrm{UVOP}_{t-1}) \mathrm{A2} \ \mathrm{and} \\ \mathrm{IMP}_t = \mathrm{B}_o \ (\mathrm{USIP}_{t-1}) \ \mathrm{Bl}(\mathrm{UVOP}_t) \mathrm{B2} \end{array}$ 

The multiplicative form is appropriate for two reasons. Firstly, a multiplicative model incorporates a crude form of inventory adjustment by end users of sheets and strip. The coefficients  $A_1$  and  $B_1$  are demand elasticities taken

1/ Trial regressions actually were run for shipments plus imports, with a deflated version of the domestic price index included as an independent variable. None of these regressions yielded a negative price coefficient that differed significantly from zero. Price coefficients trended to be positive, and in one regression equation (based on particular assumptions about time lags), a positive coefficient with a significant t-ratio was obtained.

with respect to production levels of end-user industries. Values of  $A_1$  and  $B_1$  greater than unity mean that purchases exceed actual use during periods of business expansion--i.e., inventories are built up-- and purchases fall short of actual use during business contraction--i.e., inventories are drawn down. This type of behavior is commonly observed by industry analysts.

Secondly, in a multiplicative model the effect of prices is not independent of the level of economic activity (as is the case in an additive, or linear model). This is a reasonable assumption. When demand is at a high level (corresponding to high economic activity), the base figure on which a given price change impinges is much larger than when demand is at a low level (corresponding to low economic activity), and hence the effect of prices tends to be greater.

### Estimation of the model

In order to encompass quarterly variation in U.S. producers' shipments and U.S. imports over two business cycles, quarterly data from 1968 up to the beginning of the import-restraint program were used. The length of this time series required the use of American Iron and Steel Institute data on stainless steel sheet and strip shipments and imports; unit values were also computed from the AISI data. Available quarterly ITC data from 1974 on corresponded closely to AISI data over the same time span.

For purposes of estimation, the multiplicative functions were converted into linear relationships by taking logarithms of both dependent and independent variables. The special-effect dummy variables were then added to these log-linear functions.

Industry analysts generally believe that the first VRA was counterproductive as regarded specialty steel imports, because the agreement was formulated in terms of the total tonnage of steel imports into the United States, regardless of type of product. This allegedly resulted in a shift in the product composition of U.S. steel imports in favor of high-value items such as specialty steels, such that imports of specialty steels were stimulated even though the total tonnage of all steel imports may have been held down. Thus the coefficient of the VRA1 dummy variable was expected to be positive in the U.S. import function and negative in the U.S. shipments function.

The second VRA was negotiated in terms of disaggregated product types so as to close the product-mix loophole of the first VRA. Thus the expected sign of the VRA2 coefficient was negative in the import function and positive in the shipments function.

In addition to the VRA dummy variables, a third dummy, labelled D75, was utilized to capture an "overhang" of deliveries filled in 1975 during a sharp U.S. business contraction, but ordered in 1974 during an unprecedented period of abnormally high demand when double ordering and even triple ordering was reported by industry analysts to have occurred. Anticipated signs of D75 were both positive. 1/ A related dummy variable, D74, will be discussed shortly.

The table on the following page presents the results from three alternative regression equations for U.S. shipments, and from three alternative regression equations for U.S. imports. All of the regressions incorporated the lag structure discussed in the previous section. All variables are named as in the text, except that the letter L affixed at the beginning of an acronym denotes the log of the variable in question.

The regression results were very good for U.S. shipments and moderately good for U.S. imports. Price elasticities were correctly signed and statistically significant, and VRA coefficients were correctly signed though generally not significant. The negative signs of the business-activity coefficients in the import regressions were opposite to prior expectations, as were the negative D75 coefficients in the U.S. shipments regressions, but aside from these anomolies, the results from the two sets of regressions were consistent with one another. Moreover, the negative D75 coefficients can be readily explained (see below) and actually were consistent with the positive D75 coefficients in the import regressions. The overall consistency between the two sets of regression results increase the degree of confidence which can be placed in the results above that which is indicated by formal tests of statistical significance (t-ratio tests).

In the U.S. shipments' regressions, one of the striking features was the stability of the estimated activity and price elasticities under alternative specifications regarding the dummy variables. The business-activity elasticity was roughly 2.0, and the price elasticity was roughly .8, regardless of specification. The percentage of variation in U.S. shipments that was explained by these regressions (i.e., R2) was higher than 80 percent, and the tendency for unexplained variations to exhibit a systematic pattern over time was low (i.e., the Durbin-Watson statistics were close to 2.00).

The D75 dummy variable took on negative coefficients in the U.S. shipments regressions, and the statistical significance was very high. Thus U.S. shipments during the first three quarters of 1975 (the quarters covered by D75) were lower than would be indicated by business activity and prices, instead of higher as previously hypothesized. The apparent explanation is that when a sharp and presumably unanticipated drop in U.S. business activity occurred at the end of 1974, sheet-and-strip purchasers who in retrospect had overordered in 1974 (subject to long delivery lags) were able to cancel their orders from domestic producers far more easily than they could cancel their orders from foreign producers. The imports came through in 1975, as was indicated by the significantly positive D75 coefficients in the import

1/ This dummy variable was inspired by the empirical demand analysis presented by Professor Joel Dirlam of the University of Rhode Insland in his testimony to the ITC in connection with investigation No. TA-203-3. Stainless steel sheets and strip: Estimated regression coefficients from alternative regression equations for U.S. producers' shipments and U.S. imports, with related regression statistics

(Independent variables)

LUSIP	LUVOP	UVOP	VRA1	VRA2	D75	D74	Constant	R ²	DW
: 1.95 : (4.61):	: 0.80 : (1.81):	- :	: -0.04 : (63):	: 0.05 : (.74):	-0.39 (-4.57):	_	2.74	0.83	1.81
: 1.91 : (4.93):	: .77 : (1.83):	: - : :	: 06 : (-1.15):	- :	41 : (-5.32):	0.10	2.95	.84	: 1.89
: 2.31 : (7.50):	: .74 : (1.74):	- :	- :	- :	39 (-5.24):	-	1.04	.82	1.76
: 68 : (95):	: -1.94 : (-2.61):	: - : :	: .14 : (1.47):	: 18 : (59):	: .30 : (2.29):	_	12.89	.67	1.39
: -1.86 : (-3.25):	: -1.99 : (-2.54):	- :	: - : :	: - : :	.32 (2.36):	- -	18.43	.57	: : 1.01
: : :	:	: -39,590 : (-3.24):	: 3,213 : (1.91):	: -3,294 : (-2.07):	4,887 (2.17):	- -	55,930	.63	1.49
	LUSIP 1.95 (4.61): 1.91 (4.93): 2.31 (7.50): 68 (95): -1.86 (-3.25): :	LUSIP LUVOP : 1.95 0.80 (4.61): (1.81): (4.61): (1.81): 1.91 .77 (4.93): (1.83): 2.31 .74 : (7.50): (1.74): 68 -1.94 : (95): (-2.61): -1.86 -1.99 : (-3.25): (-2.54): : : : : : : : : : : : : :	LUSIPLUVOPUVOP $1.95$ $0.80$ - $(4.61)$ $(1.81)$ - $(4.61)$ $(1.81)$ - $(4.93)$ $(1.83)$ - $(4.93)$ $(1.83)$ - $(2.31)$ $.74$ - $(7.50)$ $(1.74)$ - $(7.50)$ $(1.74)$ - $(95)$ $(-2.61)$ - $(95)$ $(-2.61)$ - $(-3.25)$ $(-2.54)$ - $(-3.25)$ $(-3.24)$	LUSIPLUVOPUVOPVRA1 $1.95$ $0.80$ -:-0.04 $(4.61)$ $(1.81)$ : $(63)$ $1.91$ .77-:-0.06 $(4.93)$ $(1.83)$ : $(-1.15)$ $2.31$ .74-: $(7.50)$ $(1.74)$ : $68$ -1.94-: $68$ -1.94-: $(95)$ $(-2.61)$ :: $(-3.25)$ $(-2.54)$ ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::: <td>LUSIPLUVOPUVOPVRA1VRA2$1.95$:$0.80$:$-$:$-0.04$:$0.05$:$(4.61)$:$(1.81)$:$(63)$:$(.74)$:$1.91$:$.77$:$-$:$06$:$-$:$(4.93)$:$(1.83)$:$(-1.15)$:$$</td> <td>LUSIPLUVOPUVOPVRA1VRA2D75$1.95$$0.80$$-0.04$$0.05$$-0.39$$(4.61)$$(1.81)$$(63)$$(.74)$$(-4.57)$$1.91$$.77$$06$$41$$(4.93)$$(1.83)$$:$$(-1.15)$$:$$(-5.32)$$2.31$$.74$$39$$(7.50)$$(1.74)$$:$$:$$(-5.24)$$68$$-1.94$$.14$$18$$.30$$(95)$$(-2.61)$$:$$(1.47)$$(59)$$(2.29)$$-1.86$$-1.99$$.32$$(-3.25)$$(-2.54)$$:$$:$$(2.36)$$:$$-39,590$$3,213$$-3,294$$4,887$$:$$(-3.24)$$(1.91)$$(-2.07)$$(2.17)$</td> <td>LUSIPLUVOPUVOPVRA1VRA2D75D74$1.95$:$0.80$:$-$:$-0.04$:$0.05$:$-0.39$:$(4.61)$:$(1.81)$:$(63)$:$(.74)$:$(-4.57)$:$1.91$:$.77$:$-$:$06$:$-$:$41$:$0.10$$(4.93)$:$(1.83)$:$:$:$(-1.15)$:$:$:$(-5.32)$:$(1.27)$$2.31$:$.74$:$-$:$-$:$-$:$-39$:$(7.50)$:$(1.74)$::&lt;:::::</td> ::::: $(-5.24)$ :::::: $68$ : $-1.94$ : $-$ : $.14$ : $18$ : $.30$ : $ (95)$ : $(-2.61)$ ::::::::::::::::::::::::::::::::::	LUSIPLUVOPUVOPVRA1VRA2 $1.95$ : $0.80$ : $-$ : $-0.04$ : $0.05$ : $(4.61)$ : $(1.81)$ : $(63)$ : $(.74)$ : $1.91$ : $.77$ : $-$ : $06$ : $-$ : $(4.93)$ : $(1.83)$ : $(-1.15)$ : $$	LUSIPLUVOPUVOPVRA1VRA2D75 $1.95$ $0.80$ $ -0.04$ $0.05$ $-0.39$ $(4.61)$ $(1.81)$ $(63)$ $(.74)$ $(-4.57)$ $1.91$ $.77$ $ 06$ $ 41$ $(4.93)$ $(1.83)$ $:$ $(-1.15)$ $:$ $(-5.32)$ $2.31$ $.74$ $   39$ $(7.50)$ $(1.74)$ $:$ $:$ $(-5.24)$ $68$ $-1.94$ $ .14$ $18$ $.30$ $(95)$ $(-2.61)$ $:$ $(1.47)$ $(59)$ $(2.29)$ $-1.86$ $-1.99$ $   .32$ $(-3.25)$ $(-2.54)$ $:$ $:$ $(2.36)$ $:$ $-39,590$ $3,213$ $-3,294$ $4,887$ $:$ $(-3.24)$ $(1.91)$ $(-2.07)$ $(2.17)$	LUSIPLUVOPUVOPVRA1VRA2D75D74 $1.95$ : $0.80$ : $-$ : $-0.04$ : $0.05$ : $-0.39$ : $ (4.61)$ : $(1.81)$ : $(63)$ : $(.74)$ : $(-4.57)$ : $1.91$ : $.77$ : $-$ : $06$ : $-$ : $41$ : $0.10$ $(4.93)$ : $(1.83)$ : $:$ : $(-1.15)$ : $:$ : $(-5.32)$ : $(1.27)$ $2.31$ : $.74$ : $-$ : $-$ : $-$ : $-39$ : $ (7.50)$ : $(1.74)$ ::<:::::	LUSIPLUVOPUVOPVRA1VRA2D75D74Constant $1.95$ $0.80$ $-0.04$ $0.05$ $-0.39$ - $2.74$ $(4.61)$ : $(1.81)$ :: $(63)$ : $(.74)$ : $(-4.57)$ :: $1.91$ .77- $06$ - $41$ $0.10$ $2.95$ $(4.93)$ : $(1.83)$ :: $(-1.15)$ :: $(-5.32)$ : $(1.27)$ : $2.31$ :.74 $39$ - $1.04$ $(7.50)$ : $(1.74)$ :::: $(-5.24)$ :: $68$ : $-1.94$ :14 $18$ .30- $12.89$ $(95)$ : $(-2.61)$ :::::: $-1.86$ : $-1.99$ :32- $18.43$ $(-3.25)$ :::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::: <td>LUSIPLUVOPUVOPVRA1VRA2D75D74Constant$\mathbb{R}^2$1.950.800.040.05-0.39-2.740.83(4.61):(1.81)::(-63):(.74):(-4.57):::1.91.7706410.102.95.84(4.93):(1.83)::(-1.15)::(-5.32):(1.27)::2.31.7439-:1.04.82(7.50):(1.74)::::::::::68-1.941418.30-:12.89:.67(95):(-2.61)::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::&lt;</td>	LUSIPLUVOPUVOPVRA1VRA2D75D74Constant $\mathbb{R}^2$ 1.950.800.040.05-0.39-2.740.83(4.61):(1.81)::(-63):(.74):(-4.57):::1.91.7706410.102.95.84(4.93):(1.83)::(-1.15)::(-5.32):(1.27)::2.31.7439-:1.04.82(7.50):(1.74)::::::::::68-1.941418.30-:12.89:.67(95):(-2.61)::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::<

Notes .-- 1. See text for description of variables, and for description of lag structure.

2. Regression for U.S. shipments based on quarterly data from 1968 through the second quarter of 1976; regressions for U.S. imports did not include the second quarter of 1976, because of a possible quota-anticipation effect.

3. Beneath each regression coefficient is the corresponding t-ratio; t-ratios greater than 1.5 in magnitude may be considered statistically significant at a reasonably low error level.

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function,  $\underline{1}/$  and in turn the inflow of imports caused U.S. end-users (and/or service centers) to purchase even less domestic sheets and strip in 1975 than they would have ordinarily as a result of the downturn of such magnitude in business activity.

This interpretation is supported by ITC data on consumers' inventories gathered in the previous specialty steel investigation. 2/ As of October 1, 1974, consumers' inventories of sheets and strip were roughly double their level as of the beginning of 1973. During the last quarter of 1974 and the first quarter of 1975 they increased to triple the start-of-1973 level, and much of this increase clearly must have been unintended. The inventory hangover was so large that by the end of September, consumers' inventories were still double the start-of-1973 level.

The interpretation of D75 given above also involves the possibility that U.S. producers' shipments throughout much of 1974 were abnormally large in relation to U.S. business activity, due to an abnormally large but intended inventory buildup by purchasers. The dummy variable D74 (which covered the last three quarters of 1974) was tried in several U.S. shipments regression, and estimated coefficients were positive as expected, through not significant; see, for example, the second regression equation in the table.

The most noteworthy feature of the estimated regression equations for U.S. imports was the failure of the U.S. business activity variable to demonstrate a positive influence on U.S. imports. The following observations are in order, however.

When imports were regressed on business activity alone (log-linear), the estimated coefficient of LVSIP was -2.79 (regression not shown). When prices and D75 were added to the regression, the negative coefficient dropped in magnitude to -1.86 (regression shown). When the VRA's were added, the negative coefficient showed a further drop to -.68, and the t-ratio was no longer significant (regression shown). At the same time, the Durbin-Watson statistic improved as these other variables were added successively.

The suggested interpretation is as follows. All of the non-activity variables were correlated with the U.S. business cycle. VRA1 coincided roughly with the 1970-71 recession, and VRA1 presumably led to increased imports. VRA2 coincided roughly with the 1972-74 recovery and expansion, and VRA2 presumably held down imports. Also, VRA2 overlapped a period of U.S. wage and price controls, which presumably held down U.S. sheet-and-strip prices and thereby discouraged imports. D75 coincided with the 1975 recession, and D75 had the effect of increasing imports. UVOP was correlated positively with USIP (.54), and increases in UVOP, when USIP was rising, tended to cause U.S. imports to fall.

1/ In the import function, D75 actually was specified to cover the last quarter of 1974 and the first two quarters of 1975. This difference was incorporated in lieu of the results for U.S. shipments. The significance of the D75 coefficient was much higher in the import functions when this change was incorporated.

2/ See table B-28 of U.S. International Trade Commission, <u>Stainless Steel</u> and <u>Alloy Tool Steel</u>, Report to the President on Investigation No. TA-201-5 Under Section 201 of the Trade Act of 1974, Washington, D.C., 1976. Theoretically, the combined effect of these variables tended to make U.S. imports behave countercyclically to the U.S. business cycle over the time span covered by the data, and apparently the combined effect was sufficiently strong that U.S. imports actually did behave in this way. However, the data apparently were not rich enough to sort out fully the true influences of all the variables (R2 was only in the range of .65), and even when UVOP, VRA1, VRA2, and D75 were included in the regression, a positive coefficient for the United States durable manufacturers index did not quite emerge.

All in all, the import regressions were encouraging. Imports were highly volatile over the sample period, and an R² in the range of .65 and a Durbin-Watson statistic in the range of 1.5 was almost more than can be expected. The import regressions are best viewed as supporting evidence for the accuracy of the U.S. shipments regressions, however, and they suggest that variable time lags by which U.S. imports enter the actual consumption stream are perhaps critical factors that must be accounted for in order to obtain substantially improved estimates. (Either that, or better price data).

#### Forecasting methodology

The second equation shown in the table on page A-150 served as the basis for an analysis of how sheet and strip shipments and imports might have performed in the absence of the quota. Since a log-liner model was estimated, the coefficient can be viewed as a crude elasticity measure. Thus, the results suggest that a 1 percent increase in the index of durable goods production would result in a 1.91 percent increase in shipments if all other variables are held constant. Therefore, the approach used in developing shipments estimates was to project quarterly movements in the index of durable goods production while assuming that the ratio of domestic to imported prices would have remained constant.

Since the negative coefficients for the business activity variable in the import regressions were not readily interpretable, no attempt was made to use the regressions in estimating imports. Instead, it was assumed that imports would have been a constant proportion of shipments in the absence of a quota. The proportion used in the analysis was based on the average share of U.S. sheet and strip market obtained by imports for several years prior to the imposition of the quota.

## APPENDIX E

# REPLIES FROM THE DEPARTMENTS OF COMMERCE AND LABOR TO COMMISSION REQUESTS FOR INFORMATION UNDER SECTION 202(C)



FEB 23 1979

UNITED STATES DEPARTMENT OF COMMERCE The Assistant Secretary for Economic Development Washington, D.C. 20230

OFFICE OF

# FEB 26 1979

COMMISSIONER ALBERGER

.. .

Honorable Bill Alberger Vice Chairman U. S. International Trade Commission Washington, D. C. 20436

Dear Mr. Alberger:

This is in reply to your letter of January 10, 1979, requesting information about the extent to which firms and communities in the stainless steel and alloy tool steel industry are involved with adjustment assistance under the Trade Act of 1974.

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As of this date, no firms in the industry producing stainless steel and alloy tool steel and no related communities have petitioned for certification of eligibility to apply for adjustment assistance.

At the time of the Commission's original Section 201 investigation of this industry, the Department of Commerce conducted a study of firms in the industry as required by Section 264 of the Trade Act. A report of that study was sent to the President on February 2, 1976. We think the conclusions reached in that report remain valid and a copy is enclosed.

In regard to the number of firms from the stainless and alloy tool steel industry that might qualify for adjustment assistance, the study concluded that--

"...the Department has no means of accurately estimating the number of producers which are likely to meet the basic criteria essential for a determination regarding their eligibility to apply for trade adjustment assistance. A determination on the petition of any firm depends on the circumstances in each particular case, especially with regard to the firm's position in the market and the effects of any increased imports on the firm's operations. In any event, the number of qualifying firms is unlikely to exceed the four or five independent firms in the specialty steel industry." 2

A comparable study of communities was not made. In any case, we do not expect communities to apply for certification under the Trade Act of 1974 because it is the policy of EDA to encourage each community with import-related problems to utilize the EDA-administered program which can respond most fully to its adjustment needs in the most timely fashion. Communities in areas already designated by EDA may be eligible for assistance under EDA's programs authorized by the Public Works and Economic Development Act of 1965 (PWEDA), as amended. Moreover, communities either in or outside designated areas may be eligible for assistance under EDA's flexible Title IX program. Grants under Title IX may be for the purpose of developing economic adjustment strategies or implementing programs.

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On September 29, 1978, EDA approved a 90 percent guarantee of a \$10 million loan to Al Tech Specialty Steel Corporation in Dunkirk, New York, under the business development program authorized by PWEDA. Al Tech is one of the three largest domestic producers of stainless steel and alloy tool steel products. Earlier assistance in the form of a grant to the state of New York (under Title IX of PWEDA) enabled employees to purchase the facility from Allegheny Ludlum Steel Corporation in August 1976. This combined assistance helped save 2,000 jobs, and an additional 105 new jobs are expected to be created.

If additional information is needed, you may wish to call Mr. Jack W. Osburn, Jr., Chief of the Trade Act Certification Division (202/377-5005).

Sincerely,

). Hall

Robert T. Hall Assistant Secretary for Economic Development



February 2, 1976

#### U.S. DEPARTMENT OF COMMERCE REPORT TO THE PRESIDENT

PROSPECTS FOR TRADE ADJUSTMENT ASSISTANCE FOR FIRMS IN THE STAINLESS STEEL AND ALLOY TOOL STEEL INDUSTRY

#### SUMMARY

The U.S. Department of Commerce has conducted a study of the firms producing stainless steel and alloy tool steel as required by Section 264 of the Trade Act of 1974. It has analyzed the number of firms in the industry which have been or are likely to be certified as eligible to apply for trade adjustment assistance and the extent to which the orderly adjustment of the firms may be facilitated through the use of existing programs. Such a study by the Department is required whenever the U.S. International Trade Commission (USITC) makes an import relief investigation under Section 201 of the Trade Act.

In its report to the President on January 16, 1976, the USITC determined that increased imports of stainless steel and alloy tool steel are a substantial cause of serious injury to the domestic industry producing articles like or directly competitive with the imported items. The USITC found that quotas on imports based on individual products and countries and geared to U.S. consumption are necessary to remedy the injury to the domestic industry.

In 1974, the specialty steel industry produced about 1.2 million tons of stainless steel products and 104,555 tons of tool steel with a total value of approximately \$2 billion. Strong cyclical fluctuations in shipments are characteristic of the industry. Stainless and alloy steels are relatively expensive to produce. The rare metals such as chromium, nickel and tungsten used in alloys are costly and so are the production processes. Principal shapes of stainless steel produced are plate, sheet, strip, bar, and rod; tool steel may be in the form of rod, plate, sheet or bar.

According to the USITC, specialty steel industry employment averaged 29,468 in 1974, while 21,194 persons were employed during the period January-September 1975. Man-hours worked for the nine-month periods were 38.4 million in 1974 and 22.3 million in 1975, a decline of 35 percent. During the first nine months of 1975, domestic shipments declined to 549,161 tons, 43 percent below the comparable 1974 period. For the same periods, imports increased 23 percent to 127,123 tons. The ratio of imports to domestic shipments increased from 10 percent in January-September 1974 to 23 percent in the comparable 1975 period.

To be certified eligible to apply for trade adjustment assistance, a firm must demonstrate that increased imports of articles like or directly competitive with those produced by the firm contributed importantly to declines in sales or production, or both, and separation, or threat of separation, of the firm's workers. Following certification, a firm can apply for technical and financial assistance to develop a program of economic recovery for the firm. As of the date of this report, no firm in the stainless and alloy tool steel industry has submitted a petition to the Department of Commerce for certification of eligibility to apply for trade adjustment assistance.

Of the 20 firms in the specialty steel industry, those affiliated with the major steel companies and others which are diversified or affiliated with firms in other industries are unlikely to be able to meet the criteria for certification of eligibility, since they probably would be unable to demonstrate that increased imports of

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specialty steels were an important cause of any declines experienced in total production or sales and employment by the firm. Consideration may also have to be given to the relative impact on individual firms of other factors such as the 1974-75 recession.

The likelihood of the four or five independent companies in the specialty steel industry petitioning for certification may depend on whether the President imposes the quantitative limitations on imports recommended by the USITC. With import quotas, certifiable firms may not seek trade adjustment assistance. On the other hand, if quotas are not imposed or other import relief measures adopted, trade adjustment assistance may be a viable alternative for the smaller independent specialty steel firms. In any event, the number of qualifying firms is unlikely to exceed the four or five independent producers.

Under the program of trade adjustment assistance for firms authorized by the Trade Act, financial assistance to certified firms may take the form of direct loans and loan guarantees, and technical assistance, to enable a firm to establish a competitive position in the same or a different industry. Financial assistance may be used for the acquisition, construction, installation, modernization, expansion or conversion of fixed assets, or for working capital necessary for a firm to implement its adjustment plan. Technical assistance may be used for management and operational assistance, feasibility studies and related research to aid in developing and implementing a firm's recovery plan.

Firms may also benefit indirectly from financial assistance available to trade-impacted communities under provisions of the Trade Act in a manner similar to the public works, business development and Title IX programs administered by the Department's Economic Development Administration ("EDA") pursuant to the Public Works and Economic Development Act of 1965. These other programs

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of EDA provide business development loans to assist firms in certain designated places identified on the basis of economic distress such as unemployment; loans and grants to states, redevelopment areas and other nonprofit local entities for public works projects and development facilities and for a comprehensive program of adjustment to an actual or threatened economic dislocation or adjustment problem.

Another Federal program which might be of some interest to firms in the specialty steel industry is the program administered by the Farmers Home Administration, Department of Agriculture, of direct and guaranteed loans to firms which may be located in areas other than cities having a population of more than 50,000 persons.

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#### PROSPECTS FOR TRADE ADJUSTMENT ASSISTANCE

## Petition for Import Relief

Upon receipt of a petition by the Tool and Stainless Steel Committee, et al., under Section 201 of the Trade Act of 1974, the U.S. International Trade Commission ("USITC") instituted an investigation on August 5, 1975, to determine whether certain stainless steel and alloy tool steel products are being imported into the U.S. in such increased quantities as to be a substantial cause of serious injury, or threat thereof, to the domestic industry producing goods like, or directly competitive with, the imported articles.

In its report to the President of January 16, 1976, the USITC determined that increased imports of stainless steel and alloy tool steel are a substantial cause of serious injury to the domestic industry producing articles like or directly competitive with the imported items. The USITC found that quotas on imports based on individual products and countries and geared to U.S. consumption are necessary to remedy the injury to the domestic industry.

This report has been prepared in accordance with the provisions of Section 264 of the Trade Act of 1974 which direct the Secretary of Commerce to make a study of the number of firms in the domestic industry producing the like or directly competitive product(s) which have been or are likely to be certified eligible to apply for adjustment assistance, and the extent to which the orderly adjustment of such firms to the import competition may be facilitated through the use of existing programs. The results of this study are to be submitted to the President after the USITC submits its report, and the Department's report is to be made available to the public and summarized in the Federal Register.

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Whenever the USITC makes an affirmative finding, as it did in this instance, Section 264 also requires the Secretary to make available information to the firms in the industry about programs which may facilitate the orderly adjustment of the firms to import competition, and to provide assistance in the preparation and processing of petitions and applications of such firms for program benefits.

### The Industry

Stainless steel, tool steels, and other alloy steels are grouped together within the steel industry as special alloy steels, or specialty steels, as opposed to ordinary or carbon steel. Together, carbon and special steel products are classified under Standard Classification Code (SIC) No. 3312-Blast Furnaces, Steel Works, Rolling and Finishing Mills. The production of specialty steels requires very careful processing to assure the highest quality and very precise chemistry. Among the specialty steel products, two major groups are distinguished: namely, stainless steel, which accounts for approximately two-thirds of mill shipments; and tool steels, comprising a wide variety of special-purpose alloy steels. Specialty steel production ranges from one to one and a half percent of carbon steel output, or 1.9 million tons of specials, compared with 132.7 million tons of carbon steel in 1973. In terms of value, however, specialty steels represent about nine percent of total U.S. steel production.

According to the USITC, the specialty steel industry consists of 20 firms of which 5 are affiliated with the large steel companies. The remaining 15 firms include both independent firms and companies that have been acquired by conglomerates but continue to operate independently. Fifteen firms produce stainless steel (9 produce only stainless) and 11 produce alloy tool steel (5 exclusively); 6 firms produce both. The domestic producers of specialty

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steels are concentrated in the northeastern region of the United States, principally in Pennsylvania.

Any steel company has to be fairly large by the usual corporate standards to be a viable operation, but most of the specialty steel producers fall at the lower end of the steel company rankings, and no one firm dominates the market. The more typical specialty steel producer may have several plants, each with separate product lines, and sales in the \$200 to \$500 million range annually. The largest domestic steel company is in the stainless business, but its share of the market is estimated at well under 10 percent, and stainless represents probably under one percent of its revenue. Another of the large steel firms is a major factor in tool steel production, but the revenues from tool steel are relatively small. Similar observations can be made about the other large steel companies. Total sales by the largest of the specialty steel producers was slightly under \$1 billion in 1974, whereas the largest domestic steel company had sales in excess of \$9 billion in the steel industry's best year so far.

The specialty steel industry is both highly capital intensive and highly labor intensive. Thus, the labor input to produce one ton of stainless is reported to be 3 to 7 times greater than that required for a ton of carbon steel, and for tool steel the labor input is up to 15 times greater. The same equipment--including electric furnaces with as small a capacity as 25 tons-can be used to produce either stainless or tool steel in small batches or "heats."

U.S. producers of specialty steels distribute their products either directly to end users or through steel service centers/distributors. The demand for specialty steels is generally price-inelastic, i.e., demand does not shift substantially with a change in prices. Industrial consumers of specialty steels are typically subject

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to strong cyclical fluctuations which are transmitted to specialty steels with augmented effect. Thus, the specialty steel industry has generally experienced sharper (and longer) downswings during recessions followed by steeper upturns in periods of economic recovery than the carbon steel industry, the non-durable goods industries, or the national economic indicators.

#### The Product

Specialty steels are utilized in applications where exceptional strength, hardness, durability and resistance to oxidation is required. Stainless steel is used extensively in the food, chemical, textile, furniture, transportation, pollution control and electric power industries. The principal market for tool steel is the tooling industry, which includes independent producers of tools and captive units of the automotive, farm-equipment and other capital goods producers. Tool steels are used to fashion cutting tools (drills, taps and broaches), shearing tools (shears, blanking and trimming dies, and punches), forming tools (forging and casting dies), and battering tools such as chisels.

Stainless steel typically contains a minimum of 11.5 percent of chromium, and other rare metals may be added, depending on characteristics desired. Stainless steel is made in a variety of shapes, such as plate sheet, strip, bar and rod. For commercial purposes, two classes are recognized: Series 300 which is a stainless alloy containing carbon, chromium, nickel, and molybdenum; and Series 400, a stainless which contains chromium, and some molybdenum but no nickel.

Tool steels are made in a great variety of types and grades, usually to customer's specifications and with close adherence to specified tolerances which depend on the intended use or performance. Tool steel is an alloy steel containing various combinations of carbon, chromium manganese, molybdenum and tungsten. Tool steels, produced largely in the form of rod, plate, sheet or bar, are noted for their hardness, abrasive resistance and heat resistance.

In 1974, the specialty steel industry produced about 1.2 million tons of stainless steel products and 104,155 tons of tool steel with a total value of approximately \$2.0 billion. Separate statistics on employment in the specialty steel industry are not generally available since data are usually included in the figures for the steel in-The USITC found that the total number dustry as a whole. of employees in the specialty steel industry averaged 29,468 in 1974, and that employment during January-September 1975 averaged 21,194, a decline of 23.7 percent from the comparable 1974 period. Man-hours worked peaked in 1974 at 49.2 million. For the January-September periods of 1974 and 1975, man-hours declined from 38.4 million to 22.3 million, a decline of 35 percent.

U.S. shipments, foreign trade and apparent consumption of specialty steels from 1970 to 1975 were as follows:

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	Producers			Apparent	Imports
	<u>Shipments</u>	Imports	Exports	Consumption	to Shipments
		(Quantity	in tons)		(percent)
1970	687,041	170,622	79,623	778,040	24.8
1971	704,220	175,136	50,710	828,646	24.9
1972	863,285	135,285	58,414	940,156	15.7
1973	1,159,359	124,464	90,121	1,193,702	10.7
1974	1,339,479	163,299	127,227	1,375,551	12.2
JanSept.:					
1974	1,032,136	103,596	101,985	1,033,747	10.0
1975	549,161	127,123	43,247	633,037	23.1

<u>Source</u>: U. S. International Trade Commission, <u>Stainless Steel</u> <u>and Alloy Tool Steel</u>, Report to the President on Investigation No. TA-201-5, January 16, 1976, Table 1.

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### Imports

Annual U.S. imports of stainless steel and alloy tool steel, which totaled 170,622 tons in 1970, increased in 1971, decreased during the next two years, then increased to 163,299 tons in 1974. Imports in January-September 1975 amounted to 127,123 tons, 23 percent higher than imports in the comparable period of 1974.

The principal sources of U.S. imports of stainless steel during 1974 were Japan, Canada, France and Sweden; other major sources were the United Kingdom, Spain and West Germany. The largest foreign suppliers of alloy tool steel were Sweden, West Germany, Austria, Japan and Canada.

Under a Voluntary Restraint Agreement ("VRA"), Japanese and European producers agreed at the beginning of 1969 to limit their exports of steel-mill products (including specialty steels) to the United States for the three years 1969-71. Since the VRA was based on tonnage and not value, the foreign participants found it advantageous to increase their exports of high-priced products such as stainless and other alloy steels.

Early in 1972 the VRA was extended until the end of 1974, and participants agreed to a specific limit on their exports of stainless steel and tool steel as well as all steel-mill products. Aside from whatever effect VRA had, U.S. imports of stainless steel have been influenced by the demand for stainless steel in other parts of the world. As demand for stainless steel decreases in other countries, more stainless steel is exported to the United States.

## Adjustment Assistance

So far, no firm in the stainless steel and alloy tool steel industry has submitted a petition to the Department of Commerce for certification of eligibility to apply for trade adjustment assistance. In identifying the petitioning firm for purposes for certification of eligibility, the Department of Commerce considers the operations of affiliates, subsidiaries and parents of the petitioning firm and its principal owners. In cases where the petitioner has one or more affiliates, subsidiaries or parents, data on sales, production and employment are required to be presented on a consolidated basis for all business entities affiliated with the applicant firm. Similar reporting requirements may apply to the operations of other firms owned by the principal owners of the petitioning firm.

The specialty steel industry consists of 20 firms, according to the USITC. The five firms affiliated with major steel companies and other companies which are diversified or affiliated with firms in other industries are unlikely to be able to meet the criteria for certification of eligibility, since they would probably be unable to demonstrate that increased imports of specialty steel were an important cause of any declines experienced in total production or sales and employment by the firm. Consideration may also have to be given to the relative impact on the firm of other factors such as the 1974-75 recession. The likelihood of the four or five independent companies petitioning for certification may depend on whether the President imposes the quantitative limitations on imports recommended by the USITC. With import quotas, certifiable firms may not seek trade adjustment assistance. On the other hand if quotas are not imposed or other import relief measures adopted, trade adjustment assistance may be a viable alternative for the smaller independent specialty steel firms.

The Department of Commerce has no access to the information on sales, production and employment furnished to the USITC on individual questionnaires by the producing firms in the specialty steel industry. Therefore, the Department has no means of accurately estimating the number of producers which are likely to meet the basic criteria

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essential for a determination regarding their eligibility to apply for trade adjustment assistance. A determination on the petition of any firm depends on the circumstances in each particular case, especially with regard to the firm's position in the market and the effects of any increased imports on the firm's operations. In any event, the number of qualifying firms is unlikely to exceed the four or five independent firms in the specialty steel industry.

### SOURCES OF FEDERAL ASSISTANCE

This report is also required to assess the extent to which the orderly adjustment of domestic firms to import competition may be facilitated through the use of existing programs.

The Department of Commerce has determined that there are existing programs of assistance including those authorized under the Trade Act of 1974, which may facilitate the orderly adjustment of firms in the specialty steel industry which may have been adversely affected by import competition. This assistance may take the form of direct or indirect financial assistance and technical assistance to enable a firm to establish a competitive position in the same or a different industry.

However, it should be noted that for any firm suffering from extreme financial difficulties, the Federal loan programs available may not actually be viable solutions because of the loan repayment assurances required. There is another condition under the Trade Act that financial assistance cannot be provided to a firm unless the funds required are not available from the firm's own resources.

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The identified programs of assistance are those administered by the Economic Development Administration (EDA) of the Department of Commerce, and the Farmers Home Administration of the Department of Agriculture.

### Economic Development Administration

Under Chapter 3 of Title II of the Trade Act, after the Secretary of Commerce has certified a firm, that firm can apply for technical and financial assistance to develop and implement a program of economic recovery for the firm. To be certified eligible to apply for trade adjustment assistance, a firm must demonstrate that increased imports of articles like or directly competitive with those produced by the firm contributed importantly to declines in sales or production, or both, and separation, or threat of separation, of the firm's workers.

Financial assistance, in the form of direct loans and loan guarantees, is available to a certified firm for the acquisition, construction, installation, modernization, expansion or conversion of fixed assets, or for working capital necessary to enable the firm to implement its adjustment plan. The aggregate direct loans to any one firm under the adjustment assistance program may not exceed \$1,000,000, and the aggregate loan guarantees, for up to 90 percent of the balance of loans outstanding from private lenders, may not exceed \$3,000,000.

The Trade Act also authorizes technical assistance to certified firms to develop and implement a plan of economic adjustment through contracts with private individuals, firms, and institutions. The Federal share of the cost shall not normally exceed 75 percent of the total technical assistance required.

Financial assistance, in the form of direct loans and grants, may be obtained under Chapter 4 of Title II of the Trade Act by communities identified and certified

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by the Secretary of Commerce as eligible for adjustment assistance. To be certified, a community must demonstrate that increased imports of articles like or directly competitive with those produced by firms or subdivisions of firms located in a trade-impacted area (as determined by the Secretary of Commerce), or the transfer of firms or subdivisions of firms from such area to foreign countries, have contributed importantly to the separation, or threat of separation, of a significant number or proportion of workers, and to declines in sales or production in the area.

Financial assistance to communities under provisions of the Trade Act may be provided in a manner essentially similar to the public works, business development and Title IX programs administered by EDA pursuant to the Public Works and Economic Development Act of 1965 (P. L. 89-136) ("PWEDA"), with the basic rules, regulations and policies of PWEDA applying, except that there is provision for a 100 percent loan guarantee program when risk of the guarantee is shared to the extent of 50 percent by the local community or a State agency.

Title II of the PWEDA, as amended, provides for direct and guaranteed business development loans to assist firms located in or willing to locate a new facility in EDA-designated places, including "redevelopment areas" and "economic development centers" designated under Title IV of PWEDA. Various types of economic distress, such as unemployment, qualify redevelopment areas (usually Counties) for designation. Economic development centers (usually Cities) are non-distressed places whose growth can alleviate distress in redevelopment areas.

Business development loans under Title II of the PWEDA are available in the form of direct loans for working capital (in amounts up to 85 percent of requirements), and for fixed assets in amounts up to 65 percent of their total cost. Federal guarantees are limited to 90 percent of the

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unpaid balance on loans or leases. The maximum term for loans and guarantees is 25 years. Financial assistance under the PWEDA is not available to relocate facilities from one area to another, and is subject to a determination that there is not long-term over-capacity in the industry.

Titles I and II of the PWEDA authorize grants and loans to redevelopment areas, economic development centers and related entities (e.g., nonprofit local development corporations). The grants and loans can be used for public works projects and development facilities such as water and sewer facilities, industrial parks and structures, and access roads. Projects can include acquisition, construction, rehabilitation, alteration, expansion, or improvement of development facilities, including machinery and equipment. Grants range from 50 to 80 percent of project costs, depending on how distressed a place is and whether it is part of a larger "Economic Development District." Almost all loans supplement companion grants. Although the grants and loans are not available to firms, they can benefit by modernizing, converting or expanding their operations with Government support--for example, by leasing space in new industrial structures or by utilizing new municipal sewage treatment plants to process industrial wastes.

Grants are available to States and local areas under Title IX of the PWEDA to develop and/or implement a comprehensive program of adjustment to an actual or threatened economic dislocation or adjustment problem. These areas, which do not require EDA designation, may in turn provide loans to firms as part of their adjustment program.

Title III of the PWEDA authorizes technical assistance (in the form of grants-in-aid to appropriate public or private nonprofit state, area, district or local organizations) to prevent or alleviate unemployment in local areas.

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Technical assistance is not limited to EDA-designated areas. Although they cannot receive technical assistance grants, firms can benefit from feasibility studies and from management or operational assistance contracts dealing with their problems.

# Farmers Home Administration

The Consolidated Farm and Rural Development Act (P.L. 92-419) ("CFRDA") provides for 90 percent loan guarantees to firms which may be located in areas other than cities having a population of more than 50,000. Loan maturities may range between 7 and 30 years. The loan may be used for acquisition, construction, conversion, and modernization of facilities; for purchase and development of land, easements, machinery, equipment, supplies and materials; and for working capital. Similar to EDA's business loan program, this financial assistance is not available to relocate facilities from one area to another, or for firms in industries found to have long-term overcapacity.

Rural development grants and loans are authorized under the CFRDA to public bodies to construct, enlarge, extend, or otherwise improve community facilities in areas of open country and rural towns and villages of not more than 10,000 people. These facilities may include industrial sites, utility extensions, water supply and waste disposal facilities, access roads, and pollution control and abatement incidental to site development. Although eligibility is limited to public and quasi-public bodies, the resulting development of community facilities may directly or indirectly enhance a firm's ability to expand or convert its own facilities.

### Other Assistance Programs

Another Federal program which might benefit firms producing stainless steel and alloy tool steels, depending on the location of the particular firms involved, is administered by the Department of Defense. It provides economic adjustment assistance in the form of technical advice, grants and loans, to communities and areas adversely affected economically by Defense realignments. Although eligible applicants are limited to States and political subdivisions or other public organizations and responsible community leadership groups, a firm in such an area might obtain indirect assistance from such eligible entities under the program.

Additional information about the adjustment assistance program and copies of this report are available from the Office of Public Affairs, Economic Development Administration, Room 7019, U.S. Department of Commerce, Washington, D.C. 20230 (telephone 202/967-5113).

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STAINLESS STEEL AND ALLOY TOOL STEEL Certified Worker Petitions and Trade Readjustment Allowance Payments

1.	Armco Steel Corp.	(TA-W-137)
	Plant Location:	Baltimore, Maryland
	Products:	Stainless steel bar and wire
	Petition Received:	9/4/75

Workers separated on or after 12/22/74 are eligible for trade adjustment assistance. As of November 30, 1978, a total of 1,502 workers had received a total of \$1,466,788.

2.	Latrobe Steel (T	A-W-139)
	Plant Location:	Latrobe, Pennsylvania
	Products:	Tool steel and special alloys
	Petition Received:	9/11/75

Workers separated on or after 12/23/74 are eligible for trade adjustment assistance. As of November 30, 1978, a total of 768 workers had received a total of \$973,778.

3. Joslyn Stainless Steels (TA-W-142) Plant Location: Ft. Wayne, Indiana Products: Stainless steel bars, strip, and wire Petition Received: 9/15/75

Workers separated on or after 11/25/74 are eligible for trade adjustment assistance. As of November 30, 1978, a total of 562 workers had received a total of \$1,475,850.

4.	Allegheny Ludlum St	eel (TA-W-353)	•
	Plant Location:	Dunkirk, New York	
	Products:	Stainless and alloy tool steel bar, and wire	rod,
	Petition Received:	11/21/75	

Workers separated on or after 11/6/74 are eligible for trade adjustment assistance. As of November 30, 1978, a total of 906 workers had received a total of \$1,855,036.
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5.	Allegheny Ludlum St	teel (A+A-812-354)
	Plant Location:	Watervliet, New York
	Products:	Stainless and alloy tool steel bar,
-		tube, and billets
	Petition Received:	11/21/75

Workers separated on or after 2/3/75 are eligible for trade adjustment assistance. As of November 30, 1978, a total of 641 workers had received a total of \$933,402.

6. Jones and Laughlin Plant Location:	Steel (TA-W-358) Warren, Michigan
Products:	Stainless steel bar, sheet, and strip
Petition Received:	11/25/75

Workers separated on or after 12/1/74 are eligible for trade adjustment assistance. As of November 30, 1978, a total of 1,054 workers had received a total of \$3,580,580.

7.	Universal Cyclops S	pecialty Steel (TA-W-379)
	Plant Location:	Pittsburgh, Pennsylvania
	Products:	Stainless and alloy tool steel sheet and plate
	Petition Received:	12/4/75

Workers separated on or after 11/20/74 are eligible for trade adjustment assistance. As of November 30, 1978, a total of 242 workers had received a total of \$300,576.

8.	Universal Cyclops	Specialty Steel (TA-W-380)
	Plant Location:	Aliquippa, Pennsylvania
	Products:	Stainless and alloy tool steel slabs and billets
	Petition Received:	12/5/75

Workers separated on or after 2/28/75 are eligible for trade adjustment assistance. As of November 30, 1978, a total of 25 workers had received a total of \$71,762.

9.	Universal Cyclops	Specialty Steel (TA-W-381)
	Plant Location:	Bridgeville, Pennsylvania
	Products:	Stainless steel billets, bar, rod, and wire; alloy tool steel bar and wire
	Petition Received:	12/5/75

Workers separated on or after 11/20/74 are eligible for trade adjustment assistance. As of November 30, 1978, a total of 483 workers had received a total of \$1,355,048.

10.	Universal Cyclops	Specialty Steel (TA-W-382)
	Plant Location:	Titusville, Pennsylvania
	Products:	Stainless and alloy tool steel bar
		and billets
	Petition Received:	12/5/75

Workers separated on or after 1/17/75 are eligible for trade adjustment assistance. As of November 30, 1978, a total of 694 workers had received a total of \$986,915.

11. Teledyne Vasco (TA-W-383) Plant Location: East Latrobe, Pennsylvania Products: Alloy tool steel bar and rod Petition Received: 11/25/75

Workers separated on or after 12/29/74 are eligible for trade adjustment assistance. As of November 30, 1978, a total of 380 workers had received a total of \$372,825.

12.	Armco Steel (TA-W-	534)
	Plant Location:	Butler, Pennsylvania
	Products:	Stainless and alloy tool steel
•		slab and strip
	Petition Received:	1/9/76

Workers separated on or after 12/18/74 are eligible for trade adjustment assistance. As of November 30, 1978, a total of 1,797 workers had received a total of \$2,086,564.

13. Jessop Steel (TA-W-542) Plant Location: Washington, Pennsylvania Products: Stainless steel plate, sheet, and bar and alloy tool steel Petition Received: 1/9/76

Workers separated on or after 12/23/74 are eligible for trade adjustment assistance. As of November 30, 1978, a total of 393 workers had received a total of \$676,864.

14. Carpenter Technology (TA-W-544) Plant Location: Bridgeport, Connecticut Products: Stainless steel strip, bar, rod, and wire and alloy tool steel Petition Received: 1/9/76

Workers separated on or after 12/12/74 are eligible for trade adjustment assistance. As of November 30, 1978, a total of 463 workers had received a total of \$491,255.

15. Carpenter Technology (TA-W-545) Plant Location: Reading, Pennsylvania Products: Stainless steel strip, bar, rod, and wire and alloy tool steel Petition Received: 1/9/76

Workers separated on or after 12/12/74 are eligible for trade adjustment assistance. As of November 30, 1978, a total of 1,184 workers had received a total of \$1,192,538.

16. Eastern Stainless Steel (TA-W-554)
Plant Location: Baltimore, Maryland
Products: Stainless steel plate, sheet, and strip
Petition Received: 1/16/76

Workers separated on or after 1/5/75 are eligible for trade adjustment assistance. As of November 30, 1978, a total of 757 workers had received a total of \$495,542.

17. McLouth Steel (TA-W-556)
Plant Location: Detroit, Michigan
Products: Stainless steel sheet and strip
Petition Received: 1/16/76

Workers separated on or after 12/29/74 are eligible for trade adjustment assistance. As of November 30, 1978, a total of 410 workers had received a total of \$733,254.

18. Crucible (TA-W-590)
Plant Location: Midland, Pennsylvania
Products: Stainless steel sheet and strip; alloy
tool steel bar
Petition Received: 2/6/76

Workers separated on or after 2/2/75 are eligible for trade adjustment assistance. As of November 30, 1978, a total of 935 workers had received a total of \$1,231,108.

19. Teledyne Vasco (TA-W-601) Plant Location: Monaca, Pennsylvania Products: Alloy tool steel sheet and bar Petition Received: 2/13/76

Workers separated on or after 2/4/75 are eligible for trade adjustment assistance. As of November 30, 1978, a total of 197 workers had received a total of \$266,935.

20. Crucible (TA-W-603) Plant Location: Syracuse, New York Products: Stainless and alloy tool steel bar, rod, and wire. Petition Received: 2/13/76

Workers separated on or after 2/2/75 are eligible for trade adjustment assistance. As of November 30, 1978, a total of 1,301 workers had received a total of \$3,371,595.

21. Washington Steel (TA-W-607) Plant Locations: Washington and Houston, Pennsylvania Products: Stainless steel sheet and strip Petition Received: 2/20/76

Workers separated on or after 2/6/75 are eligible for trade adjustment assistance. As of November 30, 1978, a total of 100 workers had received a total of \$51,160.

22. Republic Steel (TA-W-665) Plant Location: Canton, Ohio Products: Stainless steel sheet and strip Petition Received: 3/12/76

Workers separated on or after 3/9/75 but before 3/1/76 were eligible for trade adjustment assistance. As of November 30, 1978, a total of 2,538 workers had received a total of \$3,473,137.

23. Republic Steel (TA-W-666) Plant Location: Massillon, Ohio Products: Stainless steel plate, sheet, strip, and bar Petition Received: 3/12/76

Workers separated on or after 3/9/75 are eligible for trade adjustment assistance. As of November 30, 1978, a total of 1,393 workers had received a total of \$2,022,056.

24.	Allegheny Ludlum St	teel (TA-W-668)
	Plant Location:	Wallingford, Connecticut
	Products:	Stainless and alloy steel strip
	Petition Received:	3/12/76

Workers separated on or after 3/9/75 are eligible for trade adjustment assistance. As of November 30, 1978, a total of 251 workers had received a total of \$179,497.

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25.	Carpenter Technolog	Y (TA-W-671)
	Plant Locations:	Union and Jonesburg, New Jersey
	Products:	Stainless and alloy steel strip and
		tube
	Petition Received:	3/17/76

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Workers separated on or after 3/10/75 are eligible for trade adjustment assistance. As of November 30, 1978, a total of 25 workers had received a total of \$72,328.

26. Allegheny Ludlum Steel (TA-W-755) Plant Location: Brackenridge, Pennsylvania Products: Stainless steel sheet and strip Petition Received: 3/29/76

Workers separated on or after 3/20/75 are eligible for trade adjustment assistance. As of November 30, 1978, a total of 2,031 workers had received a total of \$1,965,117.

27. Allegheny Ludlum Steel (TA-W-756) Plant Location: West Leechburg, Pennsylvania Products: Stainless steel sheet and strip Petition Received: 3/29/76

Workers separated on or after 3/20/75 are eligible for trade adjustment assistance. As of November 30, 1978, a total of 799 workers had received a total of \$336,883.

28. Braeburn Alloy Steel (TA-W-761) Plant Location: Lower Burrell, Pennsylvania Products: Alloy tool steel bar and fabricated shapes Petition Received: 3/29/76

Workers separated on or after 3/20/75 are eligible for trade adjustment assistance. As of November 30, 1978, a total of 93 workers had received a total of \$70,421.

29. United States Steel (Ta-W-765) Plant Location: Waukegan, Illinois Products: Stainless steel wire Petition Received: 3/29/76

Workers separated on or after 3/20/75 are eligible for trade adjustment assistance. As of November 30, 1978, one worker had received a total of \$1,167

30. Jones and Laughlin Steel (TA-W-767) Plant Location: Youngstown, Ohio Products: Carbon, alloy, and stainless steel strip Petition Received: 3/29/76

Workers separated on or after 3/20/75 are eligible for trade adjustment assistance. As of November 30, 1978, a total of 102 workers had received a total of \$51,112.

31. Jones and Laughlin Steel (TA-W-785) Plant Location: Louisville, Ohio Products: Stainless steel sheet and strip Petition Received: 4/8/76

Workers separated on or after 3/29/75 are eligible for trade adjustment assistance. As of November 30, 1978, a total of 277 workers had received a total of \$95,752.

32.	Simonds Steel (TA	-W-795)
	Plant Location:	Lockport, New York
	Products:	Stainless and alloy steel slab, sheet,
		strip, and bar
	Petition Received:	4/16/76

Workers separated on or after 3/22/75 are eligible for trade adjustment assistance. As of November 30, 1978, a total of 499 workers had received a total of \$1,223,917.

33. Allegheny Ludlum Steel (TA-W-796) Plant Location: New Castle, Indiana Products: Stainless steel sheet and strip Petition Received: 4/16/76

Workers separated on or after 3/20/75 are eligible for trade adjustment assistance. As of November 30, 1978, a total of 39 workers had received a total of \$19,253.

34. Republic Steel (TA-W-833) Plant Location: Massillon, Ohio Products: Stainless steel bar Petition Received: 4/30/76

Workers separated on or after 4/21/75 are eligible for trade adjustment assistance. As of November 30, 1978, a total of 139 workers had received a total of \$207,186. 35. Teledyne Pittsburgh Tool Steel (TA-W-880) Plant Location: Monaca, Pennsylvania Products: Alloy tool steel rod and shapes Petition Received: 5/19/76

Workers separated on or after 4/15/75 are eligible for trade adjustment assistance. As of November 30, 1978, a total of 26 workers had received a total of \$82,653.

36. Bethlehem Steel (TA-W-924) Plant Location: Bethlehem, Pennsylvania Products: Alloy tool steel bar Petition Received: 6/7/76

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Workers separated on or after 5/15/75 are eligible for trade adjustment assistance. As of November 30, 1978, a total of 977 workers had received a total of \$2,126,492.

37. Jessop Steel (TA-W-3232) Plant Location: Washington, Pennsylvania Products: Stainless steel bar Petition Received: 2/7/78

Workers separated on or after 3/25/78 are eligible for trade adjustment assistance. As of November 30, 1978, a total of 10 workers had received a total of \$692. (Workers producing stainless steel plate and sheet and alloy tool steel were denied eligibility.)

38. Bethlehem Steel (TA-W-3729) Plant Location: Bethlehem, Pennsylvania Products: Alloy tool steel bar Petition Received: 4/17/78

Workers separated on or after 8/27/78 are eligible for trade adjustment assistance. As of November 30, 1978, no record of payments was available.

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