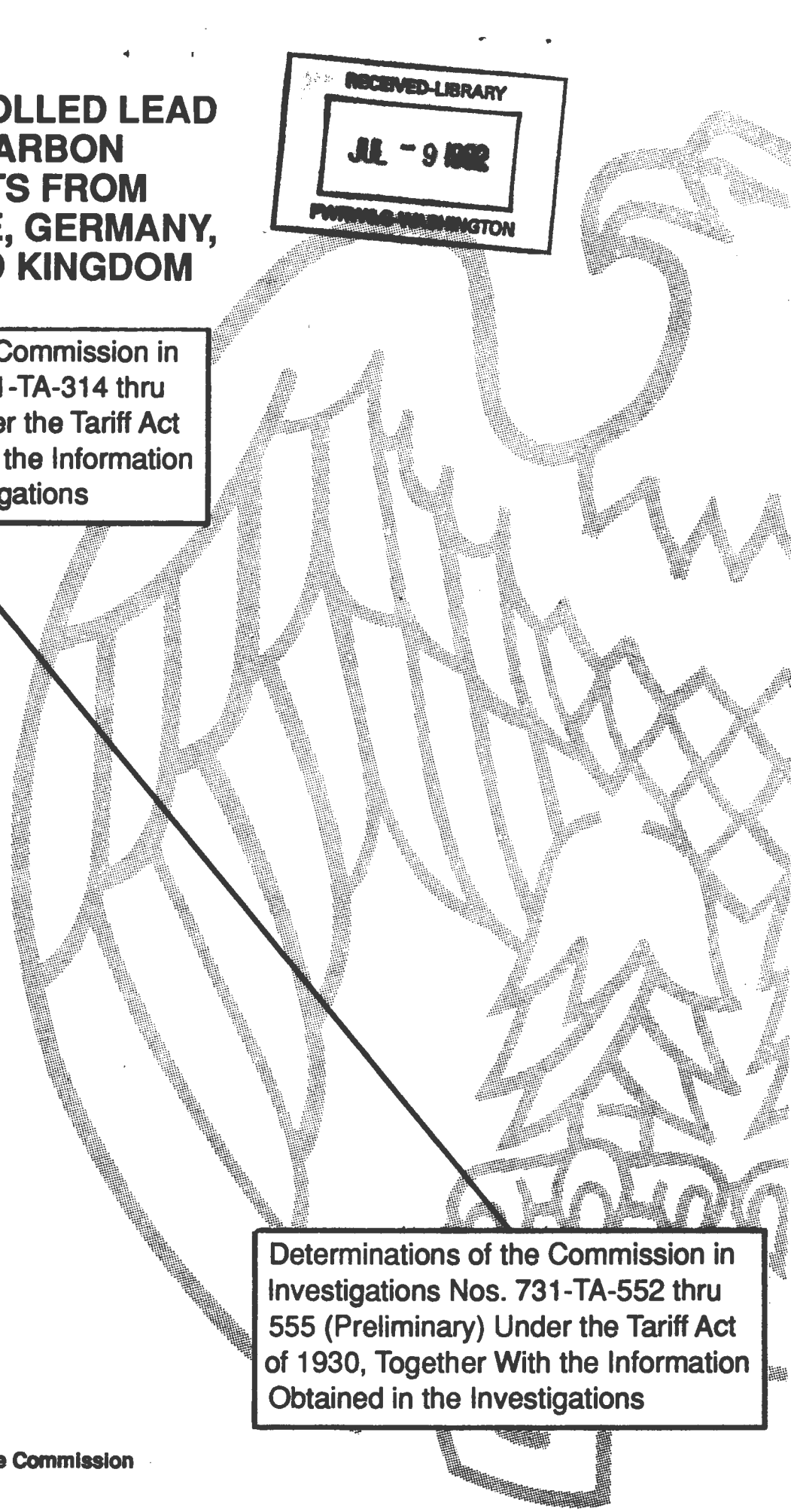
CERTAIN HOT-ROLLED LEAD AND BISMUTH CARBON STEEL PRODUCTS FROM BRAZIL, FRANCE, GERMANY, AND THE UNITED KINGDOM

Determinations of the Commission in Investigations Nos. 701-TA-314 thru 317 (Preliminary) Under the Tariff Act of 1930, Together With the Information Obtained in the Investigations



Determinations of the Commission in Investigations Nos. 731-TA-552 thru 555 (Preliminary) Under the Tariff Act of 1930, Together With the Information Obtained in the Investigations

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Washington, DC 20436

CERTAIN HOT-ROLLED LEAD AND BISMUTH CARBON STEEL PRODUCTS FROM BRAZIL, FRANCE, GERMANY, AND THE UNITED KINGDOM

UNITED STATES INTERNATIONAL TRADE COMMISSION

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Certain Hot-Rolled Lead and Bismuth Carbon Steel Products from Brazil, France, Germany, and the United Kingdom

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Note.--Information that would reveal business proprietary operations of individual concerns may not be published and therefore has been deleted from this report. Such deletionsa are indicated by asterisks.

UNITED STATES INTERNATIONAL TRADE COMMISSION

Investigations Nos. 701-TA-314 through 317 (Preliminary), and
Investigations Nos. 731-TA-552 through 555 (Preliminary)

Certain Hot-Rolled Lead and Bismuth Carbon Steel Products
from Brazil, France, Germany, and the United Kingdom

Determinations

On the basis of the record[1] developed in the subject investigations, the Commission unanimously determines, pursuant to section 703(a) of the Tariff Act of 1930 (19 U.S.C. § 1671b(a)), that there is a reasonable indication that an industry in the United States is materially injured by reason of imports from Brazil, France, Germany, and the United Kingdom of certain hot-rolled lead and bismuth carbon steel products,[2] provided for in subheadings 7213.20.00 and 7214.30.00[3] of the Harmonized Tariff Schedule of the United States, that are alleged to be subsidized by the Governments of these countries.

The Commission also unanimously determines, pursuant to section 733(a) of the Tariff Act of 1930 (19 U.S.C. § 1673b(a)), that there is a reasonable indication that an industry in the United States is materially injured by reason of imports from Brazil, France, Germany, and the United Kingdom of certain hot-rolled lead and bismuth carbon steel products, provided for in subheadings 7213.20.00 and 7214.30.00 of the Harmonized Tariff Schedule of the United States, that are alleged to be sold in the United States at less than fair value.

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[1]The record is defined in sec. 207.2(f) of the Commission's Rules of Practice and Procedure (19 CFR § 207.2(f)).

[2] For purposes of these investigations, the subject hot-rolled lead and bismuth carbon steel products are hot-rolled products of nonalloy or other alloy steel, whether or not descaled, containing by weight 0.03 percent or more of lead or 0.05 percent or more of bismuth, in coils or cut lengths, and in numerous shapes and sizes. Excluded from the scope of these investigations are other alloy steels, except steels classified as such by reason of containing by weight 0.4 percent or more of lead, or 0.1 percent or more of bismuth, selenium, or tellurium. Also excluded are semifinished steels and flat-rolled carbon steel products.

[3] Small quantities of the subject products may also enter under the following HTS subheadings: 7213.31.30, 7213.31.60, 7213.39.00, 7214.40.00, 7214.50.00, 7214.60.00, and 7228.30.80.

Background

On April 13, 1992, a petition was filed with the Commission and the Department of Commerce by Inland Steel Industries, Inc., including Inland Steel Bar Co. (Chicago, IL), and the Bar, Rod and Wire Division, Bethlehem Steel Corp. (Johnstown, PA), alleging that an industry in the United States is materially injured or threatened with material injury by reason of subsidized and LTFV imports of certain hot-rolled lead and bismuth carbon steel products from Brazil, France, Germany, and the United Kingdom. Accordingly, effective April 13, 1992, the Commission instituted preliminary countervailing duty investigations Nos. 701-TA-314 through 317, and preliminary antidumping investigations Nos. 731-TA-552 through 555. Notice of the institution of the Commission's investigations and of a public conference to be held in connection therewith was given by posting copies of the notice in the Office of the Secretary, U.S. International Trade Commission, Washington, DC, and by publishing the notice in the Federal Register of April 20, 1992 (57 F.R. 14431). The conference was held in Washington, DC, on May 4, 1992, and all persons who requested the opportunity were permitted to appear in person or by counsel.

VIEWS OF CHAIRMAN NEWQUIST, VICE-CHAIRMAN BRUNSDALE, AND COMMISSIONERS CRAWFORD, NUZUM, AND WATSON

Based on the record in these preliminary investigations, we determine that there is a reasonable indication that an industry in the United States is materially injured by reason of imports of hot-rolled leaded and bismuth carbon steel bar and rod from Germany, France, Brazil, and the United Kingdom that are alleged to be subsidized and sold at less than fair value (LTFV).

I. THE LEGAL STANDARD FOR PRELIMINARY DETERMINATIONS

The legal standard in preliminary antidumping investigations requires the Commission to determine whether, based on the best information available at the time of the preliminary determination, there is a reasonable indication of material injury or threat thereof to a domestic industry by reason of the subject imports.[1] In these investigations, the Commission considered whether "(1) the record as a whole contains clear and convincing evidence that there is no material injury or threat of such injury; and (2) no likelihood exists that contrary evidence will arise in a final investigation."[2] This interpretation of the standard has been upheld as "sufficiently reasonable"[3] by the U.S. Court of Appeals for the Federal Circuit in American Lamb.

II. LIKE PRODUCT AND DOMESTIC INDUSTRY

In determining whether an industry in the United States is materially injured or is threatened with material injury by reason of the subject imports, the Commission must first define the "like product" and the

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[1] 19 U.S.C. § 1673b(a). See also Calabrian Corporation v. United States International Trade Commission, Slip Op. 92-69 (CIT 1991) (citing American Lamb).

[2] American Lamb Co. v. United States, 785 F.2d 994, 1001 (Fed. Cir. 1986).

[3] Id. at 1004.

"industry." Section 771(4)(A) of the Tariff Act of 1930 (the "Act") defines the relevant industry as the "domestic producers as a whole of a like product, or those producers whose collective output of the like product constitutes a major proportion of the total domestic production of that product . . . ."[4] In turn, the statute defines "like product" as "a product which is like, or in the absence of like, most similar in characteristics and uses with, the article subject to an investigation . . . ."[5]

A. Background and Product Descriptions

The Department of Commerce (Commerce) has defined the class or kind of merchandise subject to investigation as follows:

> [H]ot-rolled bars and rods of nonalloy or other alloy steel, whether or not descaled, containing by weight 0.03 percent or more of lead or 0.05 percent or more of bismuth, in coils or cut lengths, and in numerous shapes and sizes. Excluded from the scope of these investigations are other alloy steels (as defined by the Harmonized Tariff Schedule of the United States, (HTSUS) Chapter 72, note 1 (f)), except steels classified as other alloy steels by reason of containing by weight 0.4 percent or more of lead, or 0.1 percent or more of bismuth, tellurium, or selenium. Also excluded are semi-finished steels and flat-rolled products.

The products covered by these investigations are primarily hot-rolled carbon steel bar and rod. "Carbon steel" means all nonalloy steel that

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[4] 19 U.S.C. § 1677(4)(A).

[5] 19 U.S.C. § 1677(10). The Commission's determination of what is the appropriate like product or products in an investigation is a factual determination, to which we apply the statutory standard of "like" or "most similar in characteristics and uses" on a case-by-case basis. In defining the like product, the Commission generally considers a number of factors including: (1) physical characteristics and uses; (2) interchangeability of the products; (3) channels of distribution; (4) customer and producer perceptions of the products; (5) the use of common manufacturing facilities and production employees; and where appropriate, (6) price.

contains by weight two percent or less of carbon.[6] "Alloy steel" is defined in the Harmonized Tariff System of the United States (HTSUS) as steels which contain a number of different elements in specified amounts including aluminum, boron, chromium, cobalt, copper, lead, manganese, molybdenum, nickel, niobium, silicon, titanium, tungsten, vanadium, zirconium, and other elements with 0.1 percent or more of other elements.[7]

A "hot-rolled" carbon steel bar or rod is produced by heating (usually to above 2,200 degrees F) and reducing a semi-finished billet to a final thickness and shape by passing it through a series of rolls. A "cold-finished" or "cold-formed" bar or rod is a hot-rolled product which is descaled (submerged in an acid solution or shot blast) to remove oxide scale formed during the hot-rolling process, and then undergoes additional processing at ambient temperatures in the form of polishing, turning, grinding, and/or straightening.

Hot-rolled "bar" includes hot-rolled products in cut-lengths or

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[6] Carbon and certain alloy steels are categorized according to their chemical content. The primary elements that are specified are carbon, manganese, phosphorus, and sulphur for carbon steels, and nickel, chromium, and molybdenum for alloy steels. For the purposes of these investigations, "carbon steel" also includes any steel classified in the HTSUS as "other alloy steel" solely because it contains 0.4 percent or more by weight of lead and/or 0.1 percent or more by weight of bismuth. Staff Report to the Commission, May 19, 1992 (Report) at B-14.

[7] HTSUS Chapter 72, Note 1(f), at 72-2. In the most recent investigations in which the Commission dealt with hot-rolled steel bars, it created separate like products of hot-rolled carbon steel bars, hot-rolled alloy steel bars, and cold-finished carbon steel bars, and cold-finished alloy steel bars. Certain Steel Products from Belgium, Brazil, France, Italy, Luxembourg, the Netherlands, Romania, the United Kingdom, and West Germany, Invs. Nos. 701-TA-86 through 144, 701 TA-146, and 701-TA-147 (Preliminary), and Invs. Nos. 731-Ta-53 through 86 (Preliminary), USITC Pub. 1221 (Feb. 1982) ("1982 Steel Investigations"), Vol.I at 3.

irregularly wound coils.[8] Generally, bar has a greater diameter than rod. Bar may be round, rectangular, and hexagonal, and consist of various diameters from 0.75 to 12 inches.[9] Hot-rolled "rod" includes coiled, hot-rolled products of a solid, approximately round cross section, not under 0.20 inch nor over 0.74 inch in diameter.[10]

In these investigations, we have identified and considered the following four categories of steel products which include or encompass the products under investigation: (1) all hot-rolled carbon steel bar and rod, (2) hot-rolled special quality carbon steel bar and rod, (3) hot-rolled free-machining carbon steel bar and rod, and (4) hot-rolled leaded and bismuth carbon steel bar and rod. Each of these categories is discussed below.

1. **All hot-rolled carbon steel bar and rod**

All hot-rolled carbon steel bar and rod is the broadest category of hot-rolled steel products in which the subject imports are included. Hot-rolled leaded and bismuth carbon steel bar and rod represents approximately five percent of the total U.S. shipments of hot-rolled carbon steel bar and rod.[11] Hot-rolled carbon steel bar and rod are divided into two principal grades: "special quality" bar and rod, and "merchant" quality bar and rod. Special quality bar and rod compose roughly one-half of the total hot-rolled carbon steel bar and rod consumed in the United States. The other half consists of lower quality, less expensive merchant quality bar and rod. The particular

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[8] Report A-12-A-13.

[9] Id.

[10] As used herein, neither hot-rolled carbon steel bar nor hot-rolled carbon steel rod include reinforcing rod, which is part of merchant quality hot-rolled carbon steel bar and rod. Report B-14-B-15.

[11] Report, Figure E-3.

characteristics of special quality and merchant quality hot-rolled carbon steel bar and rod are addressed below.

2. Hot-rolled special quality carbon steel bar and rod

Special quality bar and rod is a sub-category of all hot-rolled carbon steel bar and rod. Special quality bar and rod is used where the steel is required to be hot-forged, heat-treated, cold-drawn, machined, or used in particular structural applications or in high product liability applications.[12] Merchant quality bar and rod is used in all other less critical applications, for relatively simple end uses such as nails, fencing, bedding springs, or road mesh.[13]

Special quality bar and rod is produced to be as free from visible surface defects and excessive chemical segregation as is possible given the particular metallurgy.[14] Special quality carbon steel bar and rod generally is subjected to rigorous product analysis and chemical uniformity which are not typical of merchant quality hot-rolled carbon steel bar and rod.[15] Merchant quality bar also may not possess uniformly the strength, toughness, fatigue, fracture, corrosion and wear resistance of special quality bar products. For these reasons, hot-rolled special quality carbon steel bar and rod is used in the specialized manufacturing operations for critical

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[12] American Iron and Steel Institute, Steel Products Manual - Alloy, Carbon and High Strength Low Alloy Steels; Semifinished for Forging; Hot Rolled Bars, Cold-finished Bars, Hot Rolled Deformed and Plain Concrete Reinforcing Bars, March 1986 (AISI Manual), at 87-89.

[13] Report B-39-B-40.

[14] Id.

[15] Report B-43-B-45.

components in high performance machinery.[16] Merchant quality bar and rod may contain pronounced chemical segregation, internal porosity, and surface seams, as well as other surface irregularities.[17] Merchant and special quality bars are made in the same shapes, but special quality bar is made in a much broader range of sizes for each shape.[18]

There are a number of U.S. producers who manufacture only merchant or special quality hot-rolled carbon steel bar and rod.[19] A number of U.S. producers reporting to the Commission in these preliminary investigations make both. Those producers who make special and merchant quality bar and rod generally use the same employees to manufacture both. However, the basic processes for melting, pouring, casting and rolling the two different types of bar and rod are different in some respects.[20] For example, the production of special quality bar and rod requires a ladle metallurgy station, which is not required for the production of merchant quality bar and rod. Moreover, special quality bar and rod is rolled from billets which have been inspected and conditioned, as necessary, to minimize surface imperfections, as opposed

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[16] Id.

[17] Report B-18-B-19.

[18] For example, merchant quality bar rounds and squares are produced from 3/8 in. to 3 in. diameter, while special quality rounds are produced from 1/4 in. to 10 in. and 1/4 in. to 6 1/16 in. in diameter, respectively. Similarly, special quality bar flats, round cornered squares, and hexagons are made in larger widths or diameters than those of merchant quality. AISI Manual at 87, 89.

[19] Report B-42, Figure E-2; A minority of U.S. producers of merchant or special quality bar did not provide information to the Commission in response to questionnaires submitted in these preliminary investigations.

[20] Both merchant and special quality steel can be produced using a rimmed, capped, semi-killed or killed type of deoxidation practice. AISI Manual at 87-89.

to merchant bar which is usually rolled from unconditioned billets.[21] Special quality steels also generally require more frequent rolling mill pass changes, rolling mill inspections, and finished production inspections.[22]

Because of the precise surface characteristics of the special quality product, it can require special handling, storage and shipping techniques.[23] One U.S. producer indicated that special quality bar requires much more rigorous worker training than merchant bar and rod.[24] Because of the much tighter tolerances required by special quality, it may require more restrictive chemistry requirements which make the ore and/or scrap used to make special quality bar more costly.[25]

3. Hot-rolled free-machining carbon steel bar and rod

"Free-machining," or "free-cutting"[26] steels are a subcategory of special quality bar and rod. Hot-rolled free-machining steels are primarily carbon steels that contain properties that allow end-users of cold-finished bar and rod to machine, forge, or cut more easily than other types of carbon

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[21] AISI Manual at 87-89. One U.S. manufacturer indicated that merchant bars of the 1000 series are continuously cast directly into billets, while special quality bars are cast into blooms and then rolled into billets. Another U.S. manufacturer, however indicated that special quality and merchant hot-rolled carbon bars have the same basic production processes, except that merchant quality bars are rarely conditioned, such as by grinding. Questionnaire responses. Report B-43-B-45.

[22] Report B-43-B-45.

[23] Id.

[24] Id.

[25] Id.

[26] The term "free-machining" is typically used in the United States and "free-cutting" is also used interchangeably in other countries. Report A-6; Transcript of the preliminary conference, May 4, 1992 ("Tr.") at 77.

steel. "Machinability" is that combination of physical and metallurgical properties of a steel that determines how easily metal may be removed by a cutting tool.[27] Free-machining steels are either resulphurized (sulphur added), rephosphorized (phosphorus added), renitrogenized (nitrogen added), or contain lead, bismuth, selenium or tellurium additives.[28] Most of the hot-rolled leaded and bismuth carbon steels subject to these investigations have been resulphurized and rephosphorized in addition to having lead or bismuth added.

Free-machining carbon steels, including leaded and bismuth steels, are categorized in a separate HTSUS heading which segregates "free-cutting" steels from forged bar and rod, concrete reinforcing bar and rod, and "other" types of carbon bar and rod.[29] Leaded and bismuth carbon steels generally have higher machinability ratings than non-leaded free-machining steel. Free-

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[27] Report B-16.

[28] Tr. 77. In addition, in higher carbon steels, calcium is added to facilitate the cutting with carbide tools. Tr. 109-111. See also, HTSUS, Chapter 72, subheading Note 1(b).

[29] HTSUS numbers 7213.31.30, 7231.60, 7213,39, 7214.10, 7214.20, 7214.40, 7214.50, and 7214.60. Free-cutting steels are defined in the Subheading Note 1(b), as follows:

> Nonalloy free-cutting steel
>
> Nonalloy steel containing by weight one or more of the following elements in the specified proportions:
>
> - 0.08 percent or more of sulfur
> - 0.1 percent or more of lead
> - more than 0.05 percent of selenium
> - more than 0.01 percent of tellurium
> - more than 0.05 percent of bismuth.

The products under investigation are encompassed almost completely within this definition with the exception of carbon steels containing between 0.03 - 0.09 percent of lead and alloy steels with 0.4 percent or more of lead, and bismuth alloy steels which contain more than 0.1 percent of bismuth. See note 6, supra.

machining non-leaded carbon steel is significantly more machinable than non-free-machining special quality steel of a comparable hardness and strength.[30] Generally, leaded and bismuth free-machining steels are used for more intensive cutting (when more than 30 percent of the stock must be removed), while non-leaded free-machining steels are used where less intensive cutting is required.[31]

All types of hot-rolled free-machining carbon steel bar and rod, including leaded and bismuth, are distributed primarily from producers or importers of hot-rolled bar or rod to cold-finishers and then on to machining companies or other end users that machine steel.[32] By contrast, non-free-machining carbon steels are shipped from U.S. producers to a wide variety of intermediate and end users.[33] U.S. cold-finishers, the primary purchasers of hot-rolled free-machining carbon steel, market all types of free-machining steels.

4. Hot-rolled leaded and bismuth carbon steel bar and rod

Hot-rolled leaded and bismuth steels are primarily a subcategory of

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[30] Preliminary Conference exhibit 6, figure 6, Statement of Derry Graham.

[31] Tr. 89. However, there are instances in which non-leaded steel may be more appropriate for the end use even where a great deal of machining is required. Saarstahl Post-conference Brief at 11-12, exhibit 2 thereto at 581. During the late 1970s to early 1980s period, the use of lead in Japan was largely abandoned, in favor of resulphurized non-leaded or reduced lead steels due to environmental considerations. In addition, recent developments in cold-finishing techniques have produced some specially selected free-machining non-leaded carbon steels with machinability ratings comparable to those of corresponding leaded grades.

[32] Tr. 165; Petitioners' Post-conference Brief, exhibit 4; UES Post-conference Brief, exhibit 2.

[33] Report B-40.

free-machining steels.[34] These steels contain small additions of lead and bismuth (usually 0.15 to 0.35 percent by weight) to base grades[35] of carbon and certain alloy steels to improve the machinability of the steel. The lead and bismuth additives increase the speed of removing relatively large amounts of metal; improve the surface finish of the finished parts; reduce machine tool wear and energy expenditure; and increase the precision of cuts made on automatic screw machines, lathes, and drill presses.

With the exception of the addition of small amounts of lead, bismuth, tellurium and/or selenium, hot-rolled leaded and bismuth carbon steels are virtually identical to their base grade counterparts in terms of the amount of carbon content.[36] Leaded and unleaded hot-rolled carbon steel bar and rod of the same base grades possess comparable mechanical properties such as hardness and tensile strength, impact resistance, and hardness.[37] With regard to end uses, 95 percent of hot-rolled leaded and bismuth bar and rod are sold to cold-finishers as either coils or cut lengths.[38] Most cold-rolled leaded and bismuth steel is subsequently sold by cold-finishers to companies that manufacture parts using screw machines, lathes, and drill presses

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[34] We note that while the HTSUS defines "free-cutting" carbon steel bar and rod to include almost all leaded and bismuth steels, petitioners and respondents have indicated that the leaded 1000 series grade steels with lead are not free-machining, but rather have improved machinability. In any event, such 1000 series steels would fall within the definition of "special quality" bar and rod. See discussion in note 29 supra, and note 52 infra.

[35] Carbon steel "base" grades include the 1000, 1100, 1200, and 1500 series. Alloy steel grades include the 1300, 4000, 4100, 4300, 4400, 4600, 4800, 5000, 5100, 5200, 6100, 8100, 8600, 9200, and 9300 series.

[36] Report A-4-A-6.

[37] Tr. at 91.

[38] Report A-13; Petition at 10.

(collectively referred to as machining companies).[39]

Because of the enhanced production rates and better quality of the end products machined using leaded and bismuth steel, the substantial majority of machining companies and end users specify leaded and bismuth carbon steels where extensive cutting must be performed on a particular part.[40] A number of U.S. producers make both hot-rolled leaded and special bar quality carbon steel bar and/or rod using the same basic production techniques, equipment and workers.

B. Like Product Analysis

Petitioners include the Inland Steel Industries including Inland Steel Bar Company (Inland), and the Bar, Rod & Wire Division of Bethlehem Steel Corporation (Bethlehem) (collectively referred to herein as "petitioners").[41] Petitioners assert the like product should be all domestically produced hot-rolled leaded and bismuth carbon steel products (combining bar and rod), which they define to include alloy steels with 0.40 percent or more of lead or 0.10 percent or more of bismuth, tellurium, or selenium, which would otherwise be classified as alloys under HTSUS Chap. 72, note 1(f).[42]

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[39] Report A-13.

[40] Tr. 177.

[41] Corey Steel Company (Corey), a U.S. cold-finisher and importer of hot-rolled bar and rod, appeared at the conference and filed a post-conference brief in support of the petition.

[42] Petition at 6-8; Letter from petitioner's counsel to Secretary of Commerce dated April 28, 1992. The Commission is bound by Commerce's class or kind determination as to what imported products are subject to investigation, but the Commission alone determines which domestic products are like those imported products within Commerce's scope. Algoma Steel Corp., Ltd. v. United States, 688 F. Supp. 639 (CIT 1988), aff'd 865 F.2d 240 (Fed. Cir. 1988), cert. denied, 109 S.Ct. 3244 (1989).

In a number of previous investigations, the Commission has defined the

(continued...)

Respondents[43] UES and Thyssen argue for two like products: hot-rolled carbon steel bar and hot-rolled carbon steel rod. Respondents Usinor Sacilor, Unimetal, Ascometal, and Saarstahl AG and the Brazilian respondents argue that hot-rolled carbon steel rod and bar should be a single like product.

1. Like product of hot-rolled special quality carbon steel bar and rod

Based on the limited information available to the Commission in these preliminary investigations,[44] we find there is one like product of hot-rolled special quality carbon steel bar and hot-rolled special quality carbon steel rod.[45] We also find that hot-rolled special quality bar and hot-rolled special quality rod should be combined in one like product. Such a like product is broader than the "hot-rolled leaded and bismuth carbon steel products" proffered by the petitioners, yet narrower than "all hot-rolled bar and/or rod" (which combines merchant and special quality), as proposed by respondents. In any final investigations, the Commission intends to explore

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[42] (...continued)
like product more broadly than Commerce's scope of the class or kind of merchandise. See e.g., Heavy Forged Handtools from the People's Republic of China, Inv. No. 731-TA-457 (Final), USITC Pub. 2357 (February 1991).

[43] Respondents include the following: United Engineering Steel (UES) of the United Kingdom; Usinor Sacilor, Unimetal, Asometal of France; Saarstahl AG, Thyssen Stahl AG and Thyssen Inc. (Thyssen) of Germany; and Villares Corporation of America, Mannesmann SA, and Asesita-CIA Acos Especiais Itabira of Brazil (Brazilian respondents).

[44] We note that none of the parties in these investigations briefed the issue of a like product consisting of hot-rolled special quality bar or rod. The Commission requested and received certain information in questionnaires regarding the differences between merchant quality and special quality bar and rod. In the final investigations, the Commission will seek to obtain additional information regarding special quality hot-rolled bar and rod.

[45] We include within this like product hot-rolled special quality alloy steel bars and rods which contain lead in excess of 0.4 percent by weight, and bismuth, tellurium, and selenium in excess of 0.1 percent by weight.

in detail alternative like products.

a. "Special quality" hot-rolled bar and rod

As indicated in section II(A)(4) above, the subject imports -- leaded and bismuth carbon steels -- are one subcategory of special quality carbon steels. Hot-rolled leaded and bismuth carbon steels have much in common with other types of hot-rolled special quality carbon steels. As previously mentioned, all special quality steels, including lead and bismuth, have carefully specified and controlled metallurgy and are produced to be free from visible surface defects and excessive chemical segregation of special additives. Special quality carbon steel bar and rod are used where the steel is required to be hot-forged, heat-treated, cold drawn, machined, or used in particular structural or in high product liability applications.

The manufacturing processes of all types of special quality carbon steels, including lead and bismuth, generally require a ladle metallurgy station, the point at which the metallurgy of most special quality steels generally is determined. In addition, all types of special quality steels are rolled from billets which have been inspected and conditioned, as necessary, to minimize surface imperfections. Special quality steels also require more inspections as well as greater care in handling, storage and shipping.

The limited information obtained by the Commission in these preliminary investigations suggests that some special quality bar and rod moves in the same channels of distribution as hot-rolled leaded and bismuth steel, i.e., to cold-finishers. However, other special quality bar goes directly to end users in, for example, the automotive, appliance, and other industries.[46]

The questionnaire responses of a number of U.S. producers indicate,

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[46] Report B-40.

however, that they view both leaded and bismuth and special quality bar as part of a distinct product category -- special quality bar and rod -- with particular physical characteristics for specialized end uses.[47] Finally, both leaded and bismuth carbon steels and special quality carbon steels sell at a premium, particularly when compared with merchant quality bar and rod, reflecting its lower quality and less rigorous specifications and testing.[48]

In short, we find in these preliminary investigations that the dividing line between hot-rolled leaded and bismuth carbon steel and special quality hot-rolled carbon steel bar and rod is less than clear. We note that the statute's legislative history indicates that the requirement that a product be "like" the imported article should not be interpreted in an overly narrow fashion by focusing on minor differences in physical characteristics or uses.[49] We believe that the best information currently available to the Commission indicates that special quality hot-rolled carbon steel bar and rod is the appropriate domestic product like the imported products under investigation.

b. Combining hot-rolled special quality carbon steel bar and hot-rolled special quality carbon steel rod in a single like product

Based on the best information obtained in these preliminary investigations, we also determine that hot-rolled special quality carbon steel bar and hot-rolled special quality carbon steel rod are one like product. The similarities between special quality bar and special quality rod outweigh any differences between them. Indeed, we note that petitioners as well as two of

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[47] Id. at B-42-B-45.

[48] Compare Report B-63, Table E-16 with Table E-17.

[49] Sen. Rep. No. 96-249, 96th Cong., 1st Sess. 90-91 (1979).

the four respondents indicate that bar and rod are interchangeable products. The best information available to the Commission in these investigations indicates that hot-rolled special quality bar and rod have similar basic metallurgy; production processes; channels of distribution; end uses as machined or forged products; and common producer and consumer perceptions.[50] Other types of special quality bar and rod with comparable metallurgy have similar production processes, chemical tolerances, conditioning, testing, and application in related end uses. Based on the limited information obtained by the Commission in these preliminary investigations (particularly concerning rod), we determine that the similarities outweigh any differences based on size, coiled as opposed to cut lengths, or the existence of separate production facilities.[51]

2. Like product of free-machining hot-rolled carbon steel bar and rod

In these preliminary investigations, we are not persuaded that there is sufficient information to find that the like product is hot-rolled free-machining carbon steel bar and rod. We note, however, that based on the limited information available to the Commission, there appear to be

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[50] The Commission will seek to obtain further information in the final investigations concerning whether to combine hot-rolled carbon steel bars and hot-rolled carbon steel rods. In addition, the Commission will seek to obtain evidence regarding different types of special quality rods, including leaded and bismuth, other free-machining and non-free-machining special quality rods.

[51] The Commission's decision in the Tool Steels investigations illustrates how rod and bar have been combined in a single like product when their similarities outweigh their differences. In that investigation, the Commission determined that "the coiled configuration of the rod is the primary characteristic by which rod can be distinguished from bar." Id. at 8. The Commission found, however, that there was not a sufficient basis for finding separate bar and rod like products because "the bulk of the wire rod consumed in the United States, whether produced domestically or imported, has uses for which tool steel bar of the same metallurgical composition is equally useable."

considerable similarities between free-machining steels and the subject imports. Both have metallurgical characteristics which permit considerably easier and more precise machining or cutting of steel than other types of non-free-machining special quality bar or merchant quality steel. Moreover, free-machining non-leaded steels can and have been substituted with leaded and bismuth steels to produce similar end products. There is some evidence that all types of free-machining steels move in common channels of distribution -- primarily to cold-finishers (which further improve machinability characteristics) and then to machining companies for the machining of end products. There is limited evidence that cold-finishers sell and market non-leaded free-machining steels as part of a continuum of free-machining steels. Free-machining steels also appear to be manufactured using many of the same processes, equipment, and workers as leaded and bismuth carbon steels, including the addition of sulphur and/or phosphorus. Finally, the prices of certain hot-rolled free-machining carbon steels appear to be relatively close to those of leaded and bismuth carbon steels.[52]

3. **Like product proposed by petitioners**

We decline in these preliminary investigations to accept petitioners' suggested like product of hot-rolled leaded and bismuth carbon steel products.

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[52] Respondents UES and Thyssen argue that "free-machining" bars and rods are not a viable intermediate product "since leaded non-resulfurized grades are included in the product at issue in this case, but are not free-machining steel." However, as noted above, the HTSUS category for "free-cutting" carbon steel includes the 1000 series and 1500 series carbon grades with more than 0.10 percent lead added. Thus, a like product of "free-cutting" as defined by the HTSUS would encompass almost all of the products under investigation. While such non-resulphurized leaded steels may not be referred to as "free-machining," respondents' expert has indicated that the addition of lead significantly enhances machinability. The leaded 1000 series grade are referred to as "improved-machining steels." Preliminary Conference Exhibit 6, Statement of Derry Graham, at 3-5.

Petitioners justify this like product on primarily two factors: (1) the overwhelming demand by a single group of end users (machining establishments) for a product with enhanced machinability characteristics (cold-finished leaded and bismuth steel), and (2) dedicated portions of the production process for hot-rolled leaded and bismuth steel which are unique to the two U.S. producer petitioners. The Commission has been reluctant in past cases to create a like product based on minor metallurgical differences and distinct end uses.[53]

We also note that the dividing lines between hot-rolled leaded and bismuth carbon steel bar and rod and other types of hot-rolled special quality carbon steel bar and rod are not clear. For example, the production processes for making hot-rolled leaded and bismuth bar and rod and other types of special quality carbon steel are very similar. The record in these preliminary investigations indicates that the channels of distribution for leaded and bismuth steel are closely related to other types of special quality bar and rod; both move from producers or importers to cold-finishers and then on to end processors for machining. Moreover, the prices for the most widely used leaded hot-rolled carbon grade, 12L14, are very close to the prices for comparable 1215 grade series of special quality carbon steel.

4. **Like product(s) proposed by respondents**

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[53] See e.g., Tool Steels at 8, where the Commission declined to create separate like products for different types of tool steels which had distinct TSUS headings (high-speed, chipper knife blade, band saw, and other tool steel) as well as particular end uses and distinct metallurgical characteristics. See also, Polyethylene Terephthalate Film, Sheet, and Strip from Japan and the Republic of Korea, Invs. Nos. 731-TA-458 and 459 (Final), USITC Pub. 2383 (1991) (PET Film) at 10-11, where the Commission rejected an argument for the creation of a number of separate like products for different types of PET films which had distinct chemical properties and end uses. The Commission reasoned that the different types of PET film were "gradations along a spectrum of attributes."

We also conclude that respondents' proffered like product of all hot-rolled carbon steel bar and/or rod is overly broad. Respondents urge the Commission to adhere to its preliminary determinations made in the first half of the 1980s when the Commission found separate like products for hot-rolled carbon steel bar and for hot-rolled carbon steel wire rod.[54] The Commission, however, indicated that it was not making a firm conclusion regarding the nine separate like product categories, and emphasized that it lacked sufficient information to make further distinctions:

> Within each of the product categories there may be distinct characteristics and uses for items with differing specifications, but we lack sufficient information in these preliminary investigations to make any meaningful distinctions among them. There generally appear to be no clear dividing lines among the products in each group, and therefore each category will be treated as a like product.[55]

Each investigation before the Commission is sui generis.[56] Indeed, these investigations present the Commission with precisely the type of "distinct characteristics and uses for items with differing specifications" which the Commission contemplated could result in more narrowly-drawn like

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[54] In 1978 and 1982, the Commission found hot-rolled carbon steel bars to be a single like product. 1982 Steel Investigations; Carbon Steel Bars and Carbon Steel Strip from the United Kingdom, AA1921-Inq.-8 and AA1921-Inq.-9 (Preliminary), USITC Pub. 855 (Feb. 1978).

In a series of cases from 1982 through 1985, the Commission found separate like products for low, medium-high, and high carbon hot-rolled steel wire rods. However, the Commission applied a product line analysis pursuant to 19 U.S.C. § 1677(4)(D), and assessed the issues of material injury and causation based on an industry of all hot-rolled carbon steel wire rods. See e.g., Carbon Steel Wire Rod from Poland, Portugal, and Venezuela, Invs. Nos. 731-TA-256 through 258 (Preliminary), USITC Pub. 1701 (May 1985); Carbon Steel Wire Rod from the German Democratic Republic, Inv. No. 731-TA-205 (Preliminary), USITC Pub. 1607 (November 1984); Carbon Steel Wire Rod from Argentina, Mexico, Poland, and Spain, Invs. Nos. 731-TA-157-160 (Preliminary), USITC Pub. 1476 (January 1984).

[55] 1982 Steel Investigations, Vol. I at 15.

[56] See e.g., Torrington Co. v. United States, Slip Op. 92-49(CIT)(April 3, 1992), at 14-15.

products in its decision in the 1982 Steel Investigations.

In declining to accept respondents' suggested like product in these preliminary investigations, we recognize that there are some traditional like product factors which support a like product combining all hot-rolled carbon steel bar and rod (merchant and special quality). For example, all hot-rolled carbon steel bar and rod consist of essentially the same product -- carbon steel -- made by the same workers, using the same basic steelmaking equipment, and applying the same basic techniques of teeming liquid steel to form ingots, blooms, and billets. All hot-rolled carbon steel bar is hot-rolled on the same rolling equipment, but special quality hot-rolled bar is hot-rolled using different rolling speeds, techniques, and inspections.

We have also considered, however, that while the same workers produce all types of hot-rolled carbon steel bar and/or rod, they also typically produce hot-rolled alloy steel bar and/or rod -- traditionally considered a separate industry.[57] These distinct types of hot-rolled carbon steel bar and rod generally are not marketed by producers or perceived by intermediate or end users to be similar. They also are sold in a number of different channels of distribution. Finally, there are considerable differences in prices between the different types of hot-rolled carbon steel bar and rod reflecting distinct metallurgy, handling, inspection, and conditioning. In sum, we find a clear distinction between hot-rolled merchant quality and hot-rolled special quality bar and rod, which does not justify a single like product consisting of all hot-rolled carbon steel bar and rod.

5. **Like product conclusion**

We believe that the record before the Commission provides support for

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[57] 1982 Steel Investigations, Vol. I at 11.

several different definitions of the like product. However, the Commission lacks detailed information concerning, among other things, prices, interchangeability, and consumer perceptions regarding the various categories of hot-rolled carbon steel bar and rod. We intend to examine in detail alternative like products in any final investigations.

Based on the best information available information in these preliminary investigations, we find that there is not a clear dividing line between hot-rolled leaded and bismuth carbon steel bar and rod and hot-rolled special quality carbon steel bar and rod as sought by the petitioner. Accordingly, we find a like product of hot-rolled special quality carbon steel bar and rod.[58] Thus, we determine that the domestic industry consists of the domestic producers of hot-rolled special quality carbon steel bar and rod.

III. CUMULATION

The Commission "shall cumulatively assess the volume and effect of imports from two or more countries of like products subject to investigation if such imports compete with one another and with the like product of the domestic industry in the U.S. market."[59] The Commission has cumulated the volume and effect of imports from more than one country in cases in which imports satisfy the following three criteria: (1) they compete with other imported products and with the like domestic product; (2) they are marketed within a reasonably coincidental period; and (3) they are subject to

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[58] We also intend to explore in any final investigations whether the like product should include semi-finished carbon steels or hot-rolled alloy steels.

[59] 19 U.S.C. § 1677(7)(C)(iv).

investigation.[60]

The Commission is not required to cumulate those imports of merchandise from a particular country subject to investigation that it determines are negligible and have no discernible adverse impact on the domestic industry.[61] In determining whether imports are negligible, the Commission considers all relevant economic factors including whether:

> (I) the volume and market share of the imports are negligible,
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> (II) sales transactions involving the imports are isolated and sporadic, and
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> (III) the domestic market for the like product is price sensitive by reason of the nature of the product, so that a small quantity of imports can result in price suppression or depression.[62]

Given the Commission's finding in these preliminary investigations that the domestic industry comprises producers of hot-rolled special quality carbon steel bar and rod, there is an issue whether imports from any of the countries under investigation are negligible. We note that the individual market shares of apparent domestic consumption of hot-rolled special quality carbon steel bar and rod of the imports of the subject products from three of the countries under investigation (which are confidential) are at levels which the

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[60] See e.g., Coated Groundwood Paper from Austria, Belgium, Finland, France, Germany, Italy, the Netherlands, Sweden and the United Kingdom, Invs. Nos. 731-TA-486-494 (Preliminary), USITC Pub. 2389 (Feb. 1991), at 28-39.

[61] 19 U.S.C. § 1677(7)(C)(V).

[62] 19 U.S.C. § 1677(7)(C)(V). Both the House Ways and Means Committee Report and the Conference Report stress that the Commission is to apply the exception narrowly and that it is not to be used to subvert the purpose and general application of the mandatory cumulation provision of the statute. See H.R. Rep. No. 40, Part 1, 100th Cong., 1st Sess. 141 (1987); H.R. Rep. No. 576, 100th Cong., 2d Sess. (1988) at 621. The House Ways and Means Committee Report further emphasizes that whether imports are "negligible" may differ from industry to industry and, for that reason, the statute does not provide a specific numeric definition of negligibility. Id. at 131. See also Torrington, Slip. Op. at 19-20.

Commission in certain previous investigations has determined to be negligible. However, because of uncertainty regarding the like product in any final investigations, we have determined for the purposes of these preliminary investigations to cumulate all four countries under investigation.[63]

IV. CONDITION OF THE INDUSTRY

In assessing whether there is a reasonable indication of material injury to a domestic industry by reason of allegedly subsidized and dumped imports, the Commission is instructed to consider "all relevant economic factors which have a bearing on the state of the industry in the United States . . . ."[64] In undertaking that assessment, we consider, among other relevant factors, U.S. consumption, production, shipments, capacity utilization, employment, wages, financial performance, capital investment, and research and development expenses.[65] [66] In each investigation, the Commission considers the particular nature of the industry under investigation[67] in the "context of the business cycle and conditions of competition that are distinctive to the affected industry."[68]

Apparent U.S. consumption of hot-rolled special quality carbon steel bar

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[63] We note that if the like product were defined more narrowly, then the likely levels of the import share of apparent domestic consumption would not be at levels where the Commission previously has applied the negligibility exception pursuant to 19 U.S.C. § 1677(7)(C)(v).

[64] 19 U.S.C. § 1677(7)(C)(iii).

[65] See 19 U.S.C. § 1677(7)(C)(iii).

[66] Chairman Newquist and Commissioner Nuzum note that no single factor is considered dispositive in evaluating the condition of the industry.

[67] See 19 U.S.C. § 1677(7)(C)(iii). See also H.R. Rep. No. 317, 96th Cong., 1st Sess. 36; S. Rep. No. 249, 96th Cong., 1st Sess. 88.

[68] 19 U.S.C. § 1677(7)(C)(iii).

and rod was constant between 1989 and 1990, but decreased between 1990 and 1991. The U.S. producers' market share by volume of hot-rolled special quality carbon steel bar and rod remained relatively constant at 86.7 percent between 1989 and 1990, decreased to 84.4 percent in 1991, and increased to 87.5 percent in the first quarter of 1992.[69]

The consumption of hot-rolled special quality carbon steel bar and rod is largely driven by the demand from parts suppliers or original equipment manufacturers for components for incorporation in such end products as automobiles and appliances, the production of which declined between 1990 and 1991.

The domestic industry's capacity utilization increased slightly between 1989 and 1990 from 45.1 to 45.4 percent, before declining to 41.0 percent in 1991, and increased to 45.6 percent in the first quarter of 1992.[70] The U.S. industry's shipments decreased between 1989 and 1990, and again between 1990 and 1991, and then increased in the first quarter of 1992 on an annualized basis. While the number of production and related workers decreased during the period of investigation, the hourly wages paid increased. End-of-period inventories increased throughout the period of investigation.

Overall profitability for that portion of the domestic industry

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[69] Report B-63, Table E-16. The market share for imports of hot-rolled special quality carbon steel bar and rod from all countries (not limited to the countries under investigation) totalled 13.3 percent in 1989, 13.2 percent in 1990, and 15.6 percent in 1991. Id.

[70] We note that information regarding capacity utilization figures for hot-rolled special quality carbon steel bar and rod must be viewed with considerable caution. U.S. producers responding to the Commission's questionnaire indicated that because their bar and rod mills are capable of producing all hot-rolled carbon and alloy steel products, they have encountered difficulties in allocating capacity to hot-rolled lead and bismuth, as well as to other carbon steel products, including special quality. Report A-27.

providing information[71] declined over the period of investigation, as did net sales and the ratio of gross profit to net sales. The cost-of-goods sold stayed approximately the same between 1989 and 1990, but dropped slightly between 1990 and 1991.

In the event of any final investigations, we intend to collect additional data regarding the operation of U.S. mini-mills[72] producing hot-rolled special quality carbon steel bar and rod, as well as more particular information regarding operating income margins, return on total assets or cash flows, capital expenditures, and the amount spent on research and development. We also intend to collect additional information regarding the domestic industry's costs of manufacturing different types of hot-rolled special quality carbon steel bar and rod and any information related to the business cycle and conditions of competition distinctive to this industry.

V. REASONABLE INDICATION OF MATERIAL INJURY BY REASON OF ALLEGED SUBSIDIZED AND LTFV IMPORTS

In determining whether there is a reasonable indication of material injury that the domestic industry is materially injured by reason of the

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[71] We note that a number of so-called U.S. steel "mini-mills" which produce hot-rolled special quality carbon steel bars and rods did not provide information concerning their production, sales, profits, pricing or other information relevant to these investigations. The Commission will seek such information in any final investigations.

[72] The concept of "mini-mills" has undergone substantial changes in the past several decades. In the 1960s, the term referred to scrap-based, electric arc furnace steelmakers with a production capacity of up to 100,000 tons of raw-steel making capacity, and a limited product mix of primarily merchant quality steels that served a market located within a 200 to 300 mile radius from the mill. In the past decade, however, mini-mills encompass mills that usually bypass the first three steps of steelmaking (iron ore processing, cokemaking, and ironmaking) and use scrap as the primary raw material in electric arc furnaces, but which now produce more technologically demanding products such as structurals and flat-rolled products, special quality bar and rod in a much broader, sometimes nationwide, geographic area.

imports under investigation, the statute directs the Commission to consider:

> (I) the volume of imports of the merchandise which is the subject of the investigation,
>
> (II) the effect of imports of that merchandise on prices in the United States for like products, and
>
> (III) the impact of imports of such merchandise on domestic producers of like products, but only in the context of production operations within the United States.[73]

In making this determination, the Commission may consider "such other economic factors as are relevant to the determination . . . ."[74] Although we may consider information that indicates that injury to the industry is caused by factors other than the LTFV imports, we do not weigh causes.[75]

The subject imports' share of apparent domestic consumption remained below 5.0 percent during the period of investigation, increasing between 1990-1991, and decreasing during the first quarter of 1992.[76] In considering the impact of this level of imports on prices and the domestic industry, we find our analysis is severely limited because of the absence of comprehensive information regarding the impact of the subject imports on the U.S. hot-rolled special quality carbon steel bar and rod industry.[77]

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[73] 19 U.S.C. § 1677(7)(B)(i).

[74] 19 U.S.C. § 1677(7)(B)(ii).

[75] Chairman Newquist and Commissioner Nuzum further note that the Commission need not determine that imports are "the principal, a substantial or a significant cause of material injury." S. Rep. No. 249, 96th Cong., 1st Sess. 57 and 74 (1979). Rather, a finding that imports are a cause of material injury is sufficient. See, e.g., Metallverken Nederland, B.V. v. United States, 728 F. Supp. 730, 741 (CIT 1989); Citrosuco Paulista S.A. v. United States, 704 F. Supp. 1075, 1101 (CIT 1988).

[76] Id. at B-68, Table E-27.

[77] Vice-Chairman Brunsdale and Commissioner Crawford note that it is possible that additional information will be obtained to justify a different like

(continued...)

In any final investigations, we will obtain information regarding whether various possible domestic industries have been materially injured by reason of alleged subsidized and LTFV imports. In particular, we will seek information concerning prices, substitutability, and fungibility of the subject imports and other types of hot-rolled special quality carbon or alloy steel bar and rod. The Commission will examine whether a number of U.S. mini-mills producing various types of hot-rolled special quality carbon steel bar and/or rod have been materially injured by reason of the subject imports. In addition, the Commission will request information concerning the price sensitivity or lost sales of different types of hot-rolled special quality carbon steel bar or rod steel. [78] The Commission also will assess the significance of petitioner Bethlehem Steel's scheduled departure from hot-rolled carbon steel bar and rod production.

After weighing the evidence in the record and in light of the lack of complete information with respect to a definition of the like product, we do not find that (1) the record as a whole contains clear and convincing evidence that there is no material injury; and (2) no likelihood exists that any contrary evidence will arise in a final investigation.[79] For all the reasons

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[77] (...continued)
product in any final investigations. Accordingly, even if such information were available, their preliminary determinations would not change.

[78] Vice-Chairman Brunsdale and Commissioner Crawford consider the additional factor of the availability of substitutes for the like product. In this case, most of the subject hot-rolled bar and rod is cold-finished. Certainly, any imported cold-finished lead and bismuth bar and rod could substitute for the subject imports that are further processed. In all potential like product categories, we do not have information to determine whether imported downstream products actually compete with the like product. We believe this would be useful information for any final investigations.

[79] American Lamb at 1001. See also Calabrian Corporation v. United States International Trade Commission, Slip Op. 91-51 (CIT 1991).

set forth above, we determine that there is a reasonable indication that the domestic industry producing hot-rolled special quality carbon steel bar and rod is materially injured by reason of imports of hot-rolled leaded and bismuth carbon steel bar and rod from Germany, Brazil, France, and the United Kingdom.[80]

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[80] Chairman Newquist and Commissioner Nuzum emphasize the need for further factual information and argument concerning the appropriate like product definition in any final investigation, and note that, in part, their affirmative determinations here reflect a reluctance to terminate these investigations prior to the development of a more complete record to support an appropriate like product determination. In voting to continue these investigations, they are mindful of the fundamental importance of the definition of the like product to the disposition of an investigation, and of the implications which their decision on this issue has for the Commission's analytical approach to cases involving steel products.

Chairman Newquist and Commissioner Nuzum also note for the record that, had they concluded that the like product is as proposed by the petitioner, the record in these investigations supports affirmative preliminary determinations.

VIEWS OF COMMISSIONER DAVID B. ROHR

I determine that there is a reasonable indication that an industry in the United States is materially injured by reason of imports of leaded and bismuth hot-rolled carbon steel bars and rods from Brazil, France, Germany, and the United Kingdom that are alleged to be both subsidized and sold at less than fair value (LTFV).

I. LEGAL STANDARD IN PRELIMINARY DETERMINATIONS

The legal standard applicable to preliminary title VII investigations requires me to determine whether, based on the best information available at the time of the preliminary determination, there is a reasonable indication of material injury or threat thereof to a domestic industry or material retardation of the establishment of such an industry by reason of the subject imports.[1] In American Lamb Co. v. United States,[2] the Federal Circuit addressed this standard. The Court held that the Commission may weigh the evidence it has obtained and must, in order to reach a negative preliminary determination, determine whether "(1) the record as a whole contains clear and convincing evidence that there is no material injury or threat of such injury; and (2) no likelihood exists that contrary evidence will arise in a final investigation."[3]

II. LIKE PRODUCT

My first task in determining whether an industry in the United States is materially injured or is threatened with material injury by reason of the subject imports is to define the

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[1]See 19 U.S.C. § 1673b(a). See also Maverick Tube Corp. v. United States, 687 F. Supp. 1569, 1573 (CIT 1988). Material retardation is not an issue in this investigation.

[2]785 F.2d 994 (Fed. Cir. 1986).

[3]Id. at 1001-1004.

"like product" and the "domestic industry."[4] These definitions begin with the articles subject to investigation. The like product as defined by the Commission may be broader than the articles defined in the Department of Commerce's (Commerce) notice of the scope of the investigation or the articles may be divided into several separate like products. Commerce has defined the class or kind of merchandise subject to investigation as follows:

> [H]ot-rolled bars and rods of nonalloy or other alloy steel, whether or not descaled, containing by weight 0.03 percent or more of lead or 0.05 percent or more of bismuth, in coils or cut lengths, and in numerous shapes and sizes. Excluded from the scope of these investigations are other alloy steels (as defined by the Harmonized Tariff Schedule of the United States, (HTSUS) Chapter 72, note 1 (f)), except steels classified as other alloy steels by reason of containing by weight 0.4 percent or more of lead, or 0.1 percent or more of bismuth, tellurium, or selenium. Also excluded are semi-finished steels and flat-rolled products.

The hot-rolled lead and bismuth carbon steel products ("leaded steel") covered by these investigations include both hot-rolled carbon steel bars[5] and hot-rolled carbon steel rods[6].

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[4] Section 771(4)(A) of the Tariff Act of 1930 (the "Act") defines the relevant industry as the "domestic producers as a whole of a like product, or those producers whose collective output of the like product constitutes a major proportion of the total domestic production of that product . . . ." In turn, the statute defines "like product" as "a product which is like, or in the absence of like, most similar in characteristics and uses with, the article subject to an investigation . . . ." 19 U.S.C. § 1677(10). The Commission's determination of what is the appropriate like product or products in an investigation is a factual determination, to which we apply the statutory standard of "like" or "most similar in characteristics and uses" on a case-by-case basis. In analyzing like product issues, the Commission generally considers a number of factors including: (1) physical characteristics and uses; (2) interchangeability of the products; (3) channels of distribution; (4) customer and producer perceptions of the products; (5) the use of common manufacturing facilities and production employees; and where appropriate, (6) price.

[5] "Hot rolled bars" are defined as hot-rolled products whether or not in irregularly wound coils, which have a cross section along their length in shapes (and sizes) that include, but are not limited to: circles or segments of circles (coils having a diameter from 0.75 to 12 inches, and cut-lengths having a diameter from 0.20 to 12 inches), rectangles (including squares from 0.20 to 4-1/16 inches between parallel surfaces). As used herein, such products do not include reinforcing bars. Report at B-14.

[6] "Hot-rolled rods" are defined as coiled, semifinished, hot-rolled products of solid cross section, approximately round in cross section, not under 0.20 inches nor over 0.74 inch in diameter. These products do not include reinforcing rods. Report at B-14.

Leaded steels contain small additions of lead and bismuth to base grades[7] of carbon and certain alloy steels to improve the "machinability" of the steel. Machinability is that combination of physical and metallurgical properties that affects response to removal by a cutting tool.[8] The lead and bismuth additives increase the speed of removal of relatively large amounts of metal, improve the surface finish of the finished parts, reduce machine tool wear and energy expenditure, and reduce tool creep on automatic screw machines, lathes, and drill presses.

Leaded steels are part of a group of steels, termed "free machining," or "free cutting" steels.[9] Free-machining steels begin with base grade metals that are either resulfurized (sulphur added), rephosphorized (phosphorus added), renitrogenized (nitrogen added), or which have had lead, bismuth, selenium or tellurium added.[10] The basic characteristic of all free-machining steels is that they are easier to machine, forge, or cut than other types of carbon steel.

Free-machining steels are part of another, broader group of hot-rolled carbon steel products referred to as special quality bars and special quality rods ("special quality steels").[11] These products are manufactured from a type of carbon steel that is dependent upon tightly

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[7] Carbon and certain alloy steels are categorized according to their chemical content. The primary elements that are specified are carbon, manganese, phosphorus, and sulphur for carbon steels, and nickel, chromium, and molybdenum for alloy steels. Carbon steel "base" grades include the 1000, 1100, 1200, and 1500 series. Alloy steel grades include the 1300, 4000, 4100, 4300, 4400, 4600, 4800, 5000, 5100, 5200, 6100, 8100, 8600, 9200, and 9300 series.

[8] Report at B-16. Machinability. Id. at A-13.

[9] The term "free machining" is typically used in the United States and "free cutting" is also used interchangeably in other countries. Report at A-6; Transcript of the preliminary conference, May 4, 1992 ("Tr.") at 77.

[10] Tr. at 77; Indeed, respondents' expert Mr. Graham stated that "the fundamental means of improvement [of machinability] is to add sulphur . . . [t]ypically to the level of .26 to .35 percent from the base steel level of .02 to .04 percent." In addition, in higher carbon steels, calcium is added to facilitate the cutting with carbide tools. Tr. at 109-111. See also, HTSUS, Chapter 72, subheading Note 1(b).

[11] These products can also be referred to as "engineered steels."

controlled chemical composition and quality, usually made to customer specifications.[12] Special quality steels are used when the application, method of fabrication, or subsequent processing treatment requires special quality characteristics. All other bars and rods are referred to as merchant quality products. "Merchant" quality bars and rods generally are manufactured for non-critical uses, in limited size ranges, and of a type of steel applied at the producer's option.[13]

Leaded steels are sold primarily to cold-finishers, who in turn sell the product to screw machine establishments. Other types of hot rolled free-machining steels produced or imported into the United States are also purchased by cold-finishers who further process it into cold-finished free machining steels for sale to screw machine and forging companies, and others including the automotive industry for machining or forging of components used in end products. Other forms of hot-rolled special quality steels may undergo further processing including cold treating, drawing, and heat treating.

Petitioners assert the like product should be all domestically produced leaded steels, including alloy steels with 0.40 percent or more of lead or 0.10 percent or more of bismuth, tellurium, or selenium, which would otherwise be classified as alloys under HTSUS Chap. 72, note 1(f), and carbon steel rods and bars.[14] This definition of the like product corresponds exactly with the articles subject to the investigation as defined by Commerce. Respondents argue that there is no "bright line" between leaded steels and other types of hot rolled carbon

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[12] Id. at B-16.

[13] Id. at B-17. None of the products under investigation are considered "merchant" quality.

[14] Petition at 6-8; Letter from petitioner's counsel to Secretary of Commerce dated April 28, 1992. The Commission is bound by Commerce's class or kind determination as to what imported products are subject to investigation, but the Commission alone determines which domestic products are like those imported products within Commerce's scope. Algoma Steel Corp., Ltd. v. United States, 12 CIT 518, 688 F. Supp. 639 (1988), aff'd 865 F.2d 240 (Fed. Cir. 1988), cert. denied, 109 S.Ct. 3244 (1989).

In a number of previous investigations, the Commission has defined the like product more broadly than Commerce's scope. See e.g., Heavy Forged Handtools from the People's Republic of China, Inv. No. 731-TA-457 (Final), USITC Pub. 2357 (Feb. 1991).

steel bars and rods.[15]

I agree with my colleagues that the information which has been gathered in this preliminary investigation points to four principle like product definitions. These are:

1. All hot rolled carbon steel bar and/or rod;
2. Special Quality bar and/or rod
3. Free-Machining bar and/or rod
4. Leaded and bismuth bar and/or rod

Each of the possible definitions includes the subsidiary issue of whether bars should be included in the same like product as rods or broken out as a separate like product as well.

To begin I note that petitioners argued strongly for option 4 while respondents argued strongly for option 1 and that neither side proposed options 2 or 3. I believe that the evidence already obtained in this investigation strongly indicates that neither option 1 nor option 4 is appropriate.

First, with respect to respondents' suggestion that the appropriate like product should be all hot-rolled carbon steel bars and/or rods, I find, on the basis of the information in this preliminary investigation, that such a like product is overly broad. Respondents' suggestion is based principally on the preliminary determinations made by the Commission in the early 1980's when the Commission found separate like products for hot-rolled carbon steel bars, and hot-rolled carbon steel wire rods.[16] That Commission, however, made it clear that it was not

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[15] Respondents UES and Thyssen argue for the definition of two separate like products: all hot-rolled carbon steel bars, and all hot-rolled carbon steel rods should be separate like products. Respondents Usinor Sacilor, Unimetal, Ascometal, and Saarsstahl AG and the Brazilian respondents argue that all hot-rolled carbon rods and bars should be defined as a single like product.

[16] In 1978 and 1982, the Commission found hot-rolled carbon steel bars to be a single like product. Certain Steel Products from Belgium, Brazil, France, Italy, Luxembourg, the Netherlands, Romania, the United Kingdom, and West Germany, Invs. Nos. 701-TA-86 through 144, 701 TA-146, and 701-TA-147 (Preliminary), and Invs. Nos. 731-TA-53 through 86 (Preliminary), USITC Pub. 1221 (Feb. 1982) ("1982 Steel Investigations"); Carbon Steel Bars and Carbon Steel Strip from the United Kingdom, AA1921-Inq.-8 and AA1921-Inq.-9 (Preliminary), USITC Pub. 855 (Feb. 1978).

In a series of cases from 1982 through 1985, the Commission found, using the product line analysis of 19 U.S.C. § 1677(4)(D), that hot-rolled carbon steel wire rod was the industry for which there was available data to assess material injury and causation. See e.g., Carbon Steel Wire Rod from Poland, Portugal, and Venezuela, Invs. Nos. 731-TA-256 through 258 (Preliminary), USITC Pub. 1701 (May 1985); Carbon Steel Wire Rod from the German Democratic Republic, Inv. No. 731-TA-205 (Preliminary), USITC Pub. 1607 (Nov. 1984); Carbon Steel Wire Rod from Argentina, Mexico, Poland, and Spain, Invs. Nos. 731-TA-157-160

making a firm conclusion regarding the nine separate like product categories, and emphasized that it lacked sufficient information to make further distinctions:

> Within each of the product categories there may be distinct characteristics and uses for items with differing specifications, but we lack sufficient information in these preliminary investigations to make any meaningful distinctions among them. There generally appear to be no clear dividing lines among the products in each group, and therefore each category will be treated as a like product.[17]

Each investigation must be decided by the Commission on the basis of the specific facts on the record in that investigation.[18] Much of the information developed in these investigations goes precisely to the type of "distinct characteristics and uses for items with differing specifications" which the Commission contemplated could result in more narrowly drawn like products in the 1982 Steel Investigations.

Because the articles subject to this investigation are a type of steel bars and rods, they share certain characteristics and uses with all other steel bars and rods, just as they have certain characteristics and uses that distinguish them from other steel bars and rods. For example, both hot-rolled carbon steel bars and rods consist of essentially the same product -- carbon steel -- made by the same workers, using the same basic steelmaking equipment, applying the same basic techniques of teeming liquid steel to form ingots, blooms, and billets. All hot-rolled carbon steel bars are hot-rolled on the same basic types of rolling equipment.

We have also considered, however, that while the same workers produce all types of carbon bar, they also typically produce hot-rolled alloy steel bars -- traditionally considered a separate industry.[19] While the rolling equipment is similar, certain types of bars require special techniques and or inspection to ensure their particular qualities. The distinct types of hot-rolled carbon steel bars and rods are generally not marketed by producers or perceived by intermediate or end users to be similar, and they are sold in a number of different channels

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(Preliminary), USITC Pub. 1476 (Jan. 1984); Carbon Steel Wire Rod from Brazil and Trinidad and Tobago, Invs. Nos. 731-TA-113 (Final) and 114 (Final), USITC Pub. 1444 (1983).

[17] 1982 Steel Investigations at 15.

[18] See e.g., Torrington Co. v. United States, Slip Op. 92-49 (CIT April 3, 1992), at 14-15.

[19] 1982 Steel Investigations, Vol. I at 11.

of distribution. Finally, there are considerable differences in prices between the different types of hot-rolled carbon steel bars and rods reflecting distinct metallurgy, handling, inspection, and conditioning.

I have also decided that petitioners' suggested like product of leaded steels is not appropriate. Such a like product is justified, according to petitioners, on primarily two factors: (1) the overwhelming demand by a single group of end users (machining establishments) for a product with enhanced machinability characteristics (cold-finished leaded and bismuth steel), and (2) dedicated portions of the production process for hot-rolled leaded and bismuth steel which are unique to the two U.S. producer-petitioners.

The Commission has been reluctant in past steel cases to create a like product based on minor metallurgical differences.[20] Further, the machinability criteria relied upon by petitioners to distinguish the use of leaded steels from other steels, particularly the other free machining steels, appear to me to be primarily a matter of degree that does not provide the kind of "bright line" that the statute and the Commission have traditionally sought in making like product distinctions. The evidence already adduced in this investigation thus does not support the break out of leaded steels as a separate like product.

The like product issue thus resolves itself into the issue of whether it is better to define the like product at the level of special quality steel or free machining steel. To begin with the broader category of special quality steel, I note that this is the like product chosen by my colleagues for purposes of this preliminary investigation. I generally agree with their analysis which distinguishes special quality steel from merchant quality steel. This analysis is contained at section II(a)(2) of the majority's opinion.

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[20] See e.g., Tool steels, at 8, where the Commission declined to create separate like products for different types of tool steels which had distinct TSUS headings (high-speed, chipper knife blade, band saw, and other tool steel) as well as particular end uses and distinct metallurgical characteristics. See also , Polyethylene Terephthalate Film, Sheet, and Strip from Japan and the Republic of Korea, Invs. Nos. 731-TA-458 and 459 (Final), USITC Pub. 2383 (1991)(PET Film), at 10-11, where the Commission rejected an argument for the creation of a number of separate like products for different types of PET films which had distinct chemical properties and end uses. The Commission reasoned that the different types of PET film were "gradations along a spectrum of attributes."

The factors which distinguish special quality steels from merchant quality steels, as explained in the majority's opinion, are, of course, equally applicable to distinguishing free machining steels from these other steels. The question thus becomes whether there are distinctions between free machining steels and other special quality steels that are sufficiently clear to warrant the treatment of free machining steels as a separate like product from other special quality steels.

My colleagues believe that the information currently available to the Commission is insufficient to support such a distinction. I disagree. The Commission has on hand a considerable amount of information regarding the similarities and differences between free machining steels and other types of steels. I conclude that the weight of this information supports a determination that free machining steels should be treated as a separate like product. I summarize this information below.

a. *Physical characteristics and end uses*

A "free cutting" or "free machining" steel means a steel which has been specially designed for and can be easily machined.[21] As indicated above, free-machining steels are base grade metals to which one or more additives, such as sulphur, phosphorus, nitrogen, lead, bismuth, selenium, or tellurium have been added.[22] Respondents stated that "the fundamental means of improvement [of machinability] is to add sulphur . . . [t]ypically to the level of .26 to .35 percent from the base steel level of .02 to .04 percent."[23] In addition, in higher carbon steels, calcium is added to facilitate the cutting with carbide tools.[24]

Free machining carbon steels, unlike leaded and bismuth steels, are categorized in a separate HTSUS heading. The HTSUS segregates "free-cutting" steels from forged bars and rods, concrete reinforcing bars and rods, and "other" types of carbon bars in different

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[21] Tr. at 77; The term free machining is typically used in the United States and "free cutting" is also used interchangeably in other countries. Id., Report at A-6.

[22] Tr. at 77.

[23] Tr. at 126.

[24] Tr. at 109-111.

thicknesses and shapes.[25]

Petitioners' suggested like product -- which includes leaded, bismuth, tellurium and selenium steels -- would be encompassed almost completely[26] within this definition with the exception of the leaded alloy steels with 0.4 percent or more of lead, and bismuth alloy steels which contain more than 0.1 percent of bismuth.[27] Thus, the only free-cutting steel which petitioner seeks to exclude from the like product is the resulfurized free-cutting steel. Resulfurized steel, however, was the original free-machining steel. In the 1870's it was discovered by accident that steel bars containing higher sulphur levels machined better than identical steel containing much lower levels.[28] Over half of the free-machining steels projected to be consumed by U.S. cold finishers over 120 years later were exactly such resulfurized, non-leaded steels.[29]

Free-machining non-leaded steels are used for end uses which require some machining and cutting of the bar or rod stock. While leaded steels generally have higher machinability ratings than non-leaded free-machining steel, the free-machining resulfurized steel is

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[25] HTSUS numbers 7213.31.30, 7231.60, 7213,39, 7214.10, 7214.20, 7214.40, 7214.50, and 7214.60. Free-cutting steels are defined in the Subheading Note 1(b), as follows:

Nonalloy free-cutting steel

Nonalloy steel containing by weight one or more of the following elements in the specified proportions:

- 0.08 percent or more of sulfur
- 0.1 percent or more of lead
- more than 0.05 percent of selenium
- more than 0.01 percent of tellurium
- more than 0.05 percent of bismuth.

[26] The only products under investigation that are not included within the HTSUS definition are leaded steels with less than 0.1 percent of lead or more than 0.4 percent or 0.1 percent bismuth, tellurium or selenium, which are considered alloy steels. However, the bulk of the leaded steels imported and consumed in the U.S. are not alloy steels, but rather the 12L14 series.

[27] Petition at 6-8; Letter dated April 28, 1992 from petitioner's counsel to the Secretary of Commerce.

[28] UES Preliminary Conference exhibit 7, Statement of Michael O. Holowaty, at 1.

[29] UES Brief, exhibit 2.

significantly more machinable than non-free-machining steel of a comparable hardness and strength.[30] Generally, leaded free-cutting steel is used when more than 30 percent of the stock must be removed, while non-leaded free-cutting steels are used where less intensive cutting is required.[31] However, there are instances in which non-leaded steel may be more appropriate for the end use even where a great deal of machining is required.[32] Sometimes, leaded steels are not used specifically due to environmental considerations that disfavor lead.[33] In addition, recent developments in cold finishing techniques have produced some specially selected free-machining non-leaded carbon steels with machinability ratings comparable to those of corresponding leaded grades.[34] The evidence thus indicates clearly the specific physical characteristics and uses which distinguish free machining steels from other special quality steels.

b. *Interchangeability*

All steels, irrespective of grade or content, are machinable to some degree.[35] The machinability of the base steel is largely dictated by the engineering requirements for the end product.[36] However, free-machining steels are used when any significant portion of the end product must be removed. Generally, free machining steels are used where end parts are manufactured in a rapid, high volume manner, and a considerable amount of steel must be

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[30] UES Conference exhibit 6, figure 6, Statement of Derry Graham.

[31] Tr. at 89. Nevertheless, Joseph Alvarado, Inland's representative, testified that "we could make this part [holding up a heavily machined part] out of any grade of steel once it makes the physical properties." Id.

[32] Saarstahl Brief at 11-12, exhibit 2 thereto at 581.

[33] Graham Statement at 7. However, Paul Darling of the Corey Steel Company testified that there were considerable production and quality problems with using non-leaded free cutting steel and that a "lot of the customers that have attempted to steer away from the leaded product have been all brought back to the leaded product for the very reasons that they went into the leaded product with which to begin." Tr. at 94.

[34] Id. at exhibit 4; Cf. Tr. at 93.

[35] Report at A-6.

[36] Id.

removed.[37] There is no evidence to suggest that screw machine shops, or any other end users who must cut considerable portions of end products use now, or in the recent past have used anything but free machining steels. Free cutting steels are also not interchangeable with non-free cutting steels because of their ability to prevent or control a "built-up edge" on the surface of the cutting tool which impacts the tightness of the specification and surface finish of heavily machined end products.[38] An expert at the preliminary conference testified that "it's extremely difficult to eliminate built-up edge in a non-free machining steel. . ."[39]

The relative machining performances of various free cutting carbon steels available on the market are "substantially interchangeable;" i.e., "the same final components can be produced from many of the different steel grade options."[40] The principle difference between the performance of different free machining steels is the amount of time to machine each component -- leaded resulphurized with tellurium added was the fastest, followed by leaded resulphurized, and then by the resulphurized free-cutting steel.[41]

c. *Channels of distribution*[42]

All types of free-cutting steels, including leaded steels, are distributed primarily through the same channels of distribution: from hot-rolled steel producers to cold finishers

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[37] Report at A-13.

[38] Tr. at 95-96. Mr. Christopher stated that "resulphurized steels will still have some degree of built-up edge. It's less, with a resulphurized steel and you can more easily control built-up edge by manipulating your machining parameters, primarily the cutting speed, with a resulphurized steel than you can with an unleaded or non-free machining grade."

[39] Tr. at 96.

[40] UES Conference Exhibit 6, Statement of Derry Graham, at 6. With respect to the issue of whether free cutting carbon steel should be a separate like product, it is noteworthy that in all of the comparisons with leaded and bismuth steel performed by the respondents' expert Mr. Graham, he always used other free cutting non-leaded steel, not non-leaded, non-free cutting steel. Id. at 6-7.

[41] Id. citing figure 6.

[42] The Staff Report contains no information concerning the channels of distribution for free-machining steel. In any final investigations, this issue will have to be explored in greater detail.

to screw machine shops or other end users who machine steel.[43] Cold finishers also purchase and process non-free-machining steels.[44] By contrast, non-free cutting carbon steels are shipped from U.S. producers to a wide variety of intermediate and end users.[45]

d. *Customer perceptions*

U.S. cold-finishers, the primary purchasers of free-machining steel, market all types of free-machining steels. Marketing literature from the Cold-Finished Steel Bar Institute reveals a continuum of free-machining carbon steels made available to end users by cold finishers.[46] While certain petitioners separately identify their leaded steels, there was no indication that this is a widespread practice.[47] Furthermore, petitioners provided no evidence regarding the perceptions of the purchasers of the non-leaded free machining steel which constitute more than 50 percent of the U.S. cold-finishers' production and sales.

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[43] Tr. 165; Petitioners' Brief, exhibit 4; UES Brief, exhibit 2.

[44] Graham Statement at 8.

[45] Report B-40.

[46] Petitioners' exhibit 4 to their postconference brief sets forth on the third page under the heading, "Free-machining Cold-finished Steel Bars," a series of non-leaded free-machining cold-finished steels bars, including the 10XX series low in sulphur and phosphorus, the 11XX series of resulphurized, and the 12XX series of resulphurized and rephosphorized. In describing the 11XX and 12XX series, the brochure states:

> In fine-tuning a steel for free-machining properties, the eleven-hundred series is resulphurized and the twelve-hundred series is both resulphurized and rephosphorized. Although sulphur may be considered an impurity in many steels, its deliberate addition to these steels -- plus greater manganese -- forms manganese sulfides. . . . In the eleven hundred series, the manganese sulfides also permit a better machined surface. The addition of phosphorus in the resulphurized twelve-hundred series also lowers ductility while cold drawing increases hardness. The combination further improves machinability.
>
> These steels permit higher machining speeds, produce finer surface finishes and significantly prolong tool life. This increases productivity and reduces cost. (emphasis supplied).

This brochure also describes leaded, tellurium, selenium, or bismuth steels which may be added to carbon, alloy and stainless steels for "improved machinability." It states that the addition of lead to steels "often permits a productivity increase of as much as twenty-five percent -- sometimes more -- over a comparable non-leaded grade."

[47] Petitioners' Brief, exhibit 18.

e. *Production processes, equipment and workers*

All free machining steels are produced by the same workers who produce all other bar and rod products manufactured by petitioners and respondents. These producers use the same basic melting production facilities to make the liquid steel from which all types of hot-rolled carbon bars and rods are made.[48] The process of adding and processing lead and bismuth can involve certain specialized equipment and processes. However, the bulk of the leaded steel consumed in the United States is resulphurized and rephosphorized (12L14). Thus, the process for adding sulphur and phosphorous (performed at the ladle metallurgy station) for all types of free-machining steel is the same.[49] The resuphurization and rephosphorization in the ladle metallurgy station constitute processes which are distinct from types of hot rolled carbon bars.[50]

f. *Price*

Free machining leaded steels, particularly those with tellurium or selenium added, sell at a premium price over other free machining steels.[51] However, the prices of 1215 grade free machining steel and its lead counterpart, 12L14 are roughly equivalent.[52] There also is a significant difference in price between non-free machining base grade carbon steel in the 10XX series, and any type of free machining steel.[53]

I believe these distinctions are sufficient to warrant the treatment of free machining steel as a separate and distinct like product. The subsidiary issue is then whether it is appropriate to distinguish between free machining bars and free machining rods. On the basis of the information collected in this preliminary investigation, I believe that the distinction

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[48] However, a number of U.S. producers of free-machining non-leaded steel do not produce leaded steel. Report at B-42, Figure E-2.

[49] Report at A-8.

[50] Id.

[51] Petitioners' Brief at 22.

[52] Id.

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Having defined the like product as free machining steels, the domestic industry must be defined as the universe of those producers who produce free machining steel in the United States. I note that the Commission has not collected any information specifically concerning the condition of the U.S. producers of free machining steels in these investigations. The Commission staff did collect information on leaded steels, special quality steels, and all hot-rolled carbon steel bars and rods. Free machining steel producers will be included within data collected for the special quality bars and rods, and certainly are part of all hot-rolled carbon steel bars and rods. Moreover, the data collected on leaded steels constitutes a significant portion of the free-machining category. An extrapolation of the data for these categories thus provides a reasonable picture of the conditions in the free machining steel industry.

I also note, however, that during the course of this investigation it became apparent that in addition to the integrated producers, who produce leaded and bismuth steels, other producers, in particular minimills, also produce other types of free machining steels. The Commission obtained little cooperation or information from such producers in this preliminary investigation. Should this investigation return to the Commission for a final determination, I will be seeking additional information specifically with respect to free machining steels and about the operations of minimills.

For purposes of this investigation, I have drawn my conclusions with regard to the free machining steel industry based on the information which the Commission obtained on both the narrower category of leaded and bismuth steel and the broader category of special bar quality steel. I believe that this is the best information available to me at this time.[54]

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[54] It has been argued that the Commission cannot rely on the "best information available" or broader product lines than its like product when it has not specifically sought the information whose absence has resulted in the application of the best information available

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I also note, however, that during the course of this investigation it became apparent that in addition to the integrated producers, who produce leaded and bismuth steels, other producers, in particular minimills, also produce other types of free machining steels. The Commission obtained little cooperation or information from such producers in this preliminary investigation. Should this investigation return to the Commission for a final determination, I will be seeking additional information specifically with respect to free machining steels and about the operations of minimills.

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III. CONDITION OF THE INDUSTRY

In assessing whether there is a reasonable indication of material injury to a domestic industry by reason of allegedly dumped imports, the Commission is instructed to consider "relevant economic factors which have a bearing on the state of the industry in the United States . . . ."[55] As traditionally interpreted by the Commission, this includes U.S. apparent consumption, production, shipments, capacity utilization, employment, wages, financial performance, capital investment, and research and development expenses.[56] No single factor is considered dispositive in evaluating the condition of the industry. In each investigation, the Commission considers the particular nature of the industry under investigation[57] in the "context of the business cycle and conditions of competition that are distinctive to the affected industry."[58]

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provision. In general, of course, one cannot deliberately avoid seeking information and then rely on other information on the grounds that you do not have the information you needed in the first place.

In this case, however, the information which suggests the appropriateness of the free machining like product came to light during the course of the investigation. It would be unreasonable to have the Commission anticipate all the possible like products that might be developed in the course of an investigation and seek information as to all of them. The burden on responding companies to provide such a myriad of data would be insupportable. In this investigation, the Commission sought three possible breakouts of the data, some broad and some narrow, even if none of them correspond to the like product I have chosen. I believe it was reasonable to do so and that extrapolating from these data to the free machining category is both logically and legally acceptable, whether I were to be making either an affirmative or a negative determination.

[55]19 U.S.C. § 1677(7)(C)(iii).

[56]See 19 U.S.C. § 1677(7)(C)(iii).

[57]See 19 U.S.C. § 1677(7)(C)(iii). See also H.R. Rep. No. 317, 96th Cong., 1st Sess. 36; S. Rep. No. 249, 96th Cong., 1st Sess. 88.

[58]19 U.S.C. § 1677(7)(C)(iii). These issues were not raised by any of the parties to this investigation, nor did the Commission receive any information relevant to business cycle considerations. Respondents did at one point, however, refer to "the cyclical nature of the textile industry." Tr. at 119.

Apparent U.S. consumption of special quality steel was constant between 1989 and 1990, but decreased between 1990 and 1991.[59] For leaded steel, apparent consumption increased by 2.1 percent between 1989 and 1990 before falling by 16.8 percent in 1991 and then rising by 47.8 percent in the 3 month interim period.[60]

Domestic production and domestic capacity for special quality steel both increased slightly between 1989 and 1990, but capacity continued to increase in 1991 while production fell.[61] For leaded steel, capacity remained constant throughout the period of investigation, while production increased by 5.9 percent from 1989 to 1990 and dropped 23.5 percent from 1990 to 1991.[62] The special quality steel industry's capacity utilization increased slightly between 1989 and 1990 from 45.1 to 45.4 percent, before declining to 41.0 percent in 1991, and rebounding to 45.6 percent in the first quarter of 1992. For the leaded steel industry, capacity utilization also increased slightly, by 2.7 percentage points between 1989 and 1990 and dropped 11.3 percentage points in 1991.[63] The special quality steel industry's shipments decreased slightly between 1989 and 1990, and declined to a greater extent between 1990 and 1991. Domestic leaded steel shipments increased by 3.1 percent between 1989 and 1990 before dropping 25.7 percent in 1991.[64] The U.S. producers' market share by volume of special quality steels remained relatively constant between 1989 and 1990, but decreased approximately 2 percentage points between 1990 and 1991.[65] For leaded steels, market share was more volatile,

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[59] Report at B-63, Table E-16. Apparent consumption actually declined by .4 percent between 1989 and 1990 and then by 4.8 percent in 1991.

[60] Report at A-25, Table 3. I note that most of the interim period is that part of 1992 before this investigation was filed. It accounts, however, for only three months of data. As in most investigations, I place limited probative value in the interim data.

[61] Report at B-63, Table E-16.

[62] Report at A-28, Table 4.

[63] Report at A-28, Table 4.

[64] Report at A-30, Table 5.

[65] Report at B-63, Table E-16.

increasing very slightly between 1989 and 1990 before dropping 7.5 percentage points in 1991.[66]

End-of-period inventories of special quality steel increased throughout the period of investigation.[67] Inventories of leaded steels declined slightly between 1989 and 1990, and increased by 3 percentage points as a percentage of total shipments in 1991.[68]

While the number of production and related workers in the special quality steel industry decreased during the period of investigation, the hourly total compensation paid and unit labor costs increased steadily.[69] For the leaded steel industry, the number of production and related workers increased in 1990 before dropping below 1989 levels in 1991, while hourly total hourly compensation and unit labor costs both increased steadily throughout the period.[70]

Overall operating profits and the operating income margin for that portion of the special quality steel industry providing information[71] declined over the period of investigation with larger declines from 1990 to 1991. The cost-of-goods sold margin remained at roughly 90 percent between 1989 and 1990, but increased to 94 percent in 1991.[72] For the leaded steel industry, profitability also declined over the period of investigation; operating margins were generally at even lower levels than for the special quality steel industry. The cost of goods sold margin was also consistently higher for the leaded steel industry but followed a different trend, increasing slightly in 1990 and decreasing slightly in 1991. Selling, general, and

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[66] Report at A-25, Table 3.

[67] Report at B-63, Table E-16.

[68] Report at A-32, Table 7.

[69] Report at B-63, Table E-16.

[70] Report at A-33-35, Table 8.

[71] I note that a number of so-called U.S. steel "mini-mills" which produce hot-rolled special quality carbon steel bars and rods did not provide information concerning their production, sales, profits, pricing or other information relevant to these investigations. The Commission will obtain such information in any final investigations.

[72] Report at B-63 Table E-16.

administrative expenses increased steadily over the period.[73]

I believe that the evidence provides a reasonable indication that both the special quality steel and the leaded steel industries would be experiencing material injury. I conclude that the free machining steel industry is experiencing material injury. The free machining steel industry is a smaller subset of the special quality steel industry and a larger set containing the lead and bismuth steel industry. There is nothing in the record of this preliminary investigation to suggest that its operations are likely to be significantly different from the operations of these two industries both of which provide an indication of material injury.

IV. REASONABLE INDICATION OF MATERIAL INJURY BY REASON OF SUBSIDIZED AND LTFV IMPORTS

A. *CUMULATION*

The Commission is required to cumulatively assess the volume and effect of imports from two or more countries subject to investigation if such imports compete with one another and with the like product of the domestic industry in the U.S. market.[74] The Commission has cumulated the volume and price effects of imports from more than one country in cases in which imports satisfy the following three criteria:

(1) they must compete with other imported products and with the like domestic product;

(2) they must be marketed within a reasonably coincidental period; and

(3) they must be subject to investigation.

All of these factors are present in this investigation. The Commission, however, is not required to cumulate those imports of merchandise subject to investigation that it determines are negligible and have no discernible adverse impact on the domestic industry.[75] In determining whether imports are negligible, the Commission considers all relevant economic

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[73] Report at A-39, Table 10.

[74] 19 U.S.C. § 1677(7)(C)(iv).

[75] 19 U.S.C. § 1677(7)(C)(V).

factors including whether:

> (I) the volume and market share of the imports are negligible,
>
> (II) sales transactions involving the imports are isolated and sporadic, and
>
> (III) the domestic market for the like product is price sensitive by reason of the nature of the product, so that a small quantity of imports can result in price suppression or depression.[76]

Based on information obtained in the Commission's questionnaires, the negligible import provision is a potential issue in this investigation. Because the Commission does not have data on apparent consumption of free machining steels, import market shares for this category cannot be accurately determined at this time. I must therefore extrapolate from the data for special quality steels and leaded steels. Imports of special quality steels from all four countries under investigation totalled less than 5 percent of apparent domestic consumption during the period of investigation, remaining constant in 1989 and 1990, rising in 1991, and falling in the first quarter of 1992.[77] The smallest share was accounted for by imports from Brazil which stayed well below one percent for the entire period of investigation.

Market share for leaded steels are, of course, much higher. The combined market shares of the countries subject to investigation accounted for approximately 30 percent of consumption in 1989 and 1990 before rising to above 35 percent of consumption in 1991. Individual country market shares are also significant. The smallest was for Brazil, which accounted for less than 5 percent in each year of the period of investigation.

Market share is not, of course, the only factor to be considered in deciding whether to exclude a country from cumulation under the negligible imports exception. Equally obvious, however, is the fact that unless market shares are small, the negligible imports exception

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[76] 19 U.S.C. § 1677(7)(C)(V). Both the House Ways and Means Committee Report and the Conference Committee Report stress that the Commission is to apply the exception narrowly and that it is not to be used to subvert the purpose and general application of the mandatory cumulation provision of the statute. See H.R. Rep. No. 40, Part 1, 100th Cong., 1st Sess. 141 (1987); H.R. Rep. No. 576, 100th Cong., 2d Sess. (1988) at 621. The House Ways and Means Committee Report further emphasizes that whether imports are "negligible" may differ from industry to industry and, for that reason, the statute does not provide a specific numeric definition of negligibility. Id. at 131. See also Torrington, Slip. Op. at 19-20.

[77] Report at B-68, Table E-27.

cannot apply. In this investigation, if I were looking at market shares based only on leaded steels, the market shares for products from all four countries are sufficiently large that the negligible imports exception is not an issue.

Based on consumption of special quality steels, however, individual import penetrations are much lower, and for Brazil approach the level at which the negligible import provision is a serious possibility. Consumption of free machining steels falls somewhere between consumption for special quality steels and leaded steels. Import penetration therefore falls somewhere between the import penetration based on those two categories. I conclude that Brazilian import penetration, based on apparent consumption of free machining steels, is likely to be at a level at which I would not apply the negligible import penetration provision. Further, the other factors which the Commission traditionally uses to decide whether to apply the negligible imports provision also do not support its application in this instance.

There is evidence in these preliminary investigations to indicate that leaded steels are highly price sensitive, a key factor which the Commission has considered in deciding whether to applying the negligibility exception.[78] Petitioners also presented testimony that the domestic leaded steels industry is already suffering considerable injury and has long been battered by import price competition.[79] In these preliminary investigations, there is evidence to support a "reasonable indication" that the domestic hot-rolled leaded and bismuth industry has been injured from import price competition.[80] Finally, while the level of imports

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[78] See e.g., Silicon Metal, USITC Pub. 2385, at 24-26 (price sensitivity of domestic product factor in Commission not applying the exception);
But see, Groundwood Paper, USITC Pub. 2359 at 28, 33-36 (negligible import exception invoked with respect to four countries although domestic market determined to be price sensitive).

[79] Report at B-71; Tr. at 17, 31-35; Compare, Groundwood Paper, USITC Pub. 2359 at 28 (finding that groundwood paper industry, although highly price sensitive, was not an "industry which is already suffering considerable injury and has long been battered by unfair competition"; applying the negligibility exception with respect to certain countries).

[80] Jim Fritsch, General Manager Bar, Rod and Wire Division of Bethlehem Steel Corporation testified as follows:

> Overall there's been a downward trend in price as a result of import pricing. Now and then Bethlehem has gone head to head with foreign producers. While this has resulted in very modest gains in market share, we just lost more money. Other times we simply cannot meet the import price which results in lost sales opportunities. The questionnaire identifies numerous instances when we have lost sales to a potential

fluctuated somewhat, they have had a relatively steady presence in the U.S. market, and were not isolated or sporadic.[81] I therefore conclude that none of the subject imports are negligible and that cumulation of them is mandatory.

B. *CAUSATION*

In determining whether there is a reasonable indication of material injury that the domestic industry is materially injured by reason of the imports under investigation, the statute directs the Commission to consider:

> (I) the volume of imports of the merchandise which is the subject of the investigation,
>
> (II) the effect of imports of that merchandise on prices in the United States for like products, and
>
> (III) the impact of imports of such merchandise on domestic producers of like products, but only in the context of production operations within the United States.[82]

In making this determination, the Commission may consider "such other economic factors as are relevant to the determination . . . ."[83] Although I may consider information that indicates that injury to the industry is caused by factors other than the LTFV imports, I do not weigh causes.[84] I emphasize that I need not determine that imports are the principal or a substantial cause of material injury. Rather, I am required to determine whether imports are a cause of,

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customer because we could not match the import price.
Tr. at 33.

[81] See e.g., Silicon Metal from PRC, USITC Pub. 2385 at 25 (exception not applied to Argentine imports, the sales of which were not isolated or sporadic); Groundwood Paper, USITC Pub. 2359 at 32-35 (noting that Belgian imports, found not to be negligible, "had a steady presence in the market;" by contrast, Austrian Dutch and Italian imports were found to be isolated and sporadic); PET Film (Preliminary), USITC Pub. 2292 at 20 (noting isolated and sporadic nature of imports as factor in favor of negligibility).

[82] 19 U.S.C. § 1677(7)(B)(i).

[83] 19 U.S.C. § 1677(7)(B)(ii).

[84] E.g., Citrosuco Paulista S.A. v. United States, 704 F. Supp. 1075, 1101 (Ct. Int'l Trade 1988). See also S. Rep. No. 249, 96th Cong., 1st Sess. 57 (1979); H.R. Rep. No. 317, 96th Cong., 1st Sess. 46-47 (1979).

that is, contribute to, material injury.[85]

I find that there is a reasonable indication of material injury to the domestic industry by reason of subsidized and LTFV imports of leaded steels from Brazil, France, Germany, and the United Kingdom.

I begin by noting the volume of imports from the subject countries rose by approximately 5 percent from 1989 to 1991, despite the fact that consumption declined over 15 percent over this same period. Thus, imports were increasing both relatively and absolutely in a declining market at a time when the operating performance of the industry was declining. The same story is revealed in the market share figures. This analysis of import volumes supports the existence of a causal link between the imports and the deteriorating and injured condition of the industry.

The Commission's pricing data, which is limited to prices of leaded steels, indicates that prices of the domestic product have not increased significantly over the period of investigation.[86] Further, while there is a mixed patterns of underselling, the overwhelming number of price comparisons indicates that the import products have undersold the domestic products in what appears to be a price sensitive market. I note that purchasers of leaded steel products providing information to the Commission indicate that price is the major factor in the purchasing decision.[87] The evidence of lost sales investigated by the Commission tends to support the importance of price and the fungibility of the domestic leaded and bismuth with the imported product.[88]

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[85] See S. Rep. No. 249, 96th Cong., 1st Sess. 74-75 (1979). See e.g., Iwatsu Electric Co. v. United States, 758 F. Supp. 1506 (CIT 1991).

[86] In a final investigation, while pricing comparisons must still be made on an individual product basis, which means a comparison of leaded steels to leaded steels, I will also seek information about price trends applicable to free machining steels generally to determine the impact of prices of leaded steels on the broader product category.

[87] Report at A-63-66; Tr. at 38.

[88] Report at A-63-66.

In any final investigations, I will explore the characteristics of the market for free machining steels. This includes the extent of product differentiation and competition, and particularly, the extent to which competition in the free machining steels industry is based on price.

In sum, the domestic industry producing free machining steels has experienced deteriorating performance in many of its financial, employment, and production related indicators. These declines have occurred at a time when the level of imports was significant and increasing. The best information available indicates that the products subject to investigation are fungible with comparable domestic products, and that the increasing volumes of the subject merchandise have had a price depressing effect on the domestic free machining steels market. These factors provide a reasonable indication that the imports are contributing to the material injury that I find the domestic industry is experiencing.

Moreover, in these preliminary investigations, I find that (1) the record as a whole does not contain clear and convincing evidence that there is no material injury or threat of material injury; and (2) additional and possibly contrary evidence is likely to arise in a final investigation.[89] For all the reasons set forth above, I determine that there is a reasonable indication that the domestic industry producing free machining steels is materially injured by reason of the subject imports.

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[89] American Lamb at 1001. See also Calabrian Corporation v. United States International Trade Commission, Slip Op. 91-51 at 20-21 (CIT June 1991).

INFORMATION OBTAINED IN THE INVESTIGATIONS

INTRODUCTION

On April 13, 1992, a petition was filed with the U.S. International Trade Commission and the U.S. Department of Commerce by Inland Steel Industries, Inc., including Inland Steel Bar Co., Chicago, IL; and the Bar, Rod and Wire Division, Bethlehem Steel Corp., Johnstown, PA. The petition alleges that imports of certain hot-rolled lead and bismuth carbon steel products[1] from Brazil, France, Germany, and the United Kingdom are being subsidized and sold in the United States at less than fair value (LTFV), and that an industry in the United States is materially injured and threatened with material injury by reason of such imports.

Accordingly, effective April 13, 1992, the Commission instituted the following preliminary countervailing duty and antidumping investigations under the applicable provisions of the Tariff Act of 1930 to determine whether there is a reasonable indication that an industry in the United States is materially injured, or is threatened with material injury, or the establishment of an industry in the United States is materially retarded by reason of imports of such merchandise into the United States:

Country	Countervailing duty investigation No.	Antidumping investigation No.
Brazil.....	701-TA-314 (P)	731-TA-552 (P)
France.....	701-TA-315 (P)	731-TA-553 (P)
Germany.....	701-TA-316 (P)	731-TA-554 (P)
United Kingdom..	701-TA-317 (P)	731-TA-555 (P)

Notice of the institution of the Commission's preliminary investigations, and of the public conference to be held in connection therewith, was given by posting copies of the notice in the Office of the Secretary, U.S. International Trade Commission, Washington, DC, and by publishing the notice in the Federal Register on April 20, 1992 (57 F.R. 14431).[2] The conference was held in Washington, DC, on May 4, 1992.[3] The Commission voted on these investigations on May 22, 1992, and transmitted its determinations to Commerce on May 28, 1992.

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[1] For purposes of these investigations, the subject imports of hot-rolled lead and bismuth carbon steel products are hot-rolled products of nonalloy or other alloy steel (i.e., other than stainless or alloy tool steels), whether or not descaled, containing by weight 0.03 percent or more of lead or 0.05 percent or more of bismuth, in coils or cut lengths, and in numerous shapes and sizes. Excluded from the scope of investigation, as defined by Commerce, are products of other alloy steels, except steels classified as such solely because the products contain 0.4 percent or more by weight of lead and/or 0.1 percent or more by weight of bismuth, tellurium, or selenium. Also excluded are semifinished steels and flat-rolled products.

[2] Copies of the Commission's institution notice and Commerce's initiation notice are presented in app. A.

[3] A list of witnesses appearing at the conference is presented in app. B.

Previous and Related Investigations

Hot-rolled lead and bismuth carbon steel products have been included in a number of investigations conducted by the Commission since 1921. A listing of those investigations is presented in table 1. The 1982 countervailing duty and antidumping investigations resulted in negative preliminary determinations with respect to hot-rolled carbon steel bar; the petitions with respect to hot-rolled alloy steel bars were withdrawn and the investigations terminated. In 1984 the Commission unanimously determined in a section 201 investigation that imports of carbon and alloy steel bar and wire rod products were not a substantial cause of serious injury, or threat thereof, to those domestic industries. The 1984 investigations of carbon steel wire rod resulted in an affirmative determination in the countervailing duty investigation concerning Spain, and affirmative determinations in the antidumping investigations involving Argentina, Brazil, Spain, and Trinidad and Tobago.[4]

THE PRODUCT

Description[5]

The hot-rolled lead and bismuth carbon steel products (bars, rods, and bar-size shapes[6]) covered by these investigations are hot-rolled products of nonalloy or other alloy steel, containing by weight 0.03 percent or more of lead or 0.05 percent or more of bismuth, in coils or cut lengths, and in numerous shapes and sizes. Flat-rolled carbon steel products and reinforcing bar and rod are not included in these investigations. The subject hot-rolled lead and bismuth carbon steel products are principally provided for in subheadings 7213.20 (coils) and 7214.30 (cut-length) of the Harmonized Tariff Schedules of the United States (HTS).

Additions of lead and bismuth[7] to base grades of carbon and certain alloy steels[8] improve machinability[9] of the steel. These additions,

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[4] In addition, Commerce conducted several countervailing duty investigations of countries that were not signatories to the GATT subsidies code from 1986 to 1988, that resulted in affirmative countervailing duty determinations regarding carbon steel wire rod from Malaysia, New Zealand, Saudi Arabia, and Zimbabwe.

[5] See app. C for definitions of selected steel industry terminology.

[6] Based on responses to the Commission's questionnaires, lead and/or bismuth bar-size shapes are not produced by either U.S. producers or foreign manufacturers/exporters.

[7] Tellurium and/or selenium may also be included as additions to leaded steels.

[8] Stainless and alloy tool steels are excluded from the scope of the investigations. Included alloy steels are those which do not comply with the definitions of stainless and alloy tool steels; see Note (f) Other alloy steel, Chapter 72, Harmonized Tariff Schedule of the United States (1992), for a definition.

[9] Machinability is an interactive property of the work material with respect to the tool, the machine, and the lubricant; improvements in the

(continued...)

Table 1
Carbon steel bar, rod, and bar-size shapes: Previous and related investigations since 1921

Item	Investigation number	Date of issue	Report No.
Steel billets and bars	N.A.	1921	C-7
Hot-rolled carbon steel wire rods:			
Belgium	AD-27	1963	TC 93
France	AD-30	1963	TC 99
Luxembourg	AD-28	1963	TC 94
West Germany	AD-29	1963	TC 95
Carbon steel bars and shapes:			
Canada	AD-39	1964	TC 135
Steel bars, reinforcing bars, and shapes: Australia	AD-62	1970	TC 314
Carbon steel wire rods and wire	TEA-W-100	1971	TC 418
Carbon steel wire rods and round wire	TEA-W-181	1973	TC 566
Carbon steel bars and shapes:			
The United Kingdom	AD-INQ-8, 9	1978	USITC 855
Certain steel products (Hot-rolled carbon steel bar, and hot-rolled alloy steel bar):			
Belgium, Brazil, France, Italy, Luxembourg, United Kingdom, West Germany	701-TA-86-144 (P)	1982	USITC 1221
Carbon and certain alloy steel products (Hot-rolled carbon steel bars)	TA-201-51	1984	USITC 1553
Carbon steel wire rod:			
Brazil, Belgium, France, Venezuela	701-TA-148-150 (P) 731-TA-88 (P)	1982	USITC 1230
Venezuela	731-TA-88 (F)	1983	USITC 1338
Brazil, Trinidad and Tobago	731-TA-113-114 (P)	1982	USITC 1316
	731-TA-113-114 (F)	1983	USITC 1444
Argentina, Mexico, Poland, Spain	701-TA-209 (P) 731-TA-157-160 (P)	1984	USITC 1476
Spain	701-TA-209 (F)	1984	USITC 1544
Poland	731-TA-159 (F)	1984	USITC 1574
Argentina, Spain	731-TA-157, 160 (F)	1984	USITC 1598
German Democratic Republic	731-TA-205 (P)	1984	USITC 1607
Poland, Portugal, Venezuela	701-TA-243-244 (P) 731-TA-256-258 (P)	1985	USITC 1701
Steel Industry Annual Reports	332-209 and 332-289	Various	

Source: Various Commission reports.

[9] (...continued)
machinability of the work material can be brought about through changes in the chemistry of the steel, or through changes in steel processing. (Debanshu Bhattacharya, "Machinability of Steel," Journal of Metals, Mar. 1987, p. 33.) Also see definitions in app. C for a further discussion of machinability.

consisting of small amounts (typically, 0.15 to 0.35 percent) of lead or bismuth by weight, increase the speed of removal of relatively large amounts of metal, improve the surface finish of the part, reduce machine tool wear and energy expenditure, and reduce tool creep on automatic screw machines, lathes, and drill presses. The use of leaded and bismuth steel is dictated by the economics of producing the part (which is driven by the application) and the machining equipment available.

Free-Machining Steels

Carbon steel grades with additions of lead and/or bismuth are part of a group of steels, termed "free-machining," that possess the same or similar base grades of steel,[10] but have been either resulphurized, rephosphorized, renitrogenized, or have had additions of calcium,[11] lead, bismuth, selenium, or tellurium.[12] All steel, irrespective of grade or content, is machinable to some degree, and the machinability of the base steel is largely dictated by the engineering requirements for the end product.[13] These requirements, which are properties of the base grade of the steel, include the steel's strength, ductility, and fatigue resistance. Leaded and bismuth steels possess a significantly higher level of machinability, over 30 percent (measured in terms of productivity), compared with the base grades in the 1100 and 1200 series.

Such additions are commonly made to steels that have been resulphurized and/or rephosphorized, the AISI and SAE grades 1108-1151 and 1211-1215, particularly the latter series.[14] Additions of lead alone, or in combination with selenium or tellurium, or of bismuth, cause embrittlement in the steel, with the steel becoming more prone to crack. Lead and bismuth are insoluble and form inclusions in the steel, attaching themselves as tails to manganese sulfides. On the one hand, this aids chip formation and improves the lubricity or machinability of the steel; on the other hand, these steels pose problems in terms of their manufacture and rolling.

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[10] See definitions in app. C for further discussion of grades of steel.

[11] There is disagreement within the domestic industry about including calcium-added steels to the free-machining category; statements at the staff conference indicated that, although calcium acts as an internal lubricant (like lead), the steel to which it is added is used for other end uses, and it is machined on other types of machinery and by other types of cutting tools. (Conference transcript (TR), pp. 110, 112-113.)

[12] Staff interview with the personnel at the Cold Finished Steel Bar Institute on May 1, 1992. Also, Dr. Bhattacharya, TR, p. 77.

[13] Bhattacharya, "Machinability of Steel," p. 33.

[14] The first two numbers define the series (i.e., 11xx or 12xx); the latter two numbers indicate the range of carbon content. These two series are the resulphurized, and resulphurized and rephosphorized series, respectively. These two series are termed "free-machining" steels. The presence of relatively large amounts of sulfur (about 0.10 percent) and phosphorus causes some reduction in cold formability, weldability, and forgeability and lowers the ductility, toughness, and fatigue strength.

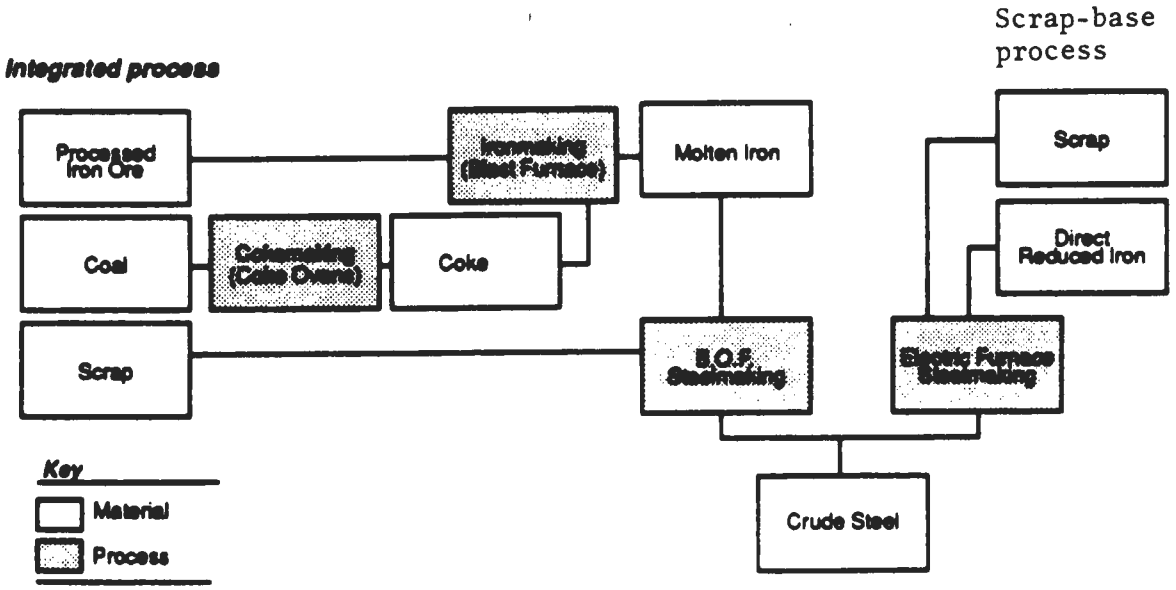
Manufacturing Process

The manufacturing process leading to the production of hot-rolled lead and bismuth carbon steel products is analyzed below and consists of three different stages: (1) melt, (2) casting, and (3) hot-rolling.

Melt Stage

Steel is produced either by the integrated or nonintegrated process (see fig. 1). The nonintegrated process produces molten steel by melting scrap in an electric furnace (termed an electric arc furnace, or EAF). The integrated process typically smelts iron ore and coke in a blast furnace to produce molten iron, which is subsequently poured into a steelmaking furnace, generally a basic oxygen furnace (BOF), together with scrap metal. The hot metal is processed into steel when oxygen is blown into the metal bath. Lime is added to serve as a fluxing agent; it combines with impurities to form a floating layer of slag, which is later removed. Alloy steels are produced by additions of alloying agents (including chromium, nickel, and molybdenum) to the liquid steel to impart specific properties to finished steel products. The molten steel is poured or tapped from the furnace to a ladle, which is an open-topped, refractory-lined vessel that has an off-center opening in its bottom, equipped with a nozzle. Meanwhile, the primary steelmaking vessel (EAF or BOF) may be charged with new materials to begin another refining cycle.

Figure 1
Simplified steelmaking flowchart



Source: Steel Industry Annual Report, USITC 2436, Sept. 1991, p. 2-2.

Whether produced by the integrated or nonintegrated process, it is increasingly common for molten steel to pass through a ladle metallurgy station, where its chemistry is refined to embody the steel with properties required for specific applications.[15] At the ladle metallurgy, or secondary steelmaking station, the chemical content is adjusted while the temperature of the steel is adjusted for optimum casting. With respect to lead and bismuth steels, the temperature for optimum casting is about *** higher than that for the same base grades, which are usually cast around ***° F.[16]

Lead and bismuth additions are typically made after the base grade steel has been melted but before it has been cast into its first solid form. If the addition was made to an ingot, that form is then placed in a soaking pit, and subsequently hot-rolled on a primary or breakdown mill to billet size, and hot-rolled to bar or rod configurations, and then cut-to-length or coiled. If the addition was made to a bloom, the soaking pit and breakdown mill stages are bypassed and processing continues as from the point of rolling the billet. The domestic industry apparently makes certain changes in melting and rolling practices in order to produce these steels with associated decreases in yields at each stage of processing. There are more stringent health, safety, and environmental regulations that must be observed as well.

With respect to free-machining steels in general, as well as the lead and bismuth steels that are the subject of the petition, sulfur, nitrogen, calcium, and phosphorus may be added to the steel at either of two processing stages. It is apparently the operating practice of two respondent companies, ***, to add lead or bismuth at the ladle metallurgy station,[17] whereas the petitioners add lead or bismuth at the tundish or at the casting stage, described below.

Once molten steel with the correct properties has been produced, it is cast into a form that can enter the rolling process (see fig. 2 for a presentation of steel products and processes). In the ingot-based process, the ladle is moved by an overhead crane to a pouring platform where the steel is poured or "teemed" into ingot molds, either through the top of each mold or, in the preferred method, through a pipe system that fills each mold from the bottom (bottom casting). As the steel begins to solidify, the mold is stripped from the ingot and the ingot is then transferred to a soaking pit, a specialized heating furnace that equalizes the temperature within the ingot. Lead and bismuth additions are made into the stream of molten steel as it is teemed into the ingot molds; such additions are made in the form of leaded wire feeds, or lead and bismuth shot feeds. This requires some specialized feed machinery as well as specialized machinery for fume and dust collection, and scrap metal segregation. Following removal from the soaking pit, the ingots are hot-rolled on a primary breakdown mill to bloom sizes and then transferred to a billet mill for hot-rolling to bar or rod configurations.

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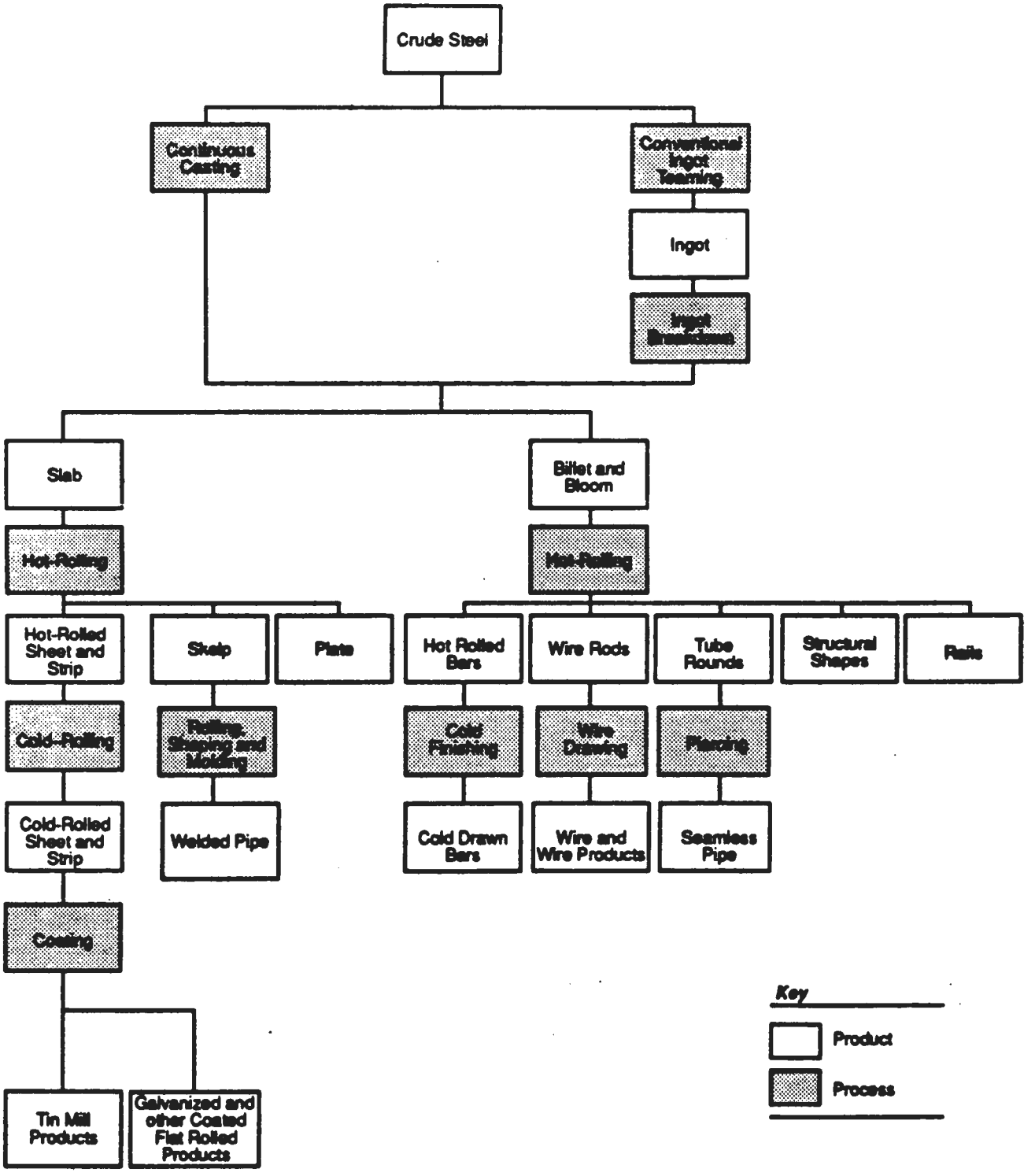
[15] Ladle metallurgy stations differ in their sophistication and in their ability to refine the steel. Steels used to produce most merchant quality products and concrete reinforcing bar are not usually processed in a ladle metallurgy station.

[16] Staff interviews with engineering personnel at *** and ***.

[17] Steptoe and Johnson, postconference brief, p. 8 (reference to Mr. Graham's testimony).

Figure 2
Steel products and processes



Source: Steel Industry Annual Report, USITC 2436, Sept. 1991, p. 2-3.

With respect to strand (or "continuous") casting, the ladle containing molten steel is transferred from the ladle metallurgy station to the caster, and the molten steel is poured at a controlled rate into a tundish, which in turn controls the rate of flow of the molten steel into the strand caster. The tundish may have a special design or electromagnetic stirring for the purpose of ensuring homogeneity of the steel. Lead and bismuth are usually added to the tundish in the form of shot, where again some specialized machinery and operating practices are necessary. The strand caster is designed to produce blooms or billets in the desired cross-sectional dimensions.[18] With regard to lead and bismuth steels, Inland, UES, and Saarstahl cast blooms, whereas Bethlehem, Republic, and Copperweld Steel Corporation cast ingots.[19] Bloom casting is reportedly preferred to billet casting, as billet casting would lower capital investment requirements and allows more companies, a number of which now cast steel in billet form, to enter the market. Blooms, which have a greater cross-sectional dimension than billets, allow for a more homogeneous mixing of lead and bismuth within the steel (hence, a higher quality), and the bloom's greater cooling time allows manganese-sulfides to grow larger than is possible in a billet. Once ready, the blooms are transferred to a hot-rolling mill where they are reduced in cross-sectional dimension to billet size.

There are additional losses in weight at each processing stage of the ingot or bloom associated with the production of lead and bismuth steels. For example, *** reported that because of cropping and hot scarfing of ingots and blooms, the additional yield loss is *** percent above that associated with base grade steels, a figure also reported by ***.[20]

Environmental controls and worker safety and health regulations are reportedly more stringent for lead and bismuth steels than for steel base grades. For example, additional venting of exhaust fumes is undertaken, and the bag house dust must be processed separately. Steel scrap, refractory brick (used to line the tundish), and waste lead and bismuth metal, are

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[18] There are no widely accepted precise definitions for the terms blooms or billets; the principal distinction is one of size--blooms are larger than billets in cross-sectional area. Blooms were defined in the Tariff Schedules of the United States, Annotated as measuring at least 36 square inches in cross sectional dimension; billets were defined as measuring at least 3 square inches up to 36 square inches. These distinctions were not carried over into the Harmonized Tariff System.

[19] Staff interviews with officials at ***, and ***; and, testimony of Jim Fritsch of Bethlehem Steel, TR, p. 34 (commenting that Bethlehem could not afford the cost of installing a new bloom caster). See also, Wiley, Rein and Fielding, postconference brief, app. 1, which contradicts Saarstahl's description of billet casting these steels. See also, LeBoeuf, Lamb, Leiby & MacRae, postconference brief, app. 1, indicating that a bloom caster is used by Unimetal. Officials at Inland have indicated that their desire to continue as a producer of leaded steels necessitated their investment in a "jumbo" bloom caster that became operational in 1988; their billet caster is not used to produce leaded steels. *** indicated that they cannot cast leaded steels on their billet caster at ***, but were constrained by the capital cost of installing a bloom caster.

[20] Staff interviews with company officials on *** and ***, respectively.

classified as hazardous waste, necessitating their segregation and separate treatment from other scrap. Specialized safety equipment and more rigorous operating procedures are used, in compliance with OSHA standards (including respirators or positive pressure cabins for operating crew, specialized protective gear, and blood sampling).

Blooms and billets are usually channeled through a reheat furnace prior to rolling. This increases the malleability of the steel and reduces wear and energy consumption on the rolling mill. The billet is successively reduced in size in several stands. Most modern rolling mills are in-line, although cross-country mills are still in use. At the final stage, the bar may be channeled to a coiler, or it may be cooled in a water or oil bath and cut to near-net length. Rod is rolled in a similar manner, although there are usually one or more additional stands in the rolling mill (or one or more additional passes made through a cross-country mill) to reduce the rod's finished diameter. Rod is almost always coiled. With respect to leaded and bismuth steels, rolling practices differ somewhat because the addition of lead hurts surface quality. Hence, there is more top cropping of ingots, with an increased resultant yield loss of approximately *** percent, and other higher surface losses, estimated at between *** and *** percent; rolling speeds are reduced because of lead's addition of "lubricity" to the bar and rod.[21]

Bars vs. Rods

Bars and rods are solid hot-rolled products produced by rolling heated billets into cut lengths or coils of a smaller predetermined cross sectional size. Although most bars and rods are rolled from strand-cast billets, some bars, including those subject to the investigation, are hot-rolled from billets which were processed from strand-cast blooms or ingots. In general practice, bars are rolled on a bar mill and rods are rolled on a rod mill; these two types of hot-rolling mills differ somewhat in their engineering requirements, the number of stands, and their speeds of operation, among other things, although there are combination bar/rod mills and the layout is similar. Chemistry, size tolerances, and end use typically define most differences between bars and rods.

With respect to chemistry and form differences, most carbon steel rod is produced in the 1000 and 1500 series carbon steels, and very little, if any, is produced in the 1100 or 1200 series, which are common bar grades.[22] Rods are typically produced in coils of one continuous length, unlike bars which may be produced either in coils or cut to length. Much of the rod products that are produced in the United States are designated "wire rods," which is to say that they are cold-drawn into wire for the production of wire products; this also means that most rod is of a circular cross-section.[23] Bars may be

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[21] Staff interview of engineering personnel at *** on ***.

[22] See, American Iron and Steel Institute, Steel Products Manual: Wire and Rods, Carbon Steel, March 1984. See definitions in app. C for a discussion of steel series.

[23] According to one estimate made by a steel industry executive, approximately 95 percent of the U.S. rod production is "wire rod", with

(continued...)

further hot-worked (e.g., forged), or cold-finished (including cold-drawn) depending upon their end use. Bars are hot-rolled to a number of shapes, including, round, square, round-cornered squares, hexagons, square-edge and round-edge flats, flats, and angles.[24]

Bar tolerances are tighter and more exacting than those for rod. The specifications written for the two products reflect these differences and are based mainly on the different end uses. Hot rolled wire rods are generally produced in nominal fractional diameters, and are not comparable to hot rolled bars in accuracy of cross section or surface finish because of the methods of manufacture and the designation of wire rods to be drawn into wire.[25]

With respect to size differences, industry usage is in transition: there is a grey area in which the definitions of bar and rod overlap, and standardized nomenclature or a distinct and clear line between bar and rod is lacking.[26] The overlap can be seen in normal usage where forms that exceed 3/4 inch in diameter are termed "bar," those under 1/2 inch in diameter are usually termed "rod," and those between 1/2 and 3/4 inches may be called a "bar" or a "rod," depending upon the mill or the customer, and the end-use. Rod sizes include those hot-rolled coiled sections with a solid cross sectional diameter between 5.5 mm (7/32 inch) and 18.5 mm (47/64 inch), or up to 19 mm (0.74 inch), including the size definition of the HTS.[27] Most wire rods are produced in 7/32 inch (5.5 mm) diameters. With respect to bar sizes, the HTS limits bar to minimum 14 mm in cross section diameter, thereby admitting a grey area of overlap between bars and rods between 14 mm and 19 mm, although U.S. steel industry specifications for bar include sizes down to 5/16 inch (7.94 mm); nonetheless the term bar is commonly used for these sizes as well.[28] While the HTS definition provides an indication of the minimum size for bars, bar forms include a range of sizes. For example, rounds may be

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[23] (...continued)
another 3 to 4 percent designated for cold-heading applications and structural applications requiring large diameter wires welded at the intersection.

[24] AISI, Steel Products Manual (Hot rolled bars), pp. 91-94.

[25] AISI, Steel Products Manual (Wire and rods), p. 35.

[26] Under the predecessor Tariff Schedules of the United States (TSUS), bars and wire rod were separate items. Steel bar was defined as having cross sections in the shape of circles, ovals, triangles, rectangles, hexagons, or octagons; and imports were reported under separate categories based on configuration and whether or not they were cold formed. Wire rod was defined as a coiled hot-rolled product, approximately round in cross section, and not under 0.20 inch nor over 0.74 inch in diameter; imports were reported under separate categories based on carbon content and further processing.

With the adoption of the HTS, hot-rolled bars and rods are classified together with a distinction between "hot-rolled bars and rods in irregularly wound coils" and "other bars and rods" (which would include hot-rolled bars and rods cut to length). A size dimension continues to be maintained, however, with a separate reporting category for coiled product less than 14mm (0.74 inch) in diameter. (See app. D for tariff headnotes and nomenclature).

[27] AISI, Steel Products Manual (Wire and Rods), p. 35.

[28] AISI, Steel Products Manual (Bars), p. 91. This grey area was discussed by Mr. D'Esclapon, representing respondent Usinor Sacilor (and its subsidiaries, Ascometal, Unimetal, and Saarstahl). TR., p. 149.

up to 10 inches in diameter, squares may be up to 8 inches, hexagons may be up to 4 inches, and flats may be up to 1-1/2 inches thick and 6 inches wide.[29]

Uses

The primary purchasers of lead and bismuth hot-rolled bar and rod are the cold-finished bar companies, which account for 95 percent of shipments of these products.[30] Cold-finishing companies, which include some steelmakers, perform valued-added work on hot-rolled bar and rod; cold-finish work includes cold-drawing (improving mechanical properties, such as increasing tensile strength, yield strength, torsional strength, hardness, and wear resistance) or other surface treatments; such as straightening, turning, grinding, and polishing. These companies in turn supply companies that manufacture parts using screw machines, lathes, and drill presses (collectively called screw machine companies).

The companies that purchase highly machined parts[31] first identify the necessary mechanical properties (e.g., ductility, strength, and hardness) for a part and then select a group of steels that meet those criteria.[32] Among other considerations for the purchaser of parts are defect rates and close adherence to or improvement over stated tolerance. This includes good surface quality and tight dimensional adherence. Where there is a long production run, for small highly machined parts with extensive metal removal, the screw machine shops are likely to choose the lead and bismuth steels.[33]

Questionnaire Responses

Through its questionnaires, the Commission sought data regarding the configuration and ultimate end-use customers[34] of hot-rolled lead and bismuth carbon steel products, whether U.S.-produced or imported from the subject countries. U.S. producers (accounting for *** percent of total U.S. production in 1991) and *** importers (accounting for approximately *** percent of total imports of hot-rolled lead and bismuth carbon steel products from the subject countries in 1991) provided information on total U.S. shipments or imports of hot-rolled lead and bismuth carbon steel products by

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[29] AISI, Steel Products Manual (Hot-rolled bar), pp. 91-94.

[30] Testimony of Mr. Alvarado, Inland Steel, discussion of Exhibit 1 (Distribution Flow Chart, Hot-Rolled Lead and Bismuth Steel), TR, p. 15.

[31] Such parts include valves and hydraulic fittings, couplings and pressure fittings, and brake assemblies for automobiles, heavy equipment, and aircraft.

[32] Testimony of Mr. Christopher, TR, p. 27. The postconference brief of Mr. Darling, Corey Steel, p. 3, indicates that "approximately 90 percent of Corey's customer base purchases...pursuant to end-user specifications that prescribe the grade...In those instances where the part to be manufactured requires extensive machining, most, if not all, of the specifications require the use of...lead or bismuth."

[33] See testimony of Mr. Christopher, TR, pp. 81.

[34] Because hot-rolled carbon steel products are intermediate products, U.S. producers and importers were generally unable to identify ultimate end-use markets.

configuration and end-use customer. The data are presented in the following tabulations (in percent):

End-use markets	United States	Brazil	France	Germany	United Kingdom	Subject Imports
Automotive.....	16.0	***	***	***	***	31.8
Construction, including maintenance...	***	***	***	***	***	2.6
Machinery, industrial equip. & tools....	***	***	***	***	***	5.3
Electrical equip....	***	***	***	***	***	2.6
Other[1].....	78.7	***	***	***	***	57.6
Total.....	100.0	100.0	100.0	100.0	100.0	100.0

[1] Consists principally of shipments of product to cold finishers where the ultimate end-use market could not be identified.

Configuration	United States	Brazil	France	Germany	United Kingdom	Subject Imports
Rounds.....	71.1	***	***	***	***	73.0
Squares & round-cornered squares..	7.7	***	***	***	***	3.9
Hexes & octagons....	19.5	***	***	***	***	23.1
Flats.....	1.7	***	***	***	***	--
Total.....	100.0	100.0	100.0	100.0	100.0	100.0

Imported and Domestic Product Comparison

According to information supplied by The Corey Steel Company, a purchaser of domestically produced and imported lead and bismuth hot-rolled carbon steel bar and rod, there is no difference in quality or machinability between the domestic product and its imported counterpart.[35] Other witnesses also indicated that they believed the domestic and imported products are fungible on the basis of quality. However, according to domestic purchasers, there are several differences between the domestic and imported products in the area of customer service. There are significantly longer lead times associated with purchasing from a foreign source; inventories are larger because of larger purchase orders; shipping delays are more frequent (because of winter ice in the St. Lawrence Seaway, there may be a periodicity to shipping); and the domestic industry provides a greater amount of customer and technical service.[36] (See also the section of the Report entitled "Lost Sales" for other purchaser comments).

According to domestic industry officials, imports of lead and bismuth steels are concentrated in the AISI/SAE grade 12L14, a resulphurized,

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[35] Testimony of Mr. Darling, TR, p. 38.

[36] Mr. Darling, TR, pp. 102-103. Customer service includes the settlement of quality claims.

rephosphorized low-carbon steel containing 0.15 to 0.35 percent lead, by weight. According to those same officials, U.S. shipments of lead and bismuth steels made by U.S. producers are also concentrated in the same grade.

Substitute Products

With respect to the uses indicated earlier, screw machine and cold-finishing companies presented evidence to the Commission that indicates that the use of lead and bismuth carbon steels is increasing. One reason for this is that efforts to supplement or supplant such steels have not been successful, and the companies that tried to do so have for the most part returned to using lead or bismuth carbon steels. Another factor is that several of the Japanese automotive transplants utilize a higher proportion of machined parts using low-lead steels on their cars than does the domestic automotive industry. Third, leaded steels are apparently the steel of choice for making the small, highly machined parts described earlier; as representatives of the domestic steel industry indicated during the staff conference, specifications provided by original equipment manufacturers are difficult to change, in part because of the lead time required to qualify parts.[37]

There does not seem to be an acceptable or economically viable alternative to the use of lead or bismuth steels for the production of small highly-machined parts produced in large volume. This is, in part, because of the high relative machinability ratings for lead and bismuth steels, and the capability of screw machine companies to achieve high quality over long production runs from such steels. There are other grades of steels, but these are perceived as a separate and distinct categories by customers. Moreover, there is apparently a reluctance by other steelmakers to enter the market, caused, in part, by the environmental and worker health liabilities they would incur. The environmental liability has been cited as a reason for Stelco (a Canadian firm) to consider ceasing production of these steels. Several steelmakers have experimented with producing the steels but have not done so on a commercial basis.[38]

As indicated earlier, there is substitution where the economics of production or the subsequent working of the part call for it. Although not completely interchangeable with a leaded steel grade (for example, a 12L14), a subsequent welding operation or case-hardening requirement may call for a steel from the 1000 or 1100 series; in this example, the subsequent processing (and property of the steel) is more important to making the part than is the enhanced machinability.[39] In another example, calcium deoxidized steels (carbon and alloy) reportedly have good machinability and are used for carburized or through-hardened gears, worms, and pinions.[40]

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[37] Mr. Alvarado (Inland Steel), TR, p. 82.

[38] Steptoe & Johnson, postconference brief, Exhibit 5. It is unclear from the grade of steel shown, resulphurized steel, whether leaded steel is meant; several of the mills shown roll bars and rods from purchased billets or bars.

[39] Statement of Mr. Graham, United Engineering Steels, p. 6.

[40] George S. Brady and Henry R. Clauser, Materials Handbook. (New York: McGraw-Hill Book Company, 11th Ed (1977), p. 138.

U.S. Tariff Treatment

Most imports of the lead and bismuth carbon steel products subject to these investigations are provided for in subheadings 7213.20.00.00 and 7214.30.00.00 of the HTS, and are termed, "free-cutting steel."[41] Imports subject to the investigations may also enter under the following HTS subheadings:

HTSUS subheading	Comment
7213.31.30.00 7213.31.60.00 7213.39.30.00 7213.39.60.00 7213.39.90.00 7214.40.10.00 7214.40.30.00 7214.40.50.00 7214.50.10.00 7214.50.30.00 7214.50.50.00 7214.60.10.00 7214.60.30.00 7214.60.50.00	Lead level of 0.03 to 0.10 percent and/or bismuth content of 0.05 percent.
7228.30.80.00	Lead content equal to or exceeding 0.40 percent and/or bismuth content equal to or exceeding 0.1 percent.
7207.11.00.00 7207.12.00.10 7207.19.00.30 7207.20.00.25 7207.20.00.75 7207.20.00.90 7224.90.00.45 7224.90.00.75	Imports of large bars entered as semi-finished steel.

The column 1-general (most-favored-nation) rates of duty for these products, applicable to imports from the four subject countries, range from 1.9 to 6 percent ad valorem. The tariff for carbon free-cutting steels is 1.9 percent and that for certain alloy grades of carbon free-cutting steels is 4.7 percent.

Voluntary Restraint Agreements

Between October 1, 1984, and March 31, 1992, imports of bar, rod, and bar-size shapes, including the products subject to these investigations, were subject to quantitative limitations under the Voluntary Restraint Agreements

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[41] See app. D for tariff headnotes and nomenclature.

(VRAs) negotiated with 19 foreign governments and the European Community.[42] The VRA program was, in part, an outgrowth of earlier trade measures from the period 1969-84, although these arrangements covered flat-rolled products, pipe and tube, and wire rod for the most part. The immediate cause of the VRA program was a determination by the President, on September 18, 1984, that taking "escape clause" action was not in the national economic interest; this decision followed an investigation conducted by the Commission in which imports of certain steel products were found to be a substantial cause of serious injury, or threat thereof, to certain domestic industries (Inv. No. TA-201-51).[43] The President directed the United States Trade Representative (USTR) to negotiate VRAs to cover a five-year period, October 1, 1984 through September 30, 1989, with countries whose exports to the United States had increased significantly in previous years. Although the structure of the arrangements varied from one country to another, each involved an agreement by the foreign government to limit their exports of certain steel products to the United States. In order to bring the agreements into effect, U.S. producers withdrew pending unfair trade petitions and the U.S. Government suspended antidumping and countervailing duties that were in effect on steel products covered by the VRAs. The trade measures were expected to return the share of imports in the U.S. market to a level of approximately 18.5 percent, excluding semifinished steel (subsequent Administration statements indicated such imports were limited to about 1.7 million tons per year). In this manner, export restraints were to allow the U.S. steel industry's capacity utilization rates to improve and the industry to restructure in response to the structural crisis and to become competitive with foreign producers.

On July 25, 1989, the President announced a Steel Trade Liberalization Program, under which the VRAs were extended for 2-1/2 years, terminating on March 31, 1992. The President directed the USTR to negotiate VRAs at an overall restraint level of 18.4 percent (which is the same as the 1988 VRA import penetration level). In order to provide incentives for countries to eliminate trade-distorting practices and to respond to concerns of steel consumers for adequate supplies of raw materials, the President authorized up to an additional one percent import penetration annually that would be available to countries that entered into bilateral consensus agreements.[44]

On December 12, 1989, the USTR announced that negotiations had been completed with the European Community and 16 other countries, including Brazil, that previously had VRAs. As a result of the negotiations, overall restraint levels were raised. Product coverage under the VRAs remained essentially unchanged, although the agreements were modified to include those

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[42] The restraint limits discussed in this section are more accurately defined as export limits because the countries under agreement controlled their shipments of exports in lieu of U.S. import quotas.

[43] Affirmative decisions were rendered in the case of semifinished steel, plates, sheets and strip, wire and wire products, and structural shapes and units. Negative determinations were rendered in the case of wire rod, railway type products, bars, and pipe and tube.

[44] Negotiations for bilateral agreements were conducted in order to restrict trade-distorting practices, particularly subsidies to the steel industry. See USTR Press Release of Dec. 12, 1989.

specialty steel products (e.g., stainless and alloy tool steels) that were previously subject to relief under section 203 of the Trade Act of 1974.

The categories for hot-rolled bar, rod, bar-size shapes, and semifinished products subject to the VRAs are broader than for those products subject to these investigations. Moreover, the VRA categories, where product coverage is specified, are broader than the products described earlier in the HTS or do not cover products subject to the investigations. Overall, the category limits have not been binding for several years.

Bilateral Consensus Agreements/Multilateral Consensus Agreement

When the VRAs were extended in 1989, the United States sought to address the causes of unfair trade and to eliminate subsidies to and overcapacity in the steel industry. These agreements sought to include commitments by countries to prohibit export and production subsidies specifically for steel products, to reduce tariffs and non-tariff barriers to steel trade, and to incorporate a binding arbitration mechanism; the bilateral consensus agreements were to be multilateralized within GATT through incorporation in the Uruguay Round of negotiations.[45] As envisioned, negotiations were to be completed by December 1990 with the new agreement called the Multilateral Steel Agreement (MSA). On March 31, 1992, negotiations on a Multilateral Steel Agreement were suspended without agreement, although considerable progress had been made. Negotiators have reportedly agreed to continue to meet bilaterally and multilaterally, but no specific time schedule has been set.

Like Product Considerations

During these investigations petitioners have argued that, on the basis of the factors the Commission considers in analyzing like-product issues (physical characteristics and uses, interchangeability among products, channels of distribution, producer and customer perceptions of the articles, and production facilities and employees and, where appropriate, price), there is a single like product and a single industry producing hot-rolled lead and bismuth carbon steel products. Correspondingly, counsel for respondents have relied on those same like-product factors, and have argued that there are no clear and bright-line distinctions between certain hot-rolled lead and bismuth carbon steel products and other hot-rolled carbon steel bar and rod products. See appendix E for a presentation of available information on alternative like product industries.

THE NATURE AND EXTENT OF ALLEGED SUBSIDIES AND SALES AT LESS THAN FAIR VALUE

The petitioners' allegations of unfair trade practices are summarized below.

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[45] Press Release of USTR, Dec. 12, 1989, and accompanying STEEL TRADE LIBERALIZATION PROGRAM (Fact Sheet).

Alleged Subsidies

Brazil

The petitioners allege that producers or exporters of certain lead and bismuth carbon steel products in Brazil receive benefits that constitute subsidies within the meaning of the countervailing duty law. The Department of Commerce has reviewed the petitioner's allegations and has initiated an investigation on the following alleged programs:

Export subsidies:
- o BEFIEX Program
- o FINEX/PROEX Export Financing
- o Import-Export Reform Plan

Domestic programs:
- o Privitization Assistance to Acesita
- o Subsidies to the Villares Group and Vibasa
- o Incentive Related to Industrialized Products Tax (IPI)
- o Finame Equipment Financing
- o Long-term Loans through ADTEN of FINEP

The petitioners were unable to calculate the amount of alleged bounties or grants that should be applied to Brazilian exports of certain lead and bismuth carbon steel products to the United States.

France

The petitioners allege that producers or exporters of certain lead and bismuth carbon steel products in France receive benefits that constitute subsidies within the meaning of the countervailing duty law. The Department of Commerce has reviewed the petitioner's allegations and has initiated an investigation on the following alleged programs:

- o Equity Infusions and Grants
- o Miscellaneous subsidies:
  - --Assistance for Research and Development
- o European Community Aid:
  - --European Coal and Steel Community Programs
  - --European Investment Bank Programs
  - --New Community Investment
  - --European Regional Development Fund

Petitioners allege that the total net subsidy rates (in percent ad valorem) which should be applied to French exports of certain lead and bismuth carbon steel products to the United States are at least 12.25 percent for Usinor Sacilor, 20.90 percent for Ascometal, and 22.37 percent for Unimetal.

Germany

The petitioners allege that producers or exporters of certain lead and bismuth carbon steel products in Germany receive benefits that constitute subsidies within the meaning of the countervailing duty law. The Department of Commerce has reviewed the petitioner's allegations and has initiated an investigation on the following alleged programs:

- o Forgiveness of Interest-free Financing
- o Local and Federal Grants under Restructuring Plan
- o Recovery Waivers Acting as Loan Forgiveness
- o Debt Assumption/Forgiveness of 1989
- o ECSC Worker Assistance
- o Grants under the Market Development Assistance Program (MDA)
- o Import Permits/Replenishment Licenses

Petitioners allege that the total net subsidy rate which should be applied to German exports of certain lead and bismuth carbon steel products to the United States is at least 25.88 percent ad valorem.

The United Kingdom

The petitioners allege that producers or exporters of certain lead and bismuth carbon steel products in the United Kingdom receive benefits that constitute subsidies within the meaning of the countervailing duty law. The Department of Commerce has reviewed the petitioner's allegations and has initiated an investigation on the following alleged programs:

- o Government Equity Infusions into British Steel Corp. (BSC)
- o Grant Subsidies to BSC
- o Loan Cancellation
- o Proportionate Share of Subsidies Should be Allocated to United Engineering Steel (UES)

Petitioners allege that the total net subsidy rate which should be applied to exports of certain lead and bismuth carbon steel products from the United Kingdom to the United States is at least 10.2 percent ad valorem.

Alleged Sales at LTFV

For each of the countries covered by these investigations, the petitioners have calculated LTFV margins by comparing the United States price with the foreign market value (FMV). The following tabulation provides estimated dumping margins for each of the foreign countries subject to these investigations (in percent ad valorem):

Country	Estimated dumping margins High	Low
Brazil:[1]		
Acesita	93.81	109.11
Mannesmann	139.48	148.12
France:[2]		
Coiled products	24.51	39.51
Cut-length products	31.22	43.42
Germany:[3]		
Thyssen--		
Coiled products	2.26	9.83
Cut-length products	9.62	11.01
Saarstahl--		
Coiled products	.56	7.91
Cut-length products	4.96	11.09
United Kingdom:[4]		
Coiled products	18.03	63.73
Cut-length products	22.37	61.79

[1] U.S. prices were based on an actual sales offer and a quoted transaction price, and FMV was based on actual home-market price lists adjusted for differences in credit terms.

[2] U.S. prices were based on quoted transaction prices and FMV was based on home-market prices. Margin calculations using FMV based on third-country prices and constructed value were also reported; such margins were considerably lower and higher, respectively.

[3] U.S. prices were based on quoted transaction prices and FMV was based on home market sales or offers of sales. Margin calculations using FMV based on constructed value were also reported, and such margins were considerably higher.

[4] U.S. prices were based on quoted transaction prices and FMV was based on home market sales or offers of sales. Margin calculations using FMV based on constructed value were also reported, and such margins were somewhat higher.

THE U.S. MARKET

U.S. Producers

The petition in these investigations identified seven firms as producing hot-rolled lead and bismuth carbon steel products. The Commission sent questionnaires to each of the seven producers identified in the petition, and received complete responses from six of the seven firms.[46] These firms are believed to have accounted for almost *** percent of all U.S. production of hot-rolled lead and bismuth carbon steel products in 1991.

Table 2 presents the known producers of hot-rolled lead and bismuth carbon steel products, the locations of their plants, position on petition, and their share of 1991 total production of hot-rolled lead and bismuth carbon steel products. The firms that produce hot-rolled lead and bismuth carbon steel products in the United States are described below.

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[46] ***.

Table 2
Hot-rolled lead and bismuth carbon steel products: U.S. producers, location of producing facility, position on petition, and share of production in 1991

Firm	Location	Position on petition[1]	Share of U.S. production		
			Lead	Bismuth	Total
American Steel & Wire..	Cuyahoga Heights, OH	***	***	***	***
Bethlehem Steel Bar, Rod & Wire Div..	Johnstown, PA	S	***	***	***
Copperweld Steel Co....	Warren, OH	***	***	***	***
Inland Steel Bar.....	E. Chicago, IN	S	***	***	***
Raritan River Steel....	Perth Amboy, NJ	***	***	***	***
Republic Engineered Steels.....	Canton, OH	***	***	***	***
USS/Kobe Steel.....	Lorain, OH	S	***	***	***
Total.....			***	***	100.0

[1] S=Supports, N=does not wish to take a position, and O=Opposes.

Note.--Totals may not add due to rounding.

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

American Steel & Wire

American Steel & Wire *** produces hot-rolled lead carbon steel products at its facilities in Cuyahoga Heights, OH, and accounted for *** percent of U.S. production of hot-rolled lead and bismuth carbon steel products in 1991. American's operations producing hot-rolled lead carbon steel products accounted for *** percent of the firm's (establishment's) total net sales in 1991, with the remainder accounted for by ***.

Bethlehem Steel, Bar, Rod & Wire Division

Bethlehem produced semifinished lead and bismuth carbon steel products at its facility in Johnstown, PA; hot-rolled lead and bismuth carbon steel bar products at its facility in Lackawanna, NY; and such rod products at its facility in Sparrows Point, PA.[47] Bethlehem's Bar, Rod & Wire Division

[47] On Jan. 29, 1992, Bethlehem Steel Corp. announced its decision to exit the bar, rod, and wire industry, offering its Bar, Rod, and Wire Div. for sale. Unable to complete a transaction for the entire division, Bethlehem announced, on May 15, 1992, that it was initiating "an orderly phasing down" of the division, exiting the business "as quickly as possible," and reported that a "schedule for cessation of various steelmaking and rolling operations will be announced within two weeks." (May 15, 1992, Press Release, Bethlehem Steel Corp.).

accounted for *** percent of U.S. production of such hot-rolled lead and bismuth products in 1991. Bethlehem's operations producing semifinished and hot-rolled lead and bismuth carbon steel products accounted for *** percent of the Bethlehem's establishment total net sales in 1991, with the remainder accounted for by ***.

Copperweld Steel Co.

Copperweld produces semifinished and hot-rolled lead carbon steel products at its facility in Warren, OH, and accounted for *** percent of U.S. production of hot-rolled lead and bismuth products in 1991. ***.

Inland Steel, including Inland Steel Bar Co.

Inland produces semifinished and hot-rolled lead and bismuth carbon steel products at its facility in East Chicago, IN, and accounted for *** percent of U.S. production of such hot-rolled lead and bismuth products in 1991. Inland's operations producing semifinished and hot-rolled lead and bismuth carbon steel products accounted for *** percent of its establishment's total net sales in 1991, with the remainder accounted for by other ***.

Raritan River Steel Co.

Raritan River *** produces hot-rolled lead carbon steel bars and rods at its facility in Perth Amboy, NJ, and accounted for *** percent of U.S. production of hot-rolled lead and bismuth carbon steel products in 1991. Raritan River's operations producing hot-rolled lead carbon steel products accounted for *** percent of the firm's total net sales in 1991, with the remainder accounted for by other ***.

Republic Engineered Steels, Inc.

Republic produces semifinished and hot-rolled lead and bismuth carbon steel products at its facility in Canton, OH, and accounted for *** percent of U.S. production of such hot-rolled lead and bismuth products in 1991. Republic's operations producing hot-rolled lead and bismuth carbon steel products accounted for *** percent of its establishment's total net sales in 1991, with the remainder accounted for by other ***.

USS/Kobe Steel Co.

USS/Kobe produces semifinished and hot-rolled lead carbon steel bars and rods at its facility in Lorain, OH, and accounted for *** percent of U.S. production of such hot-rolled lead and bismuth products in 1991. USS/Kobe's operations producing semifinished and hot-rolled lead carbon steel products accounted for *** percent of its establishment's total net sales in 1991, with the remainder accounted for by other ***.

U.S. Importers

Information identifying importers of hot-rolled lead and bismuth carbon steel products was provided by counsel for the petitioner and was verified against files provided by the U.S. Customs Service. The Commission sent questionnaires to approximately 25 importers, which include all the known major importers of hot-rolled lead and bismuth carbon steel products. The 25 importers are believed to account for approximately *** percent of total imports of hot-rolled lead and bismuth carbon steel products from the countries subject to these investigations.

As the Commission reported during its 1982 countervailing duty investigations of hot-rolled carbon steel bar,[48] imports from the subject countries generally entered the United States through one or two exclusive importers, and these firms were owned by or affiliated with major steel producers in the subject countries. Major importers of hot-rolled lead and bismuth carbon steel products from the subject countries include the following:

Country	Importing firm[1]
Brazil.....	***
France.....	***
Germany.....	***
United Kingdom.....	***

[1] These firms are owned by or affiliated with foreign steel producers.

U.S. Producers' Imports

*** U.S. producers, ***, reported imports of ***.[49] ***.

Apparent U.S. Consumption

The demand for hot-rolled lead and bismuth carbon steel products, as intermediate products, depends largely on the level of overall economic activity. In general, weak demand in the automotive and construction sectors during 1991 contributed to declines in apparent U.S. consumption of hot-rolled lead and bismuth carbon steel products. Data on apparent U.S. consumption of hot-rolled lead and bismuth carbon steel products are presented in table 3, are derived from responses to the Commission's questionnaires, and are composed of the sum of U.S. shipments (domestic shipments and company transfers) of U.S.-produced hot-rolled lead and bismuth carbon steel products, and imports of such hot-rolled carbon steel products.

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[48] Certain Steel Products from Belgium, Brazil, France, Italy, Luxembourg, the United Kingdom, and West Germany, Invs. Nos. 701-TA-125 through 129, and 146 and 147 (Preliminary), USITC Pub. 1221 (Feb. 1982), pp. VII-4 and 5.

[49] ***.

Table 3
Hot-rolled lead and bismuth carbon steel products: U.S. producers' shipments, U.S. imports for consumption, and apparent U.S. consumption, 1989-91, January-March 1991, and January-March 1992

Item	1989	1990	1991	January-March-- 1991	1992
	Quantity (short tons)				
Hot-rolled bars:					
U.S.-shipments of U.S.-produced product	337,615	352,649	252,469	57,790	96,625
Imports	106,759	112,139	124,275	17,025	14,705
App. U.S. consumption	444,374	464,788	376,744	74,815	111,330
Hot-rolled rods:					
U.S.-shipments of U.S.-produced product	59,199	56,463	51,667	13,662	19,471
Imports	72,454	66,951	60,956	3,280	4,801
App. U.S. consumption	131,653	123,414	112,623	16,942	24,272
Hot-rolled bars and rods:					
U.S.-shipments of U.S.-produced product	396,814	409,112	304,136	71,452	116,096
Imports	179,213	179,090	185,231	20,305	19,506
App. U.S. consumption	576,027	588,202	489,367	91,757	135,602
	Ratio to apparent consumption (percent)				
Hot-rolled bars:					
U.S.-shipments of U.S.-produced product	76.0	75.9	67.0	77.2	86.8
Imports	24.0	24.1	33.0	22.8	13.2
Hot-rolled rods:					
U.S.-shipments of U.S.-produced product	45.0	45.8	45.9	80.6	80.2
Imports	55.0	54.2	54.1	19.4	19.8
Hot-rolled bars and rods:					
U.S.-shipments of U.S.-produced product	68.9	69.6	62.1	77.9	85.6
Imports	31.1	30.4	37.9	22.1	14.4

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 totals shown.

Trends in Apparent Consumption

Apparent consumption of hot-rolled lead and bismuth carbon steel products (bars and rods)[50] increased from 576,027 short tons in 1989 to

[50] As mentioned, based on responses to the Commission's questionnaires, lead and/or bismuth bar-size shapes are not produced by either U.S. producers or foreign manufacturers/exporters.

588,202 short tons in 1990, or by 2.1 percent, and then decreased to 489,367 short tons in 1991, or by 16.8 percent. During January-March 1992, apparent consumption rose to 135,602 short tons, or by 47.8 percent when compared to the corresponding period in 1991. In addition to the impact of overall economic activity, the magnitude of recent increases may be partially explained by certain stockpiling activity,[51] new long-term contracts for products previously supplied by foreign sources,[52] and accelerated purchases from Bethlehem following the announced sale of its Bar, Rod, and Wire Division.[53]

Trends in total apparent consumption are heavily influenced by activity in the bar category of hot-rolled lead and bismuth carbon steel products, as it represented approximately *** percent of total apparent consumption (based on quantity) in 1991.

U.S. Producers' Share of Apparent Consumption

The U.S. producers' share of total apparent consumption of hot-rolled lead and bismuth carbon steel products (based on quantity) increased from 68.9 percent in 1989 to 69.6 percent in 1990, and then decreased to 62.1 percent in 1991. During January-March 1992, U.S. producers' share increased to 85.6 percent from 77.9 percent during the corresponding period of 1991.

Channels of Distribution

As was found in the 1982 countervailing duty investigations of hot-rolled carbon steel products,[54] and confirmed during the current investigations, the major channel of distribution for hot-rolled lead and bismuth carbon steel products for both U.S. producers and importers continues to be end users.[55] The following tabulation provides the shares of shipments of hot-rolled lead and bismuth carbon steel products by channels of distribution for both U.S. producers and U.S. importers, and the reporting coverage for each item (in percent) in 1991:

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[51] *** (May 18, 1992, telephone interview with A. Price, counsel for petitioners).

[52] ***.

[53] Following failed negotiations to sell, Bethlehem announced on May 15, 1992, that it was shutting down the division (see section of the report entitled "U.S. producers").

[54] See Certain Steel Products from Belgium, Brazil, France, Italy, Luxembourg, the United Kingdom, and West Germany, USITC Pub. 1221, Feb. 1982.

[55] For purposes of the Commission's questionnaires, cold finishers are considered end users of the intermediate hot-rolled product. Following cold finishing the products are then frequently sold to screw machine shops for further processing before being sold to end users in the automotive and appliance industries, among others.

Item	Distributors/ Service centers	End users
U.S. producers.....	0	100.0[1]
U.S. imports of HR lead products from:		
Brazil.....	***	***
France.....	***	***
Germany.....	***	***
United Kingdom....	***	***
Average.....	0.3	99.7

[1] Shipments to related end users account for approximately *** percent of this channel of trade.

CONSIDERATION OF MATERIAL INJURY TO AN INDUSTRY IN THE UNITED STATES

The information in this section of the report was compiled from responses to questionnaires of the U.S. International Trade Commission. The six producers that provided questionnaire responses are believed to account for approximately *** percent of U.S. shipments of total hot-rolled lead and bismuth carbon steel products in 1991.

U.S. Production, Capacity, and Capacity Utilization

Data on reported U.S. production, average-of-period capacity, and capacity utilization in connection with operations on hot-rolled lead and bismuth carbon steel products are presented in table 4. Production of all hot-rolled lead and bismuth carbon steel products (bars and rods) increased from 424,873 short tons in 1989 to 450,074 short tons in 1990, or by 5.9 percent, and then decreased to 344,430 short tons in 1991, or by 23.5 percent. Production turned upward by 68.2 percent during January-March 1992 when compared with that in the same period in 1991.

Capacity to produce all hot-rolled lead and bismuth carbon steel products remained unchanged over the period of investigation. Utilization of capacity to produce all hot-rolled lead and bismuth carbon steel products remained below the 50-percent level during most of the period of investigation, with utilization increasing to 54.8 percent during January-March 1992 when compared to 32.5 percent during the corresponding period of 1991.[56] During these investigations, responding firms have indicated that because their bar and rod mills are capable of producing all hot-rolled carbon and alloy steel products, they have encountered difficulties in allocating capacity to hot-rolled lead and bismuth, as well as to other carbon steel products.[57]

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[56] In contrast, capacity utilization for the total hot-rolled bar and light structural (bar-size shapes) industry was reported at 70 percent for January-March 1991 (see Steel Industry Annual Report, USITC 2436, Sept. 1991, p. J-4). See also App. E, where capacity utilization rates during January-March 1992 for other products were 36.4 percent for non-lead and non-bismuth hot-rolled bars (see table E-5), and 80.4 percent for non-lead and non-bismuth hot-rolled rods (see table E-11).

[57] As an example, ***.

Table 4
Semifinished and hot-rolled lead and bismuth carbon steel products: U.S. capacity, production, and capacity utilization, by products, 1989-91, January-March 1991, and January-March 1992

Item	1989	1990	1991	Jan.-Mar.-- 1991	1992
	Average-of-period capacity (short tons)				
Semifinished products:					
Lead	***	***	***	***	***
Bismuth	***	***	***	***	***
Total	1,033,700	1,033,700	1,033,700	258,650	258,650
Hot-rolled bars:					
Lead	***	***	***	***	***
Bismuth	***	***	***	***	***
Total	810,200	810,200	810,200	202,300	202,300
Hot-rolled rods:					
Lead	***	***	***	***	***
Bismuth	***	***	***	***	***
Total	124,400	124,400	124,400	31,050	31,050
Hot-rolled bars and rods:[1]					
Lead	***	***	***	***	***
Bismuth	***	***	***	***	***
Total	934,600	934,600	934,600	233,350	233,350
	Production (short tons)				
Semifinished products:					
Lead	***	***	***	***	***
Bismuth	***	***	***	***	***
Total	478,498	516,834	381,323	76,501	140,822
Hot-rolled bars:					
Lead	***	***	***	***	***
Bismuth	***	***	***	***	***
Total	361,078	390,841	288,363	61,664	106,927
Hot-rolled rods:					
Lead	***	***	***	***	***
Bismuth	***	***	***	***	***
Total	63,795	59,233	56,067	14,240	21,014
Hot-rolled bars and rods:[1]					
Lead	***	***	***	***	***
Bismuth	***	***	***	***	***
Total	424,873	450,074	344,430	75,904	127,941
	Capacity utilization (percent)				
Semifinished products:					
Lead	***	***	***	***	***
Bismuth	***	***	***	***	***
Average	46.3	50.0	36.9	29.6	54.4
Hot-rolled bars:					
Lead	***	***	***	***	***
Bismuth	***	***	***	***	***
Average	44.6	48.2	35.6	30.5	52.9
Hot-rolled rods:					
Lead	***	***	***	***	***
Bismuth	***	***	***	***	***
Average	51.3	47.6	45.1	45.9	67.7
Hot-rolled bars and rods:[1]					
Lead	***	***	***	***	***
Bismuth	***	***	***	***	***
Average	45.5	48.2	36.9	32.5	54.8

[1] U.S. producers reported no capacity to produce or production of lead and bismuth bar-size shapes.

Note.--Capacity utilization is calculated using data of firms providing both capacity and production information.

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

U.S. Producers' U.S. Shipments

Data on U.S. producers' total shipments of hot-rolled lead and bismuth carbon steel products, by type of product, are presented in table 5. Semifinished lead and bismuth carbon steel products were produced by five of the seven U.S. producing firms, internally consuming such products in the further value-added production of hot-rolled lead and bismuth carbon steel products. Merchant trade of semifinished lead and bismuth products (billets) increased from *** percent of total shipments during 1989 to *** percent during 1990, while merchant trade decreased to *** percent of total shipments during January-March 1992 when compared to *** percent during the same period in 1991.

Aggregate U.S. shipments of the subject hot-rolled lead and bismuth carbon steel products (bars and rods) increased from 1989 to 1990 by 3.1 percent, decreased from 1990 to 1991 by 25.7 percent,[58] and increased from interim 1991 to interim 1992 by 62.5 percent.[59] Hot-rolled lead and bismuth carbon steel bars were the dominating product (*** percent of total hot-rolled lead and bismuth carbon steel bar and rod shipments based on quantity and value in 1991). Questionnaire data regarding shipments by type of additive are presented in table 6 and indicate that hot-rolled bismuth carbon steel products accounted for *** shares of U.S. producers' total U.S. shipments of hot-rolled lead and bismuth carbon steel products, ranging from a low of *** percent during 1990 to a high of *** percent during 1991.

U.S. Producers' Exports

Information on U.S. producers' exports of the subject hot-rolled lead and bismuth carbon steel products is based on questionnaire responses of *** firms, accounting for approximately *** percent of total shipments of U.S.-produced hot-rolled lead and bismuth carbon steel products in 1991 (see table 5). U.S. producers' exports of hot-rolled lead and bismuth carbon steel products increased from 1989 to 1990-91, but only accounted for *** percent of all U.S. producers' total shipments in 1991. Exports decreased by *** percent during January-March 1992 when compared to the same period in 1991. U.S. producers, ***.

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[58] In addition to weaknesses in the automotive and construction related markets, declining shipments from 1990-91 are partially explained by a building of inventory by ***.

[59] As mentioned earlier, the magnitude of recent increases in U.S. producers' U.S. shipments is partially explained by certain stockpiling, activity under a long-term contract which supplanted product from foreign sources (***), and increased shipments following Bethlehem's decision to sell its Bar, Rod, and Wire Division.

Table 5
Semifinished and hot-rolled (HR) lead and bismuth carbon steel products: Shipments by U.S. producers, by products and by types, 1989-91, January-March 1991, and January-March 1992

Item	1989	1990	1991	Jan.-Mar.-- 1991	1992
	Quantity (short tons)				
Semifinished lead and bismuth:					
Company transfers	***	***	***	***	***
Domestic shipments	***	***	***	***	***
Subtotal	419,743	458,479	349,470	73,971	122,152
Exports	***	***	***	***	***
Total	***	***	***	***	***
HR lead and bismuth bars:					
Company transfers	***	***	***	***	***
Domestic shipments	***	***	***	***	***
Subtotal	337,615	352,649	252,469	57,790	96,625
Exports	***	***	***	***	***
Total	***	***	***	***	***
HR lead and bismuth rods:					
Company transfers	***	***	***	***	***
Domestic shipments	***	***	***	***	***
Subtotal	59,199	56,463	51,667	13,662	19,471
Exports	***	***	***	***	***
Total	***	***	***	***	***
Subject HR lead and bismuth:					
Company transfers	***	***	***	***	***
Domestic shipments	***	***	***	***	***
Subtotal	396,814	409,112	304,136	71,452	116,096
Exports	***	***	***	***	***
Total	***	***	***	***	***
	Value (1,000 dollars)				
Semifinished lead and bismuth:					
Company transfers	***	***	***	***	***
Domestic shipments	***	***	***	***	***
Subtotal	154,096	163,351	124,388	26,262	43,624
Exports	***	***	***	***	***
Total	***	***	***	***	***
HR lead and bismuth bars:					
Company transfers	***	***	***	***	***
Domestic shipments	***	***	***	***	***
Subtotal	186,738	189,801	138,837	32,229	53,198
Exports	***	***	***	***	***
Total	***	***	***	***	***
HR lead and bismuth rods:					
Company transfers	***	***	***	***	***
Domestic shipments	***	***	***	***	***
Subtotal	33,838	31,178	28,502	7,487	10,422
Exports	***	***	***	***	***
Total	***	***	***	***	***
Subject HR lead and bismuth:					
Company transfers	***	***	***	***	***
Domestic shipments	***	***	***	***	***
Subtotal	220,576	220,979	167,339	39,716	63,620
Exports	***	***	***	***	***
Total	***	***	***	***	***

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Table 5--Continued
Semifinished and hot-rolled (HR) lead and bismuth carbon steel products: Shipments by U.S. producers, by products and by types, 1989-91, January-March 1991, and January-March 1992

Item	1989	1990	1991	Jan.-Mar.-- 1991	1992
	Unit value (per short ton)				
Semifinished lead and bismuth:					
Company transfers	***	***	***	***	***
Domestic shipments	***	***	***	***	***
Average	$367	$356	$356	$355	$357
Exports	***	***	***	***	***
Average	***	***	***	***	***
HR lead and bismuth bars:					
Company transfers	***	***	***	***	***
Domestic shipments	***	***	***	***	***
Average	553	538	550	558	551
Exports	***	***	***	***	***
Average	***	***	***	***	***
HR lead and bismuth rods:					
Company transfers	***	***	***	***	***
Domestic shipments	***	***	***	***	***
Average	572	552	552	548	535
Exports	***	***	***	***	***
Average	***	***	***	***	***
Subject HR lead and bismuth:					
Company transfers	***	***	***	***	***
Domestic shipments	***	***	***	***	***
Average	556	540	550	556	548
Exports	***	***	***	***	***
Average	***	***	***	***	***

[1] Not applicable.

Note.--Unit values are calculated using data of firms supplying both quantity and value information.

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

Table 6
Hot-rolled (HR) lead and bismuth carbon steel products: U.S. producers' U.S. shipments (domestic shipments and company transfers), by additive, 1989-91, January-March 1991, and January-March 1992

* * * * * * *

U.S. Producers' Inventories

U.S. producers' inventories of hot-rolled lead and bismuth carbon steel products remained relatively low during the period of investigation, but increased from 1989 to 1991, and increased again in January-March 1992 (table 7). As a share of U.S. producers' total shipments during the preceding year, inventories of hot-rolled lead and bismuth carbon steel products decreased from 6.3 percent as of December 31, 1989, to 5.8 percent as of December 31, 1990, and increased to 8.8 percent at yearend 1991. During January-March 1992, the inventory-to-total shipments ratio decreased to 5.6 percent as compared to 7.1 percent during the comparable period of 1991.

Table 7
Hot-rolled lead and bismuth carbon steel products: U.S. producers' end-of-period inventories and ratios to total shipments, by types, 1989-91, January-March 1991, and January-March 1992

Item	1989	1990	1991	January-March--[1] 1991	1992
Semifinished products:					
Inventories					
Quantity (short tons)..	***	***	***	***	***
Ratio to total shipments:					
(percent).....	14.9	12.7	12.6	17.1	9.6
Bars:					
Inventories					
Quantity (short tons)..	***	***	***	***	***
Ratio to total shipments:					
(percent).....	6.1	5.7	8.9	7.4	5.5
Rods:					
Inventories					
Quantity (short tons)..	***	***	***	***	***
Ratio to total shipments:					
(percent).....	8.2	6.3	8.3	5.8	5.8
Bars & rods:					
Inventories					
Quantity (short tons)..	***	***	***	***	***
Ratio to total shipments:					
(percent).....	6.3	5.8	8.8	7.1	5.6

[1] Ratios to total shipments are based on annualized total shipments.

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

U.S. Producers' Employment and Wages

The average number of production and related workers producing hot-rolled lead and bismuth carbon steel products for the *** producers that provided employment data increased from 882 in 1989 to 907 in 1990, or by 2.8 percent, and decreased to 850 in 1991, or by 6.3 percent (table 8). The average hourly wage for production and related workers producing all hot-rolled lead and bismuth carbon steel products increased from $15.17 in 1989 to $15.93 in 1990 and to $16.58 in 1991.

Table 8
Average number of total employees and production and related workers in U.S. establishments wherein semifinished and hot-rolled (HR) lead and bismuth carbon steel products are produced, hours worked,[1] wages and total compensation paid to such employees, and hourly wages, productivity, and unit production costs,[2] by products, 1989-91, January-March 1991, and January-March 1992[3]

Item	1989	1990	1991	Jan.-Mar.-- 1991	1992
	Number of employees				
All products of establishment	10,638	10,027	9,762	9,971	9,436
	Number of production and related workers (PRWs)				
All products of establishment	9,550	8,557	8,286	8,180	8,331
Semifinished products	485	489	443	368	511
HR subject products:					
Bars	***	***	***	***	***
Rods	***	***	***	***	***
Total HR bars and rods	882	907	850	857	1,013
Semifinished products and HR subject bars & rods	1,367	1,396	1,293	1,225	1,524
	Hours worked by PRWs (1,000 hours)				
All products of establishment	16,218	18,446	16,329	4,146	4,375
Semifinished products	932	1,009	830	190	266
HR subject products:					
Bars	***	***	***	***	***
Rods	***	***	***	***	***
Total HR bars and rods	1,151	1,227	1,001	282	378
Semifinished products and hot-rolled bars and rods	2,083	2,236	1,831	472	644
	Wages paid to PRWs (1,000 dollars)				
All products of establishment	255,112	298,461	255,882	63,857	69,905
Semifinished products	13,676	15,509	12,801	2,932	4,321
HR subject products:					
Bars	***	***	***	***	***
Rods	***	***	***	***	***
Total HR bars and rods	17,466	19,549	16,600	4,263	6,039
Semifinished products and hot-rolled bars and rods	31,142	35,058	29,401	7,195	10,360

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Table 8--Continued
Average number of total employees and production and related workers in U.S. establishments wherein semifinished and hot-rolled (HR) lead and bismuth carbon steel products are produced, hours worked,[1] wages and total compensation paid to such employees, and hourly wages, productivity, and unit production costs,[2] by products, 1989-91, January-March 1991, and January-March 1992[3]

Item	1989	1990	1991	Jan.-Mar.-- 1991	1992
	Total compensation paid to PRWs (1,000 dollars)				
All products of establishment	360,650	395,295	369,477	92,702	101,907
Semifinished products	21,691	23,837	20,906	4,745	6,818
HR subject products:					
Bars	***	***	***	***	***
Rods	***	***	***	***	***
Total HR bars and rods	26,682	30,303	27,476	6,919	9,752
Semifinished products and hot-rolled bars and rods	48,373	54,140	48,382	11,664	16,570
	Hourly wages paid to PRWs				
All products of establishment	$15.73	$16.18	$15.67	$15.40	$15.98
Semifinished products	14.67	15.37	15.42	15.43	16.24
HR subject products:					
Bars	***	***	***	***	***
Rods	***	***	***	***	***
Total HR bars and rods	15.17	15.93	16.58	15.10	15.98
Semifinished products and hot-rolled bars and rods	14.95	15.68	16.06	15.23	16.09
	Hourly total compensation paid to PRWs				
All products of establishment	$23.95	$22.88	$24.32	$24.00	$24.95
Semifinished products	23.27	23.62	25.19	24.97	25.63
HR subject products:					
Bars	***	***	***	***	***
Rods	***	***	***	***	***
Average HR bars and rods	23.18	24.70	27.45	24.51	25.80
Semifinished products and hot-rolled bars and rods	23.22	24.21	26.42	24.69	25.73
	Productivity (short tons per hour)				
Semifinished products	0.5	0.5	0.5	0.4	.5
HR subject products:					
Bars	***	***	***	***	***
Rods	***	***	***	***	***
Average HR bars and rods	.4	.4	.3	.3	.3
Semifinished products and hot-rolled bars and rods	.4	.4	.4	.3	.4

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Table 8--Continued
Average number of total employees and production and related workers in U.S. establishments wherein semifinished and hot-rolled (HR) lead and bismuth carbon steel products are produced, hours worked,[1] wages and total compensation paid to such employees, and hourly wages, productivity, and unit production costs,[2] by products, 1989-91, January-March 1991, and January-March 1992[3]

Item	1989	1990	1991	Jan.-Mar.-- 1991	1992
	Unit labor costs (per short ton)				
Semifinished products	$45.33	$46.12	$54.82	$62.03	$48.42
HR subject products:					
Bars	***	***	***	***	***
Rods	***	***	***	***	***
Average HR bars and rods	65.18	69.45	81.91	94.43	78.15
Semifinished products and hot-rolled bars and rods	54.48	56.80	67.49	77.87	62.38

[1] Includes hours worked plus hours of paid leave time.
[2] On the basis of total compensation paid.
[3] Firms providing employment data accounted for *** percent of reported total U.S. shipments (based on quantity) in 1991.

Note.--Ratios are calculated using data of firms supplying both numerator and denominator information.

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

*** firms reported that production and related workers producing semifinished and hot-rolled lead and bismuth carbon steel products were represented by the United Steelworkers of America, and those workers accounted for *** of total reported subject product production and related workers.[60] *** firms reported some form of labor reductions; ***. Reasons for the reductions were attributed to "business conditions," and declining demand as "imports increase plus customer base shifting to offshore and/or out of country production sites."

[60] Production and related workers ***.

Financial Experience of U.S. Producers

Six producers, accounting for *** percent of reported 1991 production of hot-rolled lead and bismuth carbon steel products, furnished financial information on their overall establishment operations and on their operations producing lead and bismuth products.[61] [62] Also, these producers provided financial information on one or more of the three product types (bars, rods, or bar-sized shapes) included in hot-rolled carbon steel products. Three producers provided financial data on their operations producing semifinished lead and bismuth products.[63]

Overall Establishment Operations

For all of these producers, the subject products represented a relatively small proportion of their overall establishment sales in 1991. The companies produce other hot-rolled carbon steel products in these establishments. Income-and-loss data for all establishment operations are shown in table 9. The percentages of lead and bismuth product sales for each producer, in relation to their total establishment sales, are shown in the tabulation presented below.

* * * * * * *

In January 1992, Bethlehem Steel announced that it intends to close its bar, rod, and wire plant. This was one of several actions initiated by Bethlehem. It recorded a shutdown expense for this plant in 1991.[64] According to Bethlehem's 1991 annual report,

> "We decided to exit the business of our **Bar, Rod and Wire Division** and our trackwork fabrication operations because these businesses have been unprofitable and there is no reasonable prospect for their return to profitability."[65]

The steel industry, in general, has been restructuring its operations. Inland recorded a $205 million restructuring charge for its steel-producing operations. As stated in Inland's 1991 annual report,

> "With excess steelmaking capacity around the world, steel prices have continued to weaken. Adjusted for inflation and product mix changes, our sales realizations per ton last year were 30 percent below 1981 levels."[66]

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[61] These producers are ***.

[62] Aggregate financial data for all other hot-rolled steel products are included in app. E. These data include these 6 producers plus several others.

[63] These producers are ***.

[64] The shutdown expense for all of Bethlehem's operations in 1991 was $575 million. According to petitioner, over *** percent was attributable to this plant. Response to conference questions, # I.

[65] Bethlehem's 1991 annual report, p. 3, Chairman's letter.

[66] Inland's 1991 annual report, p. 2, Chairman's letter to stockholders.

Table 9
Income-and-loss experience of U.S. producers on the overall operations of their establishments wherein semifinished and hot-rolled lead and bismuth carbon steel products are produced, fiscal years 1989-91, January-March 1991, and January-March 1992[1] [2]

Item	1989	1990	1991	January-March-- 1991	1992
	Value (1,000 dollars)				
Net sales	4,614,862	4,288,272	3,681,083	903,892	954,054
Cost of goods sold	4,192,121	4,050,010	3,667,376	930,025	952,379
Gross profit or (loss)	422,741	238,262	13,707	(26,133)	1,675
Selling, general, and administrative expenses	142,753	135,436	145,826	36,910	34,166
Operating income or (loss)	279,988	102,826	(132,119)	(63,043)	(32,491)
Interest expense	16,641	38,844	41,905	10,473	8,683
Other expense, net	86,523	84,915	296,663	24,777	22,975
Net income or (loss) before income taxes	176,824	(20,933)	(470,687)	(98,293)	(64,149)
Depreciation and amortization	65,016	61,681	68,130	16,227	17,870
Cash flow[3]	241,840	40,748	(402,557)	(82,066)	(46,279)
	Ratio to net sales (percent)				
Cost of goods sold	90.8	94.4	99.6	102.9	99.8
Gross profit or (loss)	9.2	5.6	0.4	(2.9)	0.2
Selling, general, and administrative expenses	3.1	3.2	4.0	4.1	3.6
Operating income or (loss)	6.1	2.4	(3.6)	(7.0)	(3.4)
Net income or (loss) before income taxes	3.8	(0.5)	(12.8)	(10.9)	(6.7)
	Number of firms reporting				
Operating losses	1	1	4	3	3
Net losses	0	2	3	3	4
Data	6	6	6	6	6

[1] The producers are ***.
[2] The fiscal years are Dec. 31 for all producers except *** and ***, which are June 30.
[3] Cash flow is defined as net income or loss plus depreciation and amortization.

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

"Weak demand for bar and structural products, combined with competitive pressures from abroad and mini-mills at home, have ignited another round of restructuring in the domestic steel industry."[67]

"The nation's recession devastated most key steel markets. Demand for Inland's principal steel products-sheets and bars-remained at depressed levels throughout the year as consumers deferred major purchases of automobiles and other durables."[68]

Operations on Hot-Rolled Lead and Bismuth Carbon Steel Products

The income-and-loss experience of the producers of all hot-rolled lead and bismuth carbon steel products is presented in table 10. Net sales declined slightly by 0.05 percent from $225.1 million in 1989 to $225.0 million in 1990. In 1991, sales declined sharply to $177.0 million, a decrease of 21.3 percent. Operating income was $1.9 million in 1989, but there were operating losses of $966,000 in 1990 and $1.6 million in 1991.[69] Operating income (loss) ratios, as a share of net sales, were 0.8 percent in 1989, (0.4) percent in 1990, and (0.9) percent in 1991. Two firms incurred operating losses in 1989 and three firms in 1990 and 1991.

In interim 1992, sales were $63.7 million, a sharp increase of 57.3 percent over interim 1991 sales of $40.5 million. Operating losses were $819,000 in interim 1991, but there was a profit of $6,000 in interim 1992. Operating loss ratios were (2.0) percent in interim 1991 and there was a negligible profit in interim 1992. Three firms incurred operating losses in both interim 1991 and interim 1992.

Selected income-and-loss data for different types of lead and bismuth products (bars and rods) are shown in table 11. Bars accounted for most of the sales. There was no production of lead or bismuth bar-sized shapes.

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[67] Ibid, p. 3.
[68] Ibid, p. 9, Operations Review.
[69] ***.

Table 10
Income-and-loss experience of U.S. producers on their operations producing hot-rolled lead and bismuth carbon steel products, fiscal years 1989-91, January-March 1991, and January-March 1992[1] [2]

Item	1989	1990	1991	January-March-- 1991	1992
	Value (1,000 dollars)				
Net sales	225,094	224,971	177,022	40,514	63,728
Cost of goods sold	216,447	218,708	171,031	39,226	61,672
Gross profit	8,647	6,263	5,991	1,288	2,056
Selling, general, and administrative expenses	6,743	7,229	7,622	2,107	2,050
Operating income or (loss)	1,904	(966)	(1,631)	(819)	6
Startup or shutdown expense	0	356	602	124	[3]312
Interest expense	853	1,390	3,841	996	1,049
Other income or (expense), net	76	50	(548)	(277)	(125)
Net income or (loss) before income taxes	1,127	(2,662)	(6,622)	(2,216)	(1,480)
Depreciation and amortization	6,390	6,278	6,189	1,540	2,401
Cash flow[4]	7,517	3,616	(433)	(676)	921
	Ratio to net sales (percent)				
Cost of goods sold	96.2	97.2	96.6	96.8	96.8
Gross profit	3.8	2.8	3.4	3.2	3.2
Selling, general, and administrative expenses	3.0	3.2	4.3	5.2	3.2
Operating income or (loss)	0.8	(0.4)	(0.9)	(2.0)	([5])
Net income or (loss) before income taxes	0.5	(1.2)	(3.7)	(5.5)	(2.3)
	Number of firms reporting				
Operating losses	2	3	3	3	3
Net losses	2	2	2	3	2
Data	6	6	6	6	6

[1] The producers are ***.
[2] The fiscal years are Dec. 31 for all producers except *** and ***, which are June 30.
[3] ***.
[4] Cash flow is defined as net income or loss plus depreciation and amortization.
[5] Less than 0.05 percent.

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

Table 11
Selected income-and-loss data of U.S. producers on their operations producing hot-rolled lead and bismuth carbon steel products, by product types, fiscal years 1989-91, January-March 1991, and January-March 1992

* * * * * * *

Selected income-and-loss data, by firms, are presented in table 12. The table reveals that there was a substantial difference in the performance of some producers.

Table 12
Income-and-loss experience of U.S. producers on their operations producing hot-rolled lead and bismuth carbon steel products, by firms, fiscal years 1989-91, January-March 1991, and January-March 1992

* * * * * * *

***. Commission practice is to include internal transfers in its evaluation of the condition of an industry. Since ***. Selected income-and-loss data for the industry without the changes to *** are shown in the tabulation below (in thousands of dollars, except as noted):[70]

* * * * * * *

***.

A summary of the average unit values for sales and cost of goods sold, including components, is presented in the following tabulation (in dollars per ton):

* * * * * * *

As noted previously, the subject products comprise a relatively small share of the producers' establishment operations. Most producers maintain statistical data on their bar operations. For others, the establishment was equal to all of their hot-rolled production. Thus, all producers had to

[70] ***.

allocate either some or all of their costs and expenses to the lead and bismuth products. The subject products were minor, in most cases, in relation to their allocable base.[71] The tabulation shows that an integrated operation such as *** has much higher labor and overhead costs than ***, a nonintegrated producer. ***.

One of the factors affecting financial performance was differences in the cost structure of the producers. These include raw material sources (ingot or casting process, or purchase of scrap for electric furnace) and pension and retiree medical expenses. Some of the companies, especially those that are integrated, have pension and medical expenses for retired employees, whereas a company such as *** has no pension expense.[72]

In its postconference brief, petitioners indicate that "Approximately one third of the cost of the leaded or bismuth finished product is incurred prior to the injection of these additives. Conversely, petitioners argue that two thirds of the cost is incurred after the injection of lead or bismuth (which as noted above requires special dedicated equipment) and after the steel has no use other than the production of the lead or bismuth steel that is the subject of these Petitions."[73] "At ***. Under the *** accounting system, the actual cost of the lead is included in the liquid steel cost calculation. Subtracting the actual cost of lead, the liquid steel cost for a recent period is $*** or about a third of total costs."[74] The actual cost of the additive is approximately $*** per ton.[75] This amounts to only approximately *** percent of the liquid steel cost.

"Inland spends about $*** annually on lead and bismuth environmental controls."[76] Thus, its estimated additional cost for producing lead and bismuth products would be approximately $*** per ton, consisting of the total of the additional raw materials ($*** per ton) previously mentioned plus other operating costs of $*** per ton. Based on ***'s cost of goods sold of $*** per ton for 1991, such additional costs would amount to approximately *** percent of total costs. The additional cost of bismuth is approximately $*** per ton. Thus, the total additional estimated cost for bismuth would be approximately $*** per ton or *** percent of total costs. However, the bismuth products account for less than *** percent of total lead and bismuth sales.

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[71] ***.

[72] For some companies (primarily integrated), allocated pension and medical expenses for retired employees constitute an additional cost burden. In these investigations, ***.

[73] Postconference brief of petitioners, p. 8.

[74] Ibid, p. 10, footnote 12.

[75] Postconference brief of United Engineering Steel, Exhibit 1, Supplemental Statement of Derry Graham.

[76] Ibid, p. 11. Refer to exhibit 2 in the brief. This exhibit shows Inland's additional expenses of $*** per year for annual operating and maintenance costs for the lead and bismuth product. ***. Note: ***.

Operations on Semifinished Lead and Bismuth Products

Most of the production of the semifinished products is transferred to the hot-rolled products. Selected income-and-loss data for trade sales of semifinished lead and bismuth products are summarized in the tabulation below (in thousands of dollars, except as noted):

* * * * * * *

Investment in Productive Facilities

U.S. producers' investment in property, plant, and equipment and returns on investment are shown in table 13. The returns were computed by adding the semifinished products to the lead and bismuth products.

Petitioners state that "There are abundant and substantial assets employed in production of lead and bismuth which cannot be readily employed in making other steel products. Among these are significant assets required to comply with environmental regulations that protect workers from lead exposure."[77]

There are substantial assets employed directly (all hot-rolled products) and indirectly (basic steel operations) in lead and bismuth products. Most of the assets mentioned by the petitioners above are common to other products; thus, the portion allocated to lead and bismuth products should reflect the relative share of production, or some other reasonable allocation. The only additional assets dedicated exclusively to lead and bismuth should be those that are not applicable to any other products. These additional assets specifically utilized in lead and bismuth production (primarily for environmental and safety requirements) are not large relative to total assets. ***.

* * * * * * *

The establishment assets for all producers greatly exceed those that are allocated to lead and bismuth operations. Several of the producers reported asset and capital expenditure data for all hot-rolled products (leaded and other) instead of only lead and bismuth products in their questionnaires. They were requested to allocate these items to lead and bismuth products only.[78]

Capital Expenditures

Capital expenditures by U.S. producers are shown in table 14.

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[77] Petitioner's postconference brief, p. 4.

[78] ***.

Table 13
Value of assets and return on assets of U.S. producers' establishments wherein semifinished and hot-rolled (HR) lead and bismuth carbon steel products are produced, fiscal years 1989-91, January-March 1991, and January-March 1992

Item	As of the end of fiscal year-- 1989	1990	1991	As of Mar. 31-- 1991	1992
	Value (1,000 dollars)				
All products:					
Fixed assets:					
Original cost	4,505,252	4,716,168	4,755,439	4,763,200	4,771,435
Book value	1,699,334	1,806,537	1,711,784	1,818,146	1,692,192
Total assets[1]	2,770,669	2,965,493	2,742,548	2,927,005	2,761,002
Semifinished lead and bismuth:					
Fixed assets:					
Original cost	141,662	159,651	165,435	164,006	165,627
Book value	64,262	65,826	62,258	62,175	62,698
HR lead and bismuth bars:					
Fixed assets:					
Original cost	***	***	***	***	***
Book value	***	***	***	***	***
HR lead and bismuth rods:					
Fixed assets:					
Original cost	***	***	***	***	***
Book value	***	***	***	***	***
Subject HR lead and bismuth:					
Fixed assets:					
Original cost	147,029	171,893	178,928	161,102	190,241
Book value	57,430	64,690	72,172	60,352	77,741
Semifinished and HR lead and bismuth:					
Fixed assets:					
Original cost	288,691	331,544	344,363	325,108	355,868
Book value	121,692	130,516	134,430	122,527	140,439
	Return on book value of fixed assets (percent)[1]				
All products:					
Operating return[2]	13.1	4.6	(5.9)	(11.2)	(5.9)
Net return[3]	8.3	(0.9)	(21.2)	(17.4)	(11.6)
HR lead and bismuth bars:					
Operating return[2]	***	***	***	***	***
Net return[3]	***	***	***	***	***
HR lead and bismuth rods:					
Operating return[2]	***	***	***	***	***
Net return[3]	***	***	***	***	***
Subject HR lead and bismuth:					
Operating return[2]	3.2	(0.8)	(0.7)	(3.4)	2.3
Net return[3]	1.9	(3.5)	(7.6)	(12.7)	(5.3)
Semifinished and HR lead and bismuth:[4]					
Operating return[2]	1.4	(1.5)	(0.8)	(2.5)	1.4
Net return[3]	0.7	(3.5)	(5.1)	(8.1)	(3.5)

[1] Computed using data from only those firms supplying both asset and income-and-loss information, and as such, may not be derivable from data presented. Data for the partial-year periods are calculated using annualized income-and-loss information.
[2] Defined as operating income or loss divided by asset value.
[3] Defined as net income or loss divided by asset value.
[4] Since most of the semifinished assets are used to make the downstream product, separate returns for the semifinished product are not shown.

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

Table 14
Capital expenditures by U.S. producers of semifinished and hot-rolled lead and bismuth carbon steel products, by products, fiscal years 1989-91, January-March 1991, and January-March 1992

* * * * * * *

Research and Development Expenses

Most producers could not allocate their research and development expenses. Research and development expenses reported by U.S. producers are shown in the tabulation below (in thousands of dollars):

* * * * * * *

Impact of Imports on Capital and Investment

The Commission requested U.S. producers to describe and explain the actual and potential negative effects, if any, of imports of hot-rolled lead and bismuth carbon steel products from Brazil, France, Germany, and the United Kingdom on their growth, investment, ability to raise capital, and existing development and production efforts (including efforts to develop a derivative or improved version of hot-rolled lead and bismuth carbon steel products). Their responses are shown in appendix F.[79]

[79] The responses for other hot-rolled products are presented in app. E.

CONSIDERATION OF THE QUESTION OF THREAT OF MATERIAL INJURY

Section 771(7)(F)(i) of the Tariff Act of 1930 (19 U.S.C. § 1677(7)(F)(i)) provides that--

> In determining whether an industry in the United States is threatened with material injury by reason of imports (or sales for importation) of the merchandise, the Commission shall consider, among other relevant economic factors[80]--
>
> (I) If a subsidy is involved, such information as may be presented to it by the administering authority as to the nature of the subsidy (particularly as to whether the subsidy is an export subsidy inconsistent with the Agreement),
>
> (II) any increase in production capacity or existing unused capacity in the exporting country likely to result in a significant increase in imports of the merchandise to the United States,
>
> (III) any rapid increase in United States market penetration and the likelihood that the penetration will increase to an injurious level,
>
> (IV) the probability that imports of the merchandise will enter the United States at prices that will have a depressing or suppressing effect on domestic prices of the merchandise,
>
> (V) any substantial increase in inventories of the merchandise in the United States,
>
> (VI) the presence of underutilized capacity for producing the merchandise in the exporting country,
>
> (VII) any other demonstrable adverse trends that indicate the probability that the importation (or sale for importation) of the merchandise (whether or not it is actually being imported at the time) will be the cause of actual injury,

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[80] Section 771(7)(F)(ii) of the act (19 U.S.C. § 1677(7)(F)(ii)) provides that "Any determination by the Commission under this title that an industry in the United States is threatened with material injury shall be made on the basis of evidence that the threat of material injury is real and that actual injury is imminent. Such a determination may not be made on the basis of mere conjecture or supposition."

> (VIII) the potential for product-shifting if production facilities owned or controlled by the foreign manufacturers, which can be used to produce products subject to investigation(s) under section 701 or 731 or to final orders under section 706 or 736, are also used to produce the merchandise under investigation,
>
> (IX) in any investigation under this title which involves imports of both a raw agricultural product (within the meaning of paragraph (4)(E)(iv)) and any product processed from such raw agricultural product, the likelihood that there will be increased imports, by reason of product shifting, if there is an affirmative determination by the Commission under section 705(b)(1) or 735(b)(1) with respect to either the raw agricultural product or the processed agricultural product (but not both), and
>
> (X) the actual and potential negative effects on the existing development and production efforts of the domestic industry, including efforts to develop a derivative or more advanced version of the like product.[81]

The available information on the nature of the subsidies as alleged by the petitioners (item (I) above) is presented in the section of this report entitled "The nature and extent of alleged subsidies and sales at less than fair value;" information on the volume, U.S. market penetration, and pricing of imports of the subject merchandise (items (III) and (IV) above) is presented in the section entitled "Consideration of the causal relationship between imports of the subject products and material injury;" and information on the effects of imports of the subject merchandise on U.S. producers' existing development and production efforts (item (X)) is presented in appendix F. Item (IX) above is not applicable in these investigations.

Available information on U.S. inventories of the subject products (item (V)); foreign producers' operations, including the potential for "product-shifting" (items (II), (VI), and (VIII) above); and any other threat indicators, if applicable (item (VII) above), follows. No evidence has been presented of any dumping in third-country markets.

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[81] Section 771(7)(F)(iii) of the act (19 U.S.C. § 1677(7)(F)(iii)) further provides that, in antidumping investigations, ". . . the Commission shall consider whether dumping in the markets of foreign countries (as evidenced by dumping findings or antidumping remedies in other GATT member markets against the same class or kind of merchandise manufactured or exported by the same party as under investigation) suggests a threat of material injury to the domestic industry."

Ability of Foreign Producers to Generate Exports and the Availability of Export Markets Other Than the United States

Information presented in this section has generally been provided by counsel for the responding foreign firms. Telegrams were also sent to the U.S. embassies in the countries under investigation seeking information regarding the respective foreign industries.[82]

Brazil

As identified in the petition, there are three producers of hot-rolled lead and bismuth carbon steel products in Brazil: Acesita, the Villares Group, and Mannesmann SA. Information on capacity, production, inventories, and shipments of hot-rolled lead and bismuth carbon steel products for the Brazilian manufacturers/exporters was provided by counsel, and the data are presented in table 15.

Table 15
Hot-rolled lead carbon steel bars and rods: Brazilian capacity, production, capacity utilization, and shipments, 1989-91, January-March 1991, January-March 1992, and projected 1992

* * * * * * *

Capacity of two Brazilian producers, representing *** percent of production of hot-rolled lead carbon steel products in Brazil, remained unchanged during 1989-90, but then *** percent to *** short tons in 1991, as ***. Capacity remained unchanged during January-March 1992 when compared to the same period in 1991. Exports to the United States by the Brazilian manufacturers accounted for *** percent of total shipments of hot-rolled lead carbon steel products in 1989; this share *** percent in 1990, and then *** percent in 1991. All Brazilian exports to the United States consisted of lead (as opposed to bismuth) carbon steel products. The Brazilian firms reported operating at *** percent of capacity during 1989, *** percent in 1990, and *** percent during 1991.

France

As identified in the petition, there are three producers of hot-rolled lead and bismuth carbon steel products in France: Ascometal, Unimetal, and

---

[82] To date, only the embassy in Bonn has responded with confirmation that information will be provided by the U.S. counsel for the German manufacturers/exporters.

Usinor-Sacilor. Information on capacity, production, inventories, and shipments of hot-rolled lead and bismuth carbon steel products for the French manufacturers/exporters was provided by counsel, and the data are presented in table 16.

Table 16
Hot-rolled lead carbon steel bars and rods: French capacity, production, capacity utilization, and shipments, 1989-91, January-March 1991, January-March 1992, and projected 1992

* * * * * * *

The French firms report that they cannot meaningfully break down their rolling mill capacity for lead carbon steel products, as these mills produce rods and bars of many different steel qualities. However, the firms report that capacity to produce all carbon steel products in France remained unchanged at approximately *** tons during the period of investigation.

Exports to the United States by the French manufacturers accounted for *** percent of total shipments of hot-rolled lead carbon steel products in 1989, *** percent in 1990, and *** percent in 1991. All French exports to the United States consisted of lead (as opposed to bismuth) carbon steel products.

Germany

As identified in the petition, there are two producers of hot-rolled lead and bismuth carbon steel products in Germany: Saarstahl AG and Thyssen AG. Information on capacity, production, inventories, and shipments of hot-rolled lead and bismuth carbon steel products for the German manufacturers/exporters was provided by counsel, and the data are presented in table 17.

Table 17
Hot-rolled lead carbon steel bars and rods: German capacity, production, capacity utilization, and shipments, 1989-91, January-March 1991, January-March 1992, and projected 1992

* * * * * * *

Capacity to produce hot-rolled lead carbon steel products in Germany *** percent during 1989-90, and *** percent to *** short tons during 1991. Exports to the United States by the German manufacturers accounted for ***

percent of total shipments of hot-rolled lead carbon steel products in 1989; this share *** percent in 1990, and *** percent in 1991. All German exports to the United States consisted of lead (as opposed to bismuth) carbon steel products. The German firms reported operating at approximately *** percent of capacity during the period of investigation, because reported capacity data related to the firms' ability to produce all hot-rolled bar and rod products.

United Kingdom

As identified in the petition, there are three producers of certain lead and bismuth carbon steel products in the United Kingdom: Allied Steel & Wire, Glynwed International PLC, and United Engineering Steels, Ltd. (UES). Information on capacity, production, inventories, and shipments of hot-rolled lead and bismuth carbon steel products for the British manufacturers/ exporters, Glynwed and UES, was provided by counsel, and the data are presented in table 18.[83]

Table 18
Hot-rolled lead carbon steel bars and rods: The United Kingdom's capacity, production, capacity utilization, and shipments, 1989-91, January-March 1991, January-March 1992, and projected 1992

* * * * * * *

Capacity to produce hot-rolled lead and bismuth carbon steel products in the United Kingdom *** percent to *** short tons from 1989 to 1990, and then *** percent to *** short tons in 1991. Exports to the United States by the British manufacturers accounted for *** percent of total shipments of hot-rolled lead carbon steel products in 1989; this share *** percent in 1990, and *** percent in 1991. All British exports to the United States consisted of lead (as opposed to bismuth) carbon steel products. The British firms reported operating at *** percent of capacity in 1989, *** percent in 1990, and *** percent utilization in 1991.

Aggregate Data

Aggregate data on the industries in Brazil, France, Germany, and the United Kingdom are presented in table 19.

---

[83] Although Allied Steel & Wire was not represented by U.S. counsel, counsel for UES has reported that Allied's capacity to produce "free-cutting" carbon steel products has ***. (May 18, 1992, telephone interview with M. Davis, counsel for UES).

Table 19
Hot-rolled lead carbon steel bars and rods: Subject sources' capacity, production, capacity utilization, and shipments, 1989-91, January-March 1991, and January-March 1992

Item	1989	1990	1991	January-March-- 1991	January-March-- 1992
	Quantity (short tons)				
Lead carbon steel bars:					
Capacity	(1)	(1)	(1)	(1)	(1)
Production	413,973	388,244	327,356	32,265	37,236
Shipments:					
Home market	164,231	141,120	107,421	15,149	15,751
Exports to--					
The United States	90,033	106,182	115,917	14,367	11,176
All other markets	135,843	139,783	106,806	9,642	14,506
Total exports	225,876	245,965	222,723	24,009	25,682
Total shipments	390,107	387,085	330,144	39,158	41,433
Lead carbon steel rods:					
Capacity	(1)	(1)	(1)	(1)	(1)
Production	417,092	368,325	351,695	75,237	86,817
Shipments:					
Home market	146,070	125,732	127,040	37,679	40,315
Exports to--					
The United States	76,507	75,345	65,763	2,245	4,740
All other markets	194,487	167,528	143,011	36,466	42,109
Total exports	270,994	242,873	208,774	38,711	46,849
Total shipments	417,064	368,605	335,814	76,390	87,164
Lead carbon steel bars & rods:					
Capacity	(1)	(1)	(1)	(1)	(1)
Production	831,065	765,569	679,051	107,502	124,053
Shipments:					
Home market	310,301	266,852	234,461	52,828	56,066
Exports to--					
The United States	166,540	181,527	181,680	16,612	15,916
All other markets	330,330	307,311	249,817	46,108	56,615
Total exports	495,870	488,838	431,497	62,720	72,531
Total shipments	807,171	755,690	665,958	115,548	128,597
	Ratios and shares (percent)				
Lead carbon steel bars:					
Share of total shipments:					
Home market	42.1	36.5	32.5	38.7	38.0
Exports to--					
The United States	23.1	27.4	35.1	36.7	27.0
All other markets	34.8	36.1	32.4	24.6	35.0
Lead carbon steel rods:					
Share of total shipments:					
Home market	35.0	34.1	37.8	49.3	46.3
Exports to--					
The United States	18.3	20.4	19.6	2.9	5.4
All other markets	46.6	45.4	42.6	47.7	48.3
Lead carbon steel bars & rods:					
Share of total shipments:					
Home market	38.4	35.3	35.2	45.7	43.6
Exports to--					
The United States	20.6	24.0	27.3	14.4	12.4
All other markets	40.9	40.7	37.5	39.9	44.0

[1] Because of data deficiencies within individual firms, data on aggregate capacity are not being presented.

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

U.S. Importers' Inventories

U.S. importers of hot-rolled lead and bismuth carbon steel products from the subject countries reported almost no inventories of the subject products,[84] as they import to order.

CONSIDERATION OF THE CAUSAL RELATIONSHIP BETWEEN IMPORTS OF THE SUBJECT PRODUCTS AND MATERIAL INJURY

Imports

U.S. imports of hot-rolled lead and bismuth carbon steel products based on responses to the Commission's questionnaires are presented in table 20 and figures 3 and 4. The largest source of U.S. imports of hot-rolled lead and bismuth carbon steel products is the United Kingdom, which accounted for approximately half of total imports during the period of investigation. Imports of hot-rolled lead carbon steel products from Brazil showed the greatest gain of the four countries from 1989 to 1991, increasing by *** percent.

Imports of hot-rolled lead and bismuth carbon steel products from the four countries subject to investigation increased from *** short tons in 1989 to *** short tons in 1990, or by *** percent, and increased by *** percent to *** short tons in 1991. During January-March 1992 imports from the four countries increased to *** short tons, or by *** percent when compared to the same period of 1991.

Market Penetration of Imports

Shares of apparent U.S. consumption accounted for by imports of hot-rolled lead carbon steel products[85] (bars and rods) are presented in table 21. On the basis of quantity, imports of hot-rolled lead carbon steel products from the four countries subject to investigation represented *** percent of apparent consumption of hot-rolled lead and bismuth carbon steel products in 1989, decreasing to *** percent in 1990, and then increasing to *** percent in 1991. During January-March 1992, imports as a share of apparent consumption of total hot-rolled lead and bismuth carbon steel products decreased to their lowest share during the period of investigation at *** percent, down from *** percent during the same period in 1991.

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[84] ***.

[85] No imports or exports to the United States of bismuth carbon steel products were reported by firms responding to the Commission's importer's and foreign producer's questionnaires.

Table 20
Semifinished and hot-rolled (HR) lead and bismuth carbon steel products: U.S. imports, by products and by sources, 1989-91, January-March 1991, and January-March 1992

Item	1989	1990	1991	Jan.-Mar.-- 1991	1992
	Quantity (short tons)				
Semifinished lead and bismuth from all sources	***	***	***	***	***
HR lead and bismuth bars:					
Brazil	***	***	***	***	***
France	***	***	***	***	***
Germany	***	***	***	***	***
United Kingdom	***	***	***	***	***
Subtotal	***	***	***	***	***
Other sources	***	***	***	***	***
Total	106,759	112,139	124,275	17,025	14,705
HR lead and bismuth rods:					
Brazil	***	***	***	***	***
France	***	***	***	***	***
Germany	***	***	***	***	***
United Kingdom	***	***	***	***	***
Subtotal	***	***	***	***	***
Other sources	***	***	***	***	***
Total	72,454	66,951	60,956	3,280	4,801
Subject HR lead and bismuth:					
Brazil	***	***	***	***	***
France	***	***	***	***	***
Germany	***	***	***	***	***
United Kingdom	***	***	***	***	***
Subtotal	***	***	***	***	***
Other sources	***	***	***	***	***
Total	179,213	179,090	185,231	20,305	19,506
	Value (1,000 dollars)[1]				
Semifinished lead and bismuth from all sources	***	***	***	***	***
HR lead and bismuth bars:					
Brazil	***	***	***	***	***
France	***	***	***	***	***
Germany	***	***	***	***	***
United Kingdom	***	***	***	***	***
Subtotal	***	***	***	***	***
Other sources	***	***	***	***	***
Total	54,771	54,538	61,522	8,036	7,241
HR lead and bismuth rods:					
Brazil	***	***	***	***	***
France	***	***	***	***	***
Germany	***	***	***	***	***
United Kingdom	***	***	***	***	***
Subtotal	***	***	***	***	***
Other sources	***	***	***	***	***
Total	36,005	32,431	29,265	1,629	2,352
Subject HR lead and bismuth:					
Brazil	***	***	***	***	***
France	***	***	***	***	***
Germany	***	***	***	***	***
United Kingdom	***	***	***	***	***
Subtotal	***	***	***	***	***
Other sources	***	***	***	***	***
Total	90,776	86,969	90,787	9,665	9,593

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Table 20--Continued
Semifinished and hot-rolled (HR) lead and bismuth carbon steel products: U.S. imports, by products and by sources, 1989-91, January-March 1991, and January-March 1992

Item	1989	1990	1991	Jan.-Mar.-- 1991	1992
	Unit value (per short ton)				
Semifinished lead and bismuth from all sources	***	***	***	***	***
HR lead and bismuth bars:					
Brazil	***	***	***	***	***
France	***	***	***	***	***
Germany	***	***	***	***	***
United Kingdom	***	***	***	***	***
Subtotal	***	***	***	***	***
Other sources	***	***	***	***	***
Average	$513	$486	$495	$472	$492
HR lead and bismuth rods:					
Brazil	***	***	***	***	***
France	***	***	***	***	***
Germany	***	***	***	***	***
United Kingdom	***	***	***	***	***
Subtotal	***	***	***	***	***
Other sources	***	***	***	***	***
Average	497	484	480	497	490
Subject HR lead and bismuth:					
Brazil	***	***	***	***	***
France	***	***	***	***	***
Germany	***	***	***	***	***
United Kingdom	***	***	***	***	***
Subtotal	***	***	***	***	***
Other sources	***	***	***	***	***
Average	507	486	490	476	492

[1] Landed, duty-paid value at U.S. port of entry.
[2] Not applicable.

Note.--Unit values are calculated using data of firms supplying both quantity and value information.

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

Figure 3. HR lead carbon products: Subject imports by types

* * * * * * *

Figure 4. HR lead carbon products: Subject imports by sources

* * * * * * *

Table 21
Semifinished and hot-rolled (HR) lead and bismuth carbon steel products: U.S. shipments of domestic product, U.S. imports, and apparent U.S. consumption, by products, 1989-91, January-March 1991, and January-March 1992

Item	1989	1990	1991	Jan.-Mar.-- 1991	1992
	Quantity (short tons)				
Semifinished lead and bismuth:					
Producers' U.S. shipments	419,743	458,479	349,470	73,971	122,152
U.S. imports	***	***	***	***	***
Apparent consumption	***	***	***	***	***
HR lead and bismuth bars:					
Producers' U.S. shipments	337,615	352,649	252,469	57,790	96,625
U.S. imports from--					
Brazil	***	***	***	***	***
France	***	***	***	***	***
Germany	***	***	***	***	***
United Kingdom	***	***	***	***	***
Subtotal	***	***	***	***	***
Other sources	***	***	***	***	***
Total	106,759	112,139	124,275	17,025	14,705
Apparent consumption	444,374	464,788	376,744	74,815	111,330
HR lead and bismuth rods:					
Producers' U.S. shipments	59,199	56,463	51,667	13,662	19,471
U.S. imports from--					
Brazil	***	***	***	***	***
France	***	***	***	***	***
Germany	***	***	***	***	***
United Kingdom	***	***	***	***	***
Subtotal	***	***	***	***	***
Other sources	***	***	***	***	***
Total	72,454	66,951	60,956	3,280	4,801
Apparent consumption	131,653	123,414	112,623	16,942	24,272
Subject HR lead and bismuth:					
Producers' U.S. shipments	396,814	409,112	304,136	71,452	116,096
U.S. imports from--					
Brazil	***	***	***	***	***
France	***	***	***	***	***
Germany	***	***	***	***	***
United Kingdom	***	***	***	***	***
Subtotal	***	***	***	***	***
Other sources	***	***	***	***	***
Total	179,213	179,090	185,231	20,305	19,506
Apparent consumption	576,027	588,202	489,367	91,757	135,602

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Table 21--Continued
Semifinished and hot-rolled (HR) lead and bismuth carbon steel products: U.S. shipments of domestic product, U.S. imports, and apparent U.S. consumption, by products, 1989-91, January-March 1991, and January-March 1992

Item	1989	1990	1991	Jan.-Mar.-- 1991	1992
	Value (1,000 dollars)[1]				
Semifinished lead and bismuth:					
Producers' U.S. shipments	154,096	163,351	124,388	26,262	43,624
U.S. imports	***	***	***	***	***
Apparent consumption	***	***	***	***	***
HR lead and bismuth bars:					
Producers' U.S. shipments	187,738	189,801	138,837	32,229	53,198
U.S. imports from--					
Brazil	***	***	***	***	***
France	***	***	***	***	***
Germany	***	***	***	***	***
United Kingdom	***	***	***	***	***
Subtotal	***	***	***	***	***
Other sources	***	***	***	***	***
Total	54,771	54,538	61,522	8,036	7,241
Apparent consumption	241,509	244,339	200,359	40,265	60,439
HR lead and bismuth rods:					
Producers' U.S. shipments	33,838	31,178	28,502	7,487	10,422
U.S. imports from--					
Brazil	***	***	***	***	***
France	***	***	***	***	***
Germany	***	***	***	***	***
United Kingdom	***	***	***	***	***
Subtotal	***	***	***	***	***
Other sources	***	***	***	***	***
Total	36,005	32,431	29,265	1,629	2,352
Apparent consumption	69,843	63,609	57,767	9,116	12,774
Subject HR lead and bismuth:					
Producers' U.S. shipments	220,576	220,979	167,339	39,716	63,620
U.S. imports from--					
Brazil	***	***	***	***	***
France	***	***	***	***	***
Germany	***	***	***	***	***
United Kingdom	***	***	***	***	***
Subtotal	***	***	***	***	***
Other sources	***	***	***	***	***
Total	90,776	86,969	90,787	9,665	9,593
Apparent consumption	311,352	307,948	258,126	49,381	73,213

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Table 21--Continued
Semifinished and hot-rolled (HR) lead and bismuth carbon steel products: U.S. shipments of domestic product, U.S. imports, and apparent U.S. consumption, by products, 1989-91, January-March 1991, and January-March 1992

Item	1989	1990	1991	Jan.-Mar.-- 1991	1992
	Share of the quantity of U.S. consumption (percent)				
Semifinished lead and bismuth:					
Producers' U.S. shipments	***	***	***	***	***
U.S. imports	***	***	***	***	***
HR lead and bismuth bars:					
Producers' U.S. shipments	76.0	75.9	67.0	77.2	86.8
U.S. imports from--					
Brazil	***	***	***	***	***
France	***	***	***	***	***
Germany	***	***	***	***	***
United Kingdom	***	***	***	***	***
Subtotal	***	***	***	***	***
Other sources	***	***	***	***	***
Total	24.0	24.1	33.0	22.8	13.2
HR lead and bismuth rods:					
Producers' U.S. shipments	45.0	45.8	45.9	80.6	80.2
U.S. imports from--					
Brazil	***	***	***	***	***
France	***	***	***	***	***
Germany	***	***	***	***	***
United Kingdom	***	***	***	***	***
Subtotal	***	***	***	***	***
Other sources	***	***	***	***	***
Total	55.0	54.2	54.1	19.4	19.8
Subject HR lead and bismuth:					
Producers' U.S. shipments	68.9	69.6	62.1	77.9	85.6
U.S. imports from--					
Brazil	***	***	***	***	***
France	***	***	***	***	***
Germany	***	***	***	***	***
United Kingdom	***	***	***	***	***
Subtotal	***	***	***	***	***
Other sources	***	***	***	***	***
Total	31.1	30.4	37.9	22.1	14.4

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Table 21--Continued
Semifinished and hot-rolled (HR) lead and bismuth carbon steel products: U.S. shipments of domestic product, U.S. imports, and apparent U.S. consumption, by products, 1989-91, January-March 1991, and January-March 1992

Item	1989	1990	1991	Jan.-Mar.-- 1991	1992
	Share of the value of U.S. consumption (percent)				
Semifinished lead and bismuth:					
Producers' U.S. shipments	***	***	***	***	***
U.S. imports	***	***	***	***	***
HR lead and bismuth bars:					
Producers' U.S. shipments	77.3	77.7	69.3	80.0	88.0
U.S. imports from--					
Brazil	***	***	***	***	***
France	***	***	***	***	***
Germany	***	***	***	***	***
United Kingdom	***	***	***	***	***
Subtotal	***	***	***	***	***
Other sources	***	***	***	***	***
Total	22.7	22.3	30.7	20.0	12.0
HR lead and bismuth rods:					
Producers' U.S. shipments	48.4	49.0	49.3	82.1	81.6
U.S. imports from--					
Brazil	***	***	***	***	***
France	***	***	***	***	***
Germany	***	***	***	***	***
United Kingdom	***	***	***	***	***
Subtotal	***	***	***	***	***
Other sources	***	***	***	***	***
Total	51.6	51.0	50.7	17.9	18.4
Subject HR lead and bismuth:					
Producers' U.S. shipments	70.8	71.8	64.8	80.4	86.9
U.S. imports from--					
Brazil	***	***	***	***	***
France	***	***	***	***	***
Germany	***	***	***	***	***
United Kingdom	***	***	***	***	***
Subtotal	***	***	***	***	***
Other sources	***	***	***	***	***
Total	29.2	28.2	35.2	19.6	13.1

[1] F.o.b. U.S. shipping point value.

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

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

Prices

Market Characteristics

Over 95 percent of U.S.-produced and imported lead and bismuth carbon steel products are sold to cold finishers in bar form as either coils or cut lengths. The cold finisher will typically draw the coil or cut-length bar in a draw bench, reducing its diameter slightly and imparting a finish to the bar. After cold finishing, lead and bismuth steel bars are machined by screw machine shops to produce finished parts.

Domestic producers of lead and bismuth carbon steel products quote prices on both an f.o.b. mill and delivered basis. ***. ***.[86]

Importers of lead carbon steel products similarly quote prices on both an f.o.b. point-of-entry and delivered basis. Importers of ***.

Most domestic producers distribute price lists to their customers. In general, list prices for a particular grade of hot-rolled lead or bismuth steel product are the same for all sizes within a wide range. ***,[87] and ***. All producers reported that final transaction prices are negotiated from list, and that they discount list prices to meet competing prices.

Importers do not distribute price lists to their customers. ***. ***.

U.S. producers sell lead and bismuth carbon steel products on both a spot and contract basis. U.S. producers' contracts generally ***.

Most imported subject products are sold on a contract basis. Responding importers reported that ***.[88] These contracts generally ***.

U.S. producers' inland transportation costs can be significant, accounting for up to *** percent of the delivered cost to the purchaser depending on the distance shipped. U.S. producers serve the entire U.S. market, but concentrate in the Great Lakes region where most of the cold finishers are located. Most U.S. lead and bismuth carbon steel products are shipped by truck to locations within *** miles of the plant. Lead times vary from ***.

Importers' U.S. inland transportation costs are lower because their ports of entry are often closer to their customers' plants. Importers' U.S. inland transportation costs account for only *** percent of the delivered cost to the purchaser. Most imported hot-rolled lead carbon steel products are shipped by truck to purchasers located within *** miles of the point of entry. Imports are also concentrated in the Great Lakes region, but are sold ***.

Lead times for the imported product, however, were significantly longer than for U.S. producers, ranging from ***. All imported subject products were ordered from abroad, and importers of the French, U.K., and Brazilian product

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[86] Under this policy, ***.
[87] ***.
[88] ***.

reported that they cannot sell from U.S. inventories because they do not own U.S. warehouses.[89] Because of the greater total distance that the imported product must be shipped (U.S. inland and overseas), import delivery times are not as reliable, and quality problems are harder to resolve.[90]

Testimony at the conference indicated that imported hot-rolled lead bar and rod is identical in quality and machinability to domestically produced hot-rolled lead products because the imported product is manufactured on the same type of equipment and by the same techniques as domestic products.[91]

U.S. producers and importers generally agreed in their questionnaire responses that the domestic and imported subject products are used interchangeably. However, two U.S. producers and three importers reported examples where distinctions are drawn based on specific characteristics or overall quality. *** reported that one of its customers considers hot-rolled ladle lead carbon steel products from the United Kingdom to be of better quality than ***'s leaded steel. *** reported that the consistency of machinability of its leaded product is equal to or better than that from the United Kingdom, Germany, France, or Brazil. Alternatively, *** reported that its customers prefer the *** product to U.S.-produced and other imported products because of its superior surface finish and machinability. *** reported that its customers consider the *** product to be of better quality than the U.S. product because it has less lead segregation and better surface quality. *** maintains that since it produces its bars directly from continuous cast billets it can produce leaded steel of more consistent quality than that produced by domestic producers.

Questionnaire Price Data

The Commission requested U.S. producers and importers to provide U.S. f.o.b. prices (i.e., plant and U.S. point-of-shipment, respectively), delivered prices and delivery costs, and total quantities and values of six representative hot-rolled lead and bismuth carbon steel products. For each product listed below, the Commission requested price data for the largest sale to cold finishers for each quarter during January 1989-March 1992.

Product 1: 3/4" round coil, grade 12L14 (0.15-0.35 percent lead) hot-rolled lead carbon steel products.
Product 2: 1-1/16" round coil, grade 12L14 (0.15-0.35 percent lead) hot-rolled lead carbon steel products.
Product 3: 2-1/16" round cut length, grade 12L14 (0.15-0.35 percent lead) hot-rolled lead carbon steel products.

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[89] TR, p. 191.

[90] Paul Darling, President and CEO of Corey Steel Co., stated at the conference that it is easier to resolve quality problems with the domestic sources because their laboratory people and other specialists are immediately available. On the other hand, if the purchaser identifies a quality problem with the imported product, a sample must be sent back to the foreign mill and it takes weeks or months to resolve the issue. TR, p. 103.

[91] TR, p. 38.

Product 4: 1-1/16" round coil, grade 1214SA or 12Bi14 (0.05-0.15 percent bismuth) hot-rolled bismuth carbon steel products.
Product 5: 13/16" to 2-15/16" round coil, grade 10L16-10L95, hot-rolled lead carbon steel products.
Product 6: 13/16" to 2-15/16" round coil, grade 11Lxx, hot-rolled lead carbon steel products.

Six U.S. producers and seven importers reported price data, although not necessarily for all products, countries, or quarters during January 1989-March 1992. The six responding U.S. producers accounted for *** percent of total reported U.S. production of domestic hot-rolled lead and bismuth carbon steel products in 1991. The responding importers of the subject product from France, the United Kingdom, Brazil, and Germany accounted for ***, ***, ***, and *** percent, respectively, of total reported U.S. imports of the subject product from each of these countries in 1991.

Tables 22-25 present net f.o.b. prices. For most customers, the proximity to the supplier's point of shipment makes inland freight costs a relatively small consideration and, accordingly, most sales by both producers and importers are quoted on an f.o.b. basis. Those U.S. producers that have facilities located more distant from the concentration of customers may find it necessary to quote on a delivered or freight-equalized basis. In order to show prices on the same basis for both producers and importers, prices that were quoted on a delivered basis were adjusted to an f.o.b. plant or U.S. point-of-shipment basis by subtracting the reported U.S. inland transportation cost paid by the supplier.[92] [93] [94]

Table 22
Weighted-average net f.o.b. prices of product 1 reported by U.S. producers and importers, and margins of underselling (overselling), by quarters, January 1989-March 1992

* * * * * * *

Table 23
Weighted-average net f.o.b. prices of product 2 reported by U.S. producers and importers, and margins of underselling (overselling), by quarters, January 1989-March 1992

* * * * * * *

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[92] The U.S. prices in tables 22-25 are all weighted-average prices that consist of two or more observations. ***. Weighted-average import prices are identified by footnotes in the tables.

[93] ***.

[94] ***.

Table 24
Weighted-average net f.o.b. prices of products 3 and 4 reported by U.S. producers and importers, and margins of underselling (overselling), by quarters, January 1989-March 1992

* * * * * * *

Table 25
Weighted-average net f.o.b. prices of products 5 and 6 reported by U.S. producers and importers, and margins of underselling (overselling), by quarters, January 1989-March 1992

* * * * * * *

Price trends for U.S.-produced lead and bismuth carbon steel products

Weighted-average net f.o.b. prices for U.S.-produced products 1-3 were variable, decreasing overall by *** percent during the period for which data were collected. Prices for products 4-6 also varied, but increased overall by *** percent during the period. During the period, prices for the three 12L14 grade leaded steel products (products 1-3) and the bismuth product (product 4) fluctuated within the range of $*** to $*** per cwt. For all quarters, prices for the grades 10xx and 11xx leaded steel products (products 5 and 6) were higher than the prices for the other products, varying between $*** and $***. Prices for the leaded products (products 1-3, 5, and 6) generally peaked in the third or fourth quarter of 1991 and in all cases fell in the first quarter of 1992.

Price trends for imported lead carbon steel products

During January 1989-March 1992, the responding importers did not report sales of any bismuth steel products (including product 4) or product 5. Price trends for each product from each country are discussed only in cases where three or more quarterly observations exist. In most cases, prices for the imported products declined during the period for which data were collected, although most also show significant fluctuation.

France.--Only one importer, ***, reported price data for sales of imported French hot-rolled lead carbon steel products. During 1989-91, prices for French products *** fluctuated ***, reaching their *** point in late 1991. Through 1991, prices *** by *** percent, depending on the product. Prices for all three products *** the first quarter of 1992. Over the entire period, prices for product 1 *** by *** percent and prices for products *** *** by *** percent and *** percent, respectively.

United Kingdom.--*** was the only importer to report price data for sales of the U.K. subject product. Although some fluctuation occurred, prices

for imported U.K. products *** showed a *** trend. Prices for these products *** by *** to *** percent during the period for which data were collected. U.K. price fluctuations coincided with ***. The *** prices for product *** in the first and second quarters of 1991, and for product *** in the second quarter of 1989 and the first quarter of 1991 were for ***. Conversely, ***.

Brazil.--Two importers, ***, reported limited price data for sales of Brazilian ***, and *** reported price data for sales of ***.[95] The reported data ***. Prices for product *** percent from $*** in the third quarter of 1989 to $*** in the first quarter of 1992. Prices for product *** percent from $*** in the first quarter of 1989 to $*** in the first quarter of 1992. After late 1990, prices fluctuated at approximately $*** for both products.

Germany.--Two importers of the German subject products, ***, reported price data for sales of products ***. The *** price data for product *** and the *** price data for product *** indicate *** price trends. During the period for which price data were reported, prices of products *** by *** percent, respectively.

Price comparisons

The reported price data for U.S. producers' and importers' largest quarterly sales during January 1989-March 1992 resulted in a total of 120 direct net f.o.b. price comparisons with four products from the four countries subject to these investigations. The imported products were priced below the domestic product in 101 of the 120 available price comparisons. A discussion of each subject country follows.

France.--A total of 36 quarterly price comparisons between U.S.-produced and French lead carbon steel products *** were possible. In 26 of these 36 comparisons, the French products were priced below the U.S. products, with margins of underselling ranging from *** to *** percent. In the remaining 10 quarters, prices for imported lead carbon steel products were higher than the comparable U.S. products. Margins of overselling ranged from *** to *** percent. In eight of these ten quarters, prices for the French product were for sales by ***.

United Kingdom.--U.K. lead carbon steel products *** were priced below comparable domestic products in 45 of 51 available quarterly price comparisons. Margins of underselling ranged from *** to *** percent. Margins of underselling for product *** were highest, ranging from *** to *** percent. Margins of overselling ranged from *** to *** percent.

Brazil.--Price comparisons between U.S.-produced and Brazilian lead carbon steel products were possible in a total of 16 quarters for products ***. In 14 of these quarters, the Brazilian product was priced below the domestic product by margins ranging from *** to *** percent. In the remaining 2 quarters, the Brazilian product was priced above the domestic product by margins of *** and *** percent.

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[95] ***.

Germany.--German lead carbon steel products *** were priced below comparable domestic products in 16 of the 17 available quarterly price comparisons. Margins of underselling ranged from *** percent to ***. Margins of underselling were particularly high for price comparisons of product ***, ranging from *** to *** percent. In ***, the German product *** was priced above the U.S. product *** by *** percent.

Exchange Rates

Quarterly data reported by the International Monetary Fund indicate that the currencies of the four countries subject to this investigation fluctuated widely in relation to the U.S. dollar over the period from January-March 1989 through January-March 1992 (table 26).[96] The nominal values of the French and German currencies both appreciated by 14.2 percent relative to the dollar. During the same period, the British and Brazilian currencies depreciated by 1.4 percent and 99.94 percent, respectively. When adjusted for movements in producer price indexes in the United States and the specified countries, the real value of the Brazilian currency depreciated by 14.7 percent vis-a-vis the dollar, while the French, German, and British currencies appreciated by 14.4 percent, 15.3 percent, and 9.7 percent, respectively, during the periods for which data were available.

Lost Sales and Lost Revenues

The Commission received lost sales and lost revenue allegations from *** U.S. producers: ***. The 64 lost sales allegations pertaining to imports from Brazil, France, Germany, and the United Kingdom totalled approximately $472.9 million and involved approximately 872,800 tons of hot-rolled lead carbon steel products. Most of the allegations did not provide specific information on sales lost in direct competition with imports, but reported total quantities of sales lost during January 1989-March 1992 based on estimates of the purchasers' buying patterns.[97] The *** producers also alleged losing revenues of $12.1 million because of competition from imports from Brazil, France, Germany, and the United Kingdom. Many of the lost revenue allegations refer to discounts from producers' list prices.[98] U.S. producers reported that they typically discount list prices in order to meet competing prices.

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[96] International Financial Statistics, May 1992.

[97] The *** firms provided only their estimates of the quantity of lead steel bar they might have sold in 1989-91 if the customer had not purchased imports. The allegations did not cite specific dates, quantities, or quoted prices in competition for a specific sale. It is unclear if each U.S. producer is claiming to have lost the same sales and if double counting is an issue here.

[98] For all of its lost revenue allegations, ***.

Table 26
Exchange rates:[1] Indexes of nominal and real exchange rates of selected currencies, and indexes of producer prices in specified countries,[2] by quarters, January 1989-March 1992

Period	U.S.	Brazil			France			Germany			United Kingdom		
	producer price index	Producer price index	Nominal exchange rate index	Real exchange rate index[3]	Producer price index	Nominal exchange rate index	Real exchange rate index[3]	Producer price index	Nominal exchange rate index	Real exchange rate index[3]	Producer price index	Nominal exchange rate index	Real exchange rate index[3]
1989:													
Jan.-Mar...	100.0	100.0	100.00	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Apr.-June..	101.8	130.4	84.32	108.1	100.4	96.0	94.7	100.7	95.6	94.6	101.3	93.1	92.7
July-Sept..	101.4	304.3	38.01	114.1	99.6	96.7	95.1	100.9	96.1	95.7	102.5	91.3	92.3
Oct.-Dec...	101.8	882.6	14.55	126.2	98.9	102.1	99.2	101.6	102.0	101.9	103.8	90.7	92.5
1990:													
Jan.-Mar...	103.3	4213.0	3.85	156.9	98.2	109.7	104.4	101.7	109.4	107.8	105.4	94.8	96.8
Apr.-June..	103.1	8160.9	1.85	146.5	98.1	111.5	106.1	102.2	110.2	109.3	107.6	95.8	100.0
July-Sept..	104.9	10978.3	1.36	142.4	98.2	117.8	110.3	102.7	116.1	113.6	108.6	106.5	110.3
Oct.-Dec...	108.1	16421.7	0.78	118.6	99.4	124.5	114.4	103.5	123.2	117.9	109.9	111.3	113.2
1991:													
Jan.-Mar...	105.9	26721.7	0.45	113.9	(4)	120.8	(4)	103.8	120.8	118.4	112.1	109.3	115.7
Apr.-June..	104.8	34643.5	0.35	116.8	(4)	107.1	(4)	104.6	106.6	106.3	114.1	97.7	106.4
July-Sept..	104.7	48678.3	0.26	119.9	(4)	106.2	(4)	105.7	106.0	107.1	114.8	96.4	105.7
Oct.-Dec...	104.8	89243.5	0.13	108.5	(4)	113.4	(4)	105.9	113.5	114.7	115.5	101.5	111.8
1992:													
Jan.-Mar...	104.6	137595.7[5]	0.06	85.3[5]	(4)	114.2	(4)	105.6[6]	114.2	115.3[6]	116.3[7]	98.6	109.7[7]

[1] Exchange rates expressed in U.S. dollars per unit of foreign currency.
[2] Producer price indexes--intended to measure final product prices--are based on period-average quarterly indexes presented in line 63 of the International Financial Statistics.
[3] The real exchange rate is derived from the nominal rate adjusted for relative movements in producer prices in the United States and the specified country.
[4] Not available.
[5] Derived from Brazilian price data reported for January only.
[6] Derived from German price data reported for January only.
[7] Derived from British price data reported for January only.

Note.--January-March 1989 = 100. The real exchange rates, calculated from precise figures, cannot in all instances be derived accurately from previously rounded nominal exchange rate and price indexes.

Source: International Monetary Fund, International Financial Statistics, May 1992.

*** was named by *** in nine lost sales allegations concerning imports from the United Kingdom. These allegations totaled approximately $*** million and involved *** tons of hot-rolled lead carbon steel products. *** also alleged that they lost revenues of $*** on sales to *** because of competition from U.K. products.

*** reported that *** buys approximately *** tons of leaded bar a year. During the past three years, *** primary supplier. *** tons of leaded steel from ***. *** reported that *** has been shifting from domestic leaded steels to European leaded steels. *** maintained that *** buys imported European leaded steel instead of the domestic product because the European product is more suited to his applications.

*** contends that the lead distribution in the European ladle lead steels is better than that of the domestic leaded steels where the lead is added as the ingots are being teemed. Furthermore, the European producers test the billets ultrasonically, unlike U.S. producers. The ultrasonic tests check for lead segregation and non-metallic inclusions in the metal. One of ***'s major markets is the *** market. Lead segregation can cause ***. *** estimated that the European products are priced $1 to $2 per cwt less than the domestic product, but maintained that this price difference is offset by the additional carrying and storage costs necessitated by the longer lead times and larger minimum quantity requirements when purchasing imported product.

*** reported that *** and offered to match import pricing. *** quoted a price that was close to the price *** wanted and, after some negotiation, ***. *** agreed to *** price, and *** currently buys leaded steels from *** at this price.

*** was named by *** in four lost sales allegations totalling $*** involving *** tons of leaded steel allegedly purchased from U.K. and Brazilian sources. *** also alleged that it lost revenues of $*** on sales to *** because of competition from the United Kingdom.

*** reported that *** buys approximately *** tons of leaded steels a year, and during the last three years bought a total of roughly *** tons from offshore sources. *** bought *** tons of U.K. product from ***. During 1989-91, *** also bought relatively small amounts of German product from *** but did not buy any Brazilian product.

*** states that one reason he buys the U.K. product is to maintain an alternate source of leaded steel. *** is concerned about the viability of the U.S. producers and fears that if Bethlehem leaves the industry, Inland will have a virtual monopoly in the U.S. market.

*** reported that the U.K. product is almost always priced below the domestic product. U.K. lead times are much greater than domestic lead times (***). Overall, the quality of the U.K. material is slightly better than the U.S. product, but the difference is not significant enough to base a purchasing decision on. *** cited the U.S./U.K. exchange rate as an important consideration. When the exchange rate is $2/1 British pound, the U.K. price is not competitive. When exchange rates are $1.5/1 British pound the U.K. price is competitive.

*** maintains that it is very hard to negotiate lower prices from domestic producers of leaded steels. *** stated that the domestic producers can be "arrogant" in their pricing policies, in the sense that they quote an initial price of $*** per cwt and do not move from that price. *** believes that larger purchasers may get lower price quotes.

*** was named by *** in four lost sales allegations totalling $***, involving *** tons allegedly purchased from U.K., French, and German producers. *** also alleged that they lost $*** in revenue because of competition from U.K. and German sources.

*** stated that *** stopped buying imported leaded steel in ***. *** switched to domestic leaded steels because their lead times were much shorter, and *** did not need to hold as much domestic product in inventory.

*** allowed that price plays a factor in the purchasing decision. Because of the additional costs and risk associated with holding the larger inventories of imported material, the imported product must be priced $3 to $4 per cwt less than the domestic product before *** will buy it. Currently, prices for the U.S. product are approximately $*** per cwt, and prices for the French product are $*** per cwt. *** stated that in his applications the quality of the European products used to be significantly higher than the U.S. products. However, the U.S. quality has improved to such an extent that,

during the last three years, quality differences have not been significant to him.

's lost revenue allegations cite losses of $ in *** the point at which *** asserts that *** stopped buying imports because of inventory problems. *** was not with *** during 1989-90, and could not comment on price negotiations at that time.

*** was named by *** in two lost sales allegations totalling $*** involving *** tons allegedly purchased from U.K. sources. *** also allegedly lost revenues of $*** on sales to *** due to competition from U.K. products.

*** reported that *** buys approximately *** tons of grade 12L14 leaded steel a year. During the last two years, *** bought *** tons of U.K. product. The price of the U.K. product was approximately $*** per cwt delivered, compared with $*** per cwt delivered for the domestic product. *** stated that there is absolutely no difference in the quality of the foreign and domestic leaded steel products. However, the lead times for the imported product are much longer. Because of the longer lead times, *** must hold large amounts of the imported product in inventory. *** reported that, because of the additional holding costs and risk associated with the imported product, *** generally does not buy foreign product unless its price is $3.00 to $4.50 less than the domestic product. *** bought leaded steel from *** in order to keep another supply option open.

*** was named by *** in eight lost sales allegations totalling $***, involving *** tons allegedly lost to sources from the United Kingdom, France, and Germany. *** also alleged losing $*** of revenue because of competition from imported U.K., French, and German leaded steel products.

*** would not respond to questions concerning these allegations, but directed staff to ***.

*** was named by *** in six allegations of lost sales totalling $***, involving *** tons of leaded steel allegedly lost to sources from United Kingdom, France, Germany, and Brazil. *** also alleged losing revenue of $*** because of competition for sales to *** from imported U.K, French, and Brazilian products.

*** reported that *** bought approximately *** tons of U.S.-produced leaded steel and *** tons of imported leaded steel. *** stated that *** has recently been buying more imported leaded steel, and the reason is strictly because of the lower prices of the imports. *** maintained that the quality of the domestic product is as good, and in some cases better, than the quality of the imported product. *** complained of losing market share to other cold finishers, such as ***, that bought lower priced imported leaded steel. *** stated that in order to be competitive, *** had to buy lower-priced imported leaded steel.

*** maintains that *** asked *** if they could match import pricing, but *** was unable to offer prices that were close to prices for the imported product. *** reported that the differential between prices for domestic and imported leaded steel was $*** per cwt. *** claims that import prices are suppressing U.S. prices for leaded steel.

APPENDIX A

COMMISSION'S AND COMMERCE'S FEDERAL REGISTER NOTICES

INTERNATIONAL TRADE COMMISSION

Investigations Nos. 701-TA-314 through 317 (Preliminary), and Investigations Nos. 731-TA-552 through 555 (Preliminary)

Certain Hot-Rolled Lead and Bismuth Carbon Street Products From Brazil, France, Germany, and the United Kingdom

AGENCY: United States International Trade Commission.

ACTION: Institution and scheduling of preliminary countervailing duty and antidumping investigations.

SUMMARY: The Commission hereby gives notice of the institution of preliminary countervailing duty investigations Nos. 701-TA-314 through 317 (Preliminary) under section 703(a) of the Tariff Act of 1930 (19 U.S.C. 1671b(a)) to determine whether there is a reasonable indication that an industry in the United States is materially injured, or is threatened with material injury, or the establishment of an industry in the United States is materially retarded, by reason of imports from Brazil, France, Germany, and the United Kingdom of certain hot-rolled lead and bismuth carbon steel products; [1] provided for in subheadings 7213.20.00, 7213.31.30, 7213.31.60, 7213.39.00, 7214.30.00, 7214.40.00, 7214.50.00, 7214.60.00 and 7228.30.80 of the Harmonized Tariff Schedule of the United States (HTS),[2] [3] that are alleged to be subsidized by the Governments of Brazil, France, Germany, and the United Kingdom.

The Commission also gives notice of the institution of preliminary antidumping investigations Nos. 731-TA-552 through 555 (Preliminary) under section 733(a) of the Tariff Act of 1930 (19 U.S.C. 1673(a)) to determine whether there is a reasonable indication that an industry in the United States is materially injured, or is threatened with material injury, or the establishment of an industry in the United States is materially retarded, by reason of imports from Brazil, France, Germany, and the United Kingdom of certain hot-rolled lead and bismuth carbon steel products,[1] provided for in subheadings 7213.20.00, 7213.31.30, 7213.31.60, 7213.39.00, 7214.30.00, 7214.40.00, 7214.50.00, 7214.60.00 and 7228.30.80,[2] [3] that are alleged to be sold in the United States at less than fair value.

As provided in sections 703(a) and 733(a) of the Tariff Act, the Commission must complete preliminary countervailing duty and antidumping

[1] For purposes of these investigations, the subject hot-rolled lead and bismuth carbon steel products are hot-rolled products of nonalloy or other alloy steel, containing by weight 0.03 percent or more of lead or 0.05 percent or more of bismuth, in coils or cut lengths, and in numerous shapes and sizes. Flat-rolled carbon steel products are not included in these investigations.

[2] Large hot-rolled lead and bismuth carbon steel bars may also enter under the following HTS subheadings for semi-finished steel products: 7207.11.00, 7207.12.00, 7207.19.00, 7207.20.00 and 7224.90.00.

[3] For tariff purposes hot-rolled steel products containing 0.4 percent or more by weight of lead and/or 0.1 percent or more by weight of bismuth are classified as being of other alloy steel; these investigations include such goods and are provided for in HTS subheading 7228.30.80. For purposes of these investigations, the petition has described these goods of "other alloy steel" as being of "carbon steel."

investigations in 45 days, or in this case by May 28, 1992.

For further information concerning the conduct of these investigations and rules of general application, consult the Commission's Rules of Practice and Procedure, part 201, subparts A through E (19 CFR part 201), and part 207, subparts A and B (19 CFR part 207).

EFFECTIVE DATE: April 13, 1992.

FOR FURTHER INFORMATION CONTACT: Diane J. Mazur (202-205-3184), Office of Investigations, U.S. International Trade Commission, 500 E Street SW., Washington, DC 20436. Hearing-impaired persons can obtain information on this matter by contacting the Commission's TDD terminal on 202-205-1810. Persons with mobility impairments who will need special assistance in gaining access to the Commission should contact the Office of the Secretary at 202-205-2000.

SUPPLEMENTARY INFORMATION:

Background

These investigations are being instituted in response to a petition filed on April 13, 1992, by Inland Steel Industries, Inc., including Inland Steel Bar Co., Chicago, IL; and the Bar, Rod and Wire Division, Bethlehem Steel Corp., Johnstown, PA.

Participation in the Investigations and Public Service List

Persons (other than petitioners) wishing to participate in the investigations as parties must file an entry of appearance with the Secretary to the Commission, as provided in §§ 201.11 and 207.10 of the Commission's rules, not later than seven (7) days after publication of this notice in the Federal Register. The Secretary will prepare a public service list containing the names and addresses of all persons, or their representatives, who are parties to these investigations upon the expiration of the period for filing entries of appearance.

Limited Disclosure of Business Proprietary Information (BPI) under an Administrative Protective Order (APO) and BPI Service list.

Pursuant to § 207.7(a) of the Commission's rules, the Secretary will make BPI gathered in these preliminary investigations available to authorized applicants under the APO issued in the investigations, provided that the application is made not later than seven (7) days after the publication of this notice in the Federal Register. A separate service list will be maintained by the Secretary for those parties authorized to receive BPI under the APO.

Conference

The Commission's Director of Operations has scheduled a conference in connection with these investigations for 9:30 a.m. on May 4, 1992, at the U.S. International Trade Commission Building, 500 E Street SW., Washington, DC. Parties wishing to participate in the conference should contact Diane Mazur (202-205-3184) not later than April 30, 1992, to arrange for their appearance. Parties in support of the imposition of countervailing and antidumping duties in these investigations and parties in opposition to the imposition of such duties will each be collectively allocated one hour within which to make an oral presentation at the conference. A nonparty who has testimony that may aid the Commission's deliberations may request permission to present a short statement at the conference.

Written Submissions

As provided in §§ 201.8 and 207.15 of the Commission's rules, any person may submit to the Commission on or before May 7, 1992, a written brief containing information and arguments pertinent to the subject matter of the investigations. Parties may file written testimony in connection with their presentation at the conference no later than three (3) days before the conference. If briefs or written testimony contain BPI, they must conform with the requirements of sections 201.6, 207.3, and 207.7 of the Commission's rules.

In accordance with sections 201.16(c) and 207.3 of the rules, each document filed by a party to the investigations must be served on all other parties to the investigations (as identified by either the public or BPI service list), and a certificate of service must be timely filed. The Secretary will not accept a document for filing without a certificate of service.

Authority: These investigations are being conducted under authority of the Tariff Act of 1930, title VII. This notice is published pursuant to § 207.12 of the Commission's rules.

Issued: April 14, 1992.

By order of the Commission.

Kenneth R. Mason,

Secretary.

[FR Doc. 92-9040 Filed 4-17-92; 8:45 am]

BILLING CODE 7020-02-M

[Brazil (A-351-811), France (A-427-804), Germany (A-428-811), United Kingdom (A-412-810)]

Initiation of Antidumping Duty Investigations: Certain Hot Rolled Lead and Bismuth Carbon Steel Products From Brazil, France, Germany and the United Kingdom

AGENCY: Import Administration, International Trade Administration, Department of Commerce.

EFFECTIVE DATE: May 8, 1992.

FOR FURTHER INFORMATION CONTACT: Michael Ready, Office of Antidumping Investigations, Import Administration, International Trade Administration, U.S. Department of Commerce, 14th Street and Constitution Avenue, NW., Washington, DC 20230; telephone (202) 377-2613

Initiations

On April 13, 1992, we received petitions filed in proper form by Inland Steel Industries, including Inland Steel Bar Company; and the Bar, Rod & Wire Division of Bethlehem Steel Corporation. In compliance with the filing requirements of 19 CFR 353.12, petitioners allege that imports of certain hot rolled lead and bismuth carbon steel products (certain additive steel products) from Brazil, France, Germany and the United Kingdom are being, or are likely to be, sold in the United States at less than fair value within the meaning of section 731 of the Tariff Act of 1930, as amended (the Act), and that an industry in the United States is being materially injured, or is threatened with material injury, by reason of those imports.

Petitioners have stated that they have standing to file the petitions because they are interested parties, as defined under section 771(9)(E) of the Act, and because they have filed the petitions on behalf of the U.S. industry producing the products that are subject to these investigations. If any interested party, as described under paragraphs (C), (D), (E), or (F) of section 771(9) of the Act, wishes to register support for, or opposition to, these petitions, please file a written notification with the Assistant Secretary for Import Administration.

Under the Department's regulations, any producer or reseller seeking exclusion from a potential antidumping duty order must submit its request for exclusion within 30 days of the date of the publication of this notice. The procedures and requirements regarding the filing of such requests are contained in 19 CFR 353.14.

United States Price and Foreign Market Value

For all four countries, petitioners based their calculation of United States Price (USP) on price quotes to U.S. customers on either a delivered or FOB port-of-entry basis. Where applicable, petitioners made deductions for U.S. trucking, U.S. truck loading, U.S. barge, U.S. wharfage, fees paid to unrelated sales agents, U.S. vessel unloading, insurance and ocean freight, U.S. duty, foreign wharfage, foreign truck unloading and foreign inland freight.

Petitioners' estimate of foreign market value (FMV) for Brazil is based on a price list and price quotes on an FOB factory basis applicable to the Brazilian home market. Because of the hyperinflation that exists in Brazil, we excluded certain price quotes because petitioners did not submit contemporaneous USP price comparisons. Petitioners made circumstance-of-sale (COS) adjustments for the difference in credit terms between the U.S. and Brazilian markets.

For France, Germany and the United Kingdom, petitioners based FMV on delivered prices to customers in each country's home market. Petitioners deducted inland freight and made a COS adjustment to account for the differences in credit terms.

We determine that the French home market price is not useable and have rejected the less than fair value (LTFV) allegation based on home market sales. However, petitioners also provided third country delivered price quotes to British and Italian customers as FMV. Petitioners deducted inland freight and made a COS adjustment to account for the differences in credit terms

All of these home market and third country prices (with the exception of Brazil, discussed below) are exclusive of value added or similar taxes. In accordance with current Department policy, petitioners calculated the amount of such current Department policy, petitioners calculated the amount of such taxes which would be applicable to sales to the United States and added the resulting amount to both the USPs and FMVs. In the case of Brazil, the rate of one such tax included in the home market price varies depending upon which Brazilian State the customer is located in. In accordance with current Department practice, petitioners deducted the amount of this tax included in the home market price and made no further adjustment

Petitioners also alleged that Usinor/Sacilor (France), Saarstahl and Thyseen (Germany) and United Engineering Steels (UES) (United Kingdom), potential respondents in these investigations, are selling certain additive steel products in their home markets (and, in the case of France, in third countries as well) at prices below their costs of production. These allegations are based on a comparison of home market and third country prices (described above) with cost of production (COP). COP was based on the COP of an efficient U.S. producer adjusted for known differences, in France, Germany and the United Kingdom. Petitioners were unable to include in their estimates of COP respondent-specific amounts for selling, general and administrative expenses (SG&A), because the potential respondents' financial statements do not separately state SG&A expenses. Instead, petitioners used the U.S. producer's actual SG&A expenses exclusive of interest expense, because they claim the foreign producers' interest expense as a percentage of cost of goods sold is *de minimis*.

Because we have rejected the French home market price reported by petitioners, we have also rejected the cost allegation with respect to Usinor/Sacilor's home market sales. However, based on the information presented, we have reason to believe or suspect that the third country sales of Usinor/Sacilor, and the home market sales of Saarstahl, Thyssen and UES are being made at less than COP. Accordingly, pursuant to section 773(b) of the Act and 19 CFR 353.51, we are initiating COP investigations for UES's, Saarstahl's and Thyssen's sales in the specific markets identified above. We will initiate a third country COP inquiry with regard to Usinor/Sacilor's sales if we determine that a third country market is the appropriate basis for Usinor/Sacilor's FMV.

In addition to providing estimated dumping margins based on price to price comparisons, petitioners have also

estimated dumping margins for the companies covered by COP allegations based on a comparison of U.S. price to constructed value (CV). Constructed value was calculated by increasing COP by 10 percent for general expenses and eight percent for profit, pursuant to section 1773(e)(1)(B) of the Act.

Based on a comparison of U.S. prices and FMVs, petitioners allege the following dumping margin percentages:

Brazil	93.81 to 101.46 (price to price).
France	0.14 to 15.45 (price to price). 47.53 to 75.08 (price to CV).
Germany	0.55 to 11.09 (price to price). 85.90 to 104.31 (price to CV).
United Kingdom.	22.37 to 61.79 (price to price). 42.52 to 59.03 (price to CV).

Initiation of Investigations

Pursuant to section 732(c) of the Act, the Department must determine, within 20 days after a petition is filed, whether the petition sets forth the allegations necessary for the initiation of an antidumping duty investigation, and whether the petition contains information reasonably available to petitioners supporting the allegations.

We have examined the petitions on certain additive steel products from Brazil, France, Germany and the United Kingdom and find that they comply with the requirements of section 732(b) of the Act. Therefore, in accordance with section 732 of the Act, we are initiating antidumping duty investigations to determine whether imports of certain additive steel products from Brazil, France, Germany and/or the United Kingdom are being, or are likely to be, sold in the United States at less than fair value. In addition, we also are initiating cost investigations of the respondents, as noted above. If our investigations proceed normally, we will make our preliminary determinations by September 21, 1992.

Scope of Investigations

The products covered by these investigations are hot-rolled bars and rods of nonalloy or other alloy steel, whether or not descaled, containing by weight 0.03 percent or more of lead or 0.05 percent or more of bismuth, in coils or cut lengths, and in numerous shapes and sizes. Excluded from the scope of these investigations are other alloy steels (as defined by the Harmonized Tariff Schedule of the United States (HTSUS) Chapter 72, note 1(f)), except steels classified as other alloy steels by reason of containing by weight 0.4 percent or more of lead, or 0.1 percent or more of bismuth, tellurium, or selenium. Also excluded are semi-finished steels and flat-rolled products. Most of the products covered in these investigations are provided for under subheadings 7213.20.00.00 and 7214.30.00.00 of the HTSUS. Small quantities of these products may also enter the United States under the following HTSUS subheadings: 7213.31.30.00, 60.00; 7213.39.00.30, 00.60, 00.90; 7214.40.00.10, 00.30, 00.50; 7214.50.00.10, 00.30, 00.50; 7214.60.00.10, 00.30, 00.50; and 7228.30.80.00. Although the HTSUS subheadings are provided for convenience and customs purpose, our description of the scope of this proceeding is dispostive.

ITC Notification

Section 732(d) of the Act requires us to notify the ITC of these actions and we have done so.

Preliminary Determinations by ITC

The ITC will determine, by May 28, 1992, whether there is a reasonable indication that an industry in the United States is being materially injured, or is threatened with material injury, by reason of imports from Brazil, France, Germany and/or the United Kingdom of certain additive steel products. Any ITC determination which is negative will result in the respective investigation being terminated; otherwise, the investigations will proceed according to statutory and regulatory time limits.

This notice is published pursuant to section 732(c)(2) of the Act and 19 CFR 353.13(b).

Dated: May 4, 1992.

Alan M. Dunn,

Assistant Secretary for Import Administration.

[FR Doc. 92-10847 Filed 5-7-92; 8:45 am]

BILLING CODE 3510-DS-M

[C-351-812, C-427-805, C-428-812, C-412-811]

Initiation of Countervailing Duty Investigations: Certain Hot Rolled Lead and Bismuth Carbon Steel Products From Brazil, France, Germany, and the United Kingdom

AGENCY: Import Administration, International Trade Administration, Department of Commerce.

EFFECTIVE DATE: May 8, 1992.

FOR FURTHER INFORMATION CONTACT: For Brazil and Germany, Rick Herring (202-377-3530), for France, Vincent Kane (202-377-2815); and for the United Kingdom, Stephanie Hager (202-377-5055), Office of Countervailing Investigations, Import Administration, International Trade Administration, U.S. Department of Commerce, 14th Street and Constitution Avenue NW., Washington, DC 20230.

Initiation

The Petition

On April 13, 1992, we received petitions in proper form from Inland Steel Industries, including the Inland Steel Bar Company; and the Bar, Rod, & Wire Division of Bethlehem Steel Corp. on behalf of the U.S. industry producing certain hot rolled lead and bismuth carbon steel products. In accordance with 19 CFR 355.12, petitioners allege that manufacturers, producers, or exporters of the subject merchandise in Brazil, France, Germany, and the United Kingdom receive subsidies within the meaning of section 701 of the Tariff Act of 1930, as amended (the Act).

Petitioners allege that the following provide subsidies for producers of the subject merchandise in Brazil: Equity infusions on terms inconsistent with commercial considerations, long-term loans on terms inconsistent with commercial considerations, grants, preferential export financing, and tax benefits.

Petitioners allege that the following provide subsidies for producers of the subject merchandise in France: Equity infusions on terms inconsistent with commercial considerations, long-term loans and loan guarantees on terms inconsistent with commercial considerations, grants received in the form of equity write-offs, loan and interest forgiveness, conversion of loans to equity on terms inconsistent with commercial considerations, interest rebates, labor subsidies, and research and development assistance.

Petitioners allege that the following provide subsidies for producers of the subject merchandise in Germany: Grants, debt assumption and forgiveness, and worker assistance.

Petitioners allege that the following provide subsidies for producers of the subject merchandise in the United Kingdom: equity infusions on terms inconsistent with commercial considerations, regional development grants, grants received in the form of equity write-offs, and loan cancellations.

Because each of the countries under consideration is a "country under the Agreement" within the meaning of section 701(b) of the Act, Title VII of the Act applies to these investigations. Accordingly, the U.S. International Trade Commission (ITC) must determine whether imports of the subject merchandise from Brazil, France, Germany, and/or the United Kingdom materially injure, or threaten material injury to, the U.S. industry.

Petitioners have stated that they have standing to file the petitions because they are interested parties, as defined in section 771(9)(E) of the Act, and because they have filed the petitions on behalf of the U.S. industry producing the products subject to these investigations. If any interested party, as described under paragraphs (C), (D), (E), or (F) of section 771(9) of the Act, wishes to register support for, or opposition to, this petition, please file a written notification with the Assistant Secretary for Import Administration.

Under the Department's regulations, any producer or reseller seeking exclusion from a potential countervailing duty order must submit its request for exclusion within 30 days of the date of the publication of this notice. The procedures and requirements regarding the filing of such requests are contained in 19 CFR 355.14.

Initiation of Investigations

Under section 702(c) of the Act, the Department must determine, within 20 days after a petition is filed, whether the petition properly alleges the basis on which a countervailing duty may be imposed under section 701(a) of the Act, and whether the petition contains information reasonably available to the petitioner supporting the allegations. We have examined the petitions on certain hot-rolled lead and bismuth carbon steel products (certain additive steel products) from Brazil, France, Germany, and the United Kingdom and have found that they comply with the requirements of section 702(b) of the Act. Therefore, in accordance with section 702 of the Act, we are initiating countervailing duty investigations to determine whether manufacturers, producers, or exporters of certain hot rolled lead and bismuth carbon steel products receive subsidies. In accordance with section 702(d) of the Act, we are also notifying the ITC of these actions.

In the case of Brazil, we are not investigating certain programs alleged to be benefitting producers of the subject merchandise in Brazil. We are not investigating loans and loan guarantees provided by BNDES and FINAME financing because we found these programs not countervailable in Certain Carbon Steel Products from Brazil: Final Affirmative Countervailing Duty Determination (49 FR 17989, April 26, 1984) and in Oil Country Tubular Goods from Brazil: Final Affirmative Countervailing Duty Determination (49 FR 46570, November 27, 1984). Petitioners did not provide sufficient new evidence to warrant a re-examination of these programs at this time. We are not investigating Resolution 63 financing because information contained in the petition did not provide any evidence that benefits under this program are limited to a specific enterprise or industry, or to a group of enterprises or industries. We are not investigating equity infusions into Acesita since the information provided in the petition shows that the equity investments were not made on terms inconsistent with commercial considerations. Petitioners have also requested that we investigate all loans to the two producers Acesita and Vibasa, becaue these companies' annual reports show that they have fixed-rate debt, which petitioners allege is "suspicious". However, information submitted by petitioners also shows that fixed-rate debt is available in Brazil. Therefore, absent further information that Acesita's and Vibasa's debt is being provided to a specific enterprise or industry or group thereof on terms inconsistent with commercial considerations, we have no basis to investigate these loans. Finally, petitioners did not provide evidence to show that exemption of sales taxes on components of products destined for export, provided under the Import-Export Reform Plan, constitutes a countervailable subsidy. Because the exemption, or non-excessive refund, of domestic taxes on items physically incorporated into an exported product does not constitute a subsidy, we are not investigating this program.

Similarly, in the case of France, we are not investigating certain programs alleged to be benefitting producers of the subject merchandise in France. Information contained in the petition on the following programs was found to be outdated and, therefore, inadequate for

purposes of providing a reasonable basis to believe or suspect that subsidies are currently being conferred: Loans from the Fonds de Developpement Economique et Social, Credit National loans, loans from Caisse des Depots et Consinations, assistance for plant operating costs, and labor-related aid which deferred severance payments. Nor are we investigating the Economic and Social Development Fund, because the petition does not contain sufficient evidence that this fund provided assistance to commercial or industrial activities.

Scope of Investigation

The products covered by these investigations are hot-rolled bars and rods of nonalloy or other alloy steel, whether or not descaled, containing by weight 0.03 percent or more of lead or 0.05 percent or more of bismuth, in coils or cut lengths, and in numerous shapes and sizes. Excluded from the scope of these investigations are other alloy steels (as defined by the Harmonized Tariff Schedule of the United States (HTSUS) Chapter 72, note 1(f)), except steels classified as other alloy steels by reason of containing by weight 0.4 percent or more of lead, or 0.1 percent or more of bismuth, tellurium, or selenium. Also excluded are semi-finished steels and flat-rolled products. Most of the products covered in these investigations are provided for under subheadings 7213.20.00.00, and 7214.30.00.00 of the (HTSUS). Small quantities of these products may also enter the United States under the following HTSUS subheadings: 7213.31.30.00, 60.00; 7213.39.00.30, 00.60, 00.90; 7214.40.00.10, 00.30, 00.50; 7214.50.00.10, 00.30, 00.50; 7214.60.00.10, 00.30, 00.50; and 7228.30.80.00. Although the HTSUS subheadings are provided for convenience and customs purposes, our description of the scope of this proceeding is dispositive.

ITC Notification

Section 702(d) of the Act requires us to notify the ITC of these actions and we have done so.

Preliminary Determinations by the ITC

The ITC will determine, by May 28, 1992, whether there is a reasonable indication that an industry in the United States is being materially injured, or is threatened with material injury, by reason of imports from Brazil, France, Germany and/or the United Kingdom of certain additive steel products. Any ITC determination which is negative will result in the respective investigation being terminated; otherwise, the investigations will proceed according to statutory and regulatory time limits.

This notice is published pursuant to 702(c)(2) of the Act and 19 CFR 355.13(b).

Dated: May 4, 1992.

Alan M. Dunn,

Assistant Secretary for Import Administration.

[FR Doc. 92-10849 Filed 5-7-92; 8:45 am]

BILLING CODE 3510-DS-M

Corrections

Federal Register
Vol. 57, No. 92
Tuesday, May 12, 1992

INTERNATIONAL TRADE COMMISSION

[Investigations Nos. 701-TA-314 through 317 (Preliminary), and Investigations Nos. 731-TA-552 through 555 (Preliminary)]

Certain Hot-Rolled Lead and Bismuth Carbon Steel Products From Brazil France, Germany, and the United Kingdom

Correction

In notice document 92-9040 beginning on page 14431 in the issue of Monday, April 20, 1992, the heading should read as set forth above.

BILLING CODE 1505-01-D

APPENDIX B

LIST OF WITNESSES APPEARING AT CONFERENCE

CALENDAR OF THE PUBLIC CONFERENCE

May 4, 1992

Investigations Nos. 701-TA-314 through 317 (Preliminary), and
Investigations Nos. 731-TA-552 through 555 (Preliminary)

Certain Hot-Rolled Lead and Bismuth Carbon Steel Products
from Brazil, France, Germany, and the United Kingdom

Those persons listed below appeared at the United States International Trade Commission's conference held in connection with the subject investigations at 9:30 a.m. on Monday, May 4, 1992, at the U.S. International Trade Commission, 500 E Street, SW, Washington, DC.

In support of the imposition of countervailing and antidumping duties

Wiley, Rein & Fielding--Counsel
Washington, DC
on behalf of--

Inland Steel Industries, Inc., including Inland Steel Bar Co.
Bethlehem Steel Corp., Bar, Rod and Wire Division

James Fritsch, Gen. Mgr. Commercial, Bethlehem Bar, Rod & Wire
Joseph Alvarado, Gen. Mgr. Sales, Inland Steel Bar Co.
Dr. D. Bhattacharya, Mgr. Product Development, Inland Steel Bar
Niles Bruno, Mgr. Marketing & Products Office, Inland Steel Bar
Paul Darling, President & CEO, Corey Steel Co.
Lee Rankin, V.P. Commercial, USS/Kobe Steel Co.
Andrew Wechsler, Principal, Law & Economics Consulting Group
Roger Hickey, Sr. Economist, Law & Economics Consulting Group
John Christopher, Consultant, Machining Research Inc.

Charles E. Verrill)
Alan Price)
Willis Martyn) -- OF COUNSEL
Allen Shinn)

In opposition to the imposition of countervailing and antidumping duties

Steptoe & Johnson--Counsel
Washington, DC
on behalf of--

United Engineering Steels (UES)--**The United Kingdom**

Derry Graham, Metallurgical Mgr., UES
Bruce Malashevich, Pres., Economic Consulting Services
Michael Holowaty, Metallurgist, Independent Consultant

Richard Cunningham)
Mark Davis) -- OF COUNSEL

LeBoeuf, Lamb, Leiby & MacRae--Counsel
New York, NY
on behalf of--

Usinor Sacilor, Ascometal and Unimetal--**France**
Saarstahl--**Germany**

Pierre de Ravel d'Esclapon) --OF COUNSEL

Powell, Goldstein, Frazer & Murphy--Counsel
Washington, DC
on behalf of--

Thyssen Stahl AG and Thyssen Inc.--**Germany**

Richard M. Belanger) --OF COUNSEL

APPENDIX C
DEFINITIONS

Definitions

Carbon Steel

Carbon steel means all nonalloy steel which is usefully malleable and contains by weight 2 percent or less of carbon. In addition, any steel classified as other alloy steel solely because it contains 0.4 percent or more by weight of lead and/or 0.1 percent or more by weight of bismuth, is classified as being of carbon steel for purposes of these investigations.

Hot-rolled Carbon Steel Products

Hot-rolled carbon steel products are carbon steel products which have been reduced to their final thickness by heating and rolling at elevated temperature (usually above 2,200° F). Reinforcing bar and rod, and flat-rolled carbon steel products are not included in these investigations. Hot-rolled carbon steel products are provided for in HTS subheadings 7213.20, 7213.31, 7213.39, 7213.41, 7213.49, 7213.50, 7214.30, 7214.40, 7214.50, 7214.60, 7216.10, 7216.21, 7216.22, 7216.50, 7227.90.60, 7228.30.80, and 7228.70.30. For purposes of these investigations hot-rolled carbon steel products include the following:

Hot-rolled bars

Hot-rolled bars are hot-rolled products whether or not in irregularly wound coils, which have a solid cross section along their length in shapes (and sizes) that include, but are not limited to: circles or segments of circles (coils having a diameter from 0.75 to 12 inches, and cut-lengths having a diameter from 0.20 to 12 inches), rectangles (including squares from 0.20 to 6 inches in width), flats (from 1/4 to 8 inches in width and from 0.23 to 4 inches in thickness), or other convex polygons (such as hexagonals and octagonals from 0.20 to 4-1/16 inches between parallel surfaces). These products do not include reinforcing bars.

Hot-rolled rods

Hot-rolled rods are coiled, semifinished, hot-rolled products of solid cross section, approximately round in cross section, not under 0.20 inch nor over 0.74 inch in diameter. These products do not include reinforcing rods.

Hot-rolled bar-size shapes

Bar-size shapes applies to angles, shapes, and sections other than the bars and rods defined above, having a maximum cross-sectional dimension of less than 3 inches.

Hot-rolled Lead and Bismuth Carbon Steel Products

Hot-rolled lead and bismuth carbon steel products are hot-rolled products as described above that contain 0.03 percent or more lead, and/or 0.05 percent or more bismuth, whether in coils or cut lengths. These products may also contain other additives such as tellurium or selenium. Hot-rolled lead and bismuth carbon steel products are principally provided for in HTS subheadings 7213.20, 7214.30, and 7228.30.80.

Semifinished Lead and Bismuth Carbon Steel Products

Semifinished lead and bismuth carbon steel products are products of solid cross section, which have not been further worked than subjected to primary hot-rolling or roughly shaped by forging, and include lead and bismuth blooms and billets. Semifinished lead and bismuth carbon steel products are provided for in subheadings 7207.11.00, 7207.12.00, 7207.19.00, 7207.20.00, and 7224.90.00 of the Harmonized Tariff Schedule of the United States (HTS).

Other Hot-rolled Carbon Steel Products

These are hot-rolled carbon steel products other than the lead and bismuth products described above. Other hot-rolled carbon steel products include the following:

Merchant quality carbon steel products

These products include hot-rolled carbon steel products manufactured for non-critical uses, in limited size ranges, and of a type of steel applied at the producer's option. These products include the 1000 series of nonresulphurized steel grades.

Other special quality carbon steel products

These products include hot-rolled carbon steel products manufactured from a type of steel that is dependent upon chemical composition, quality, and customer specifications. Special quality products are used when the application, method of fabrication, or subsequent processing treatment requires quality characteristics not available in merchant quality products. These products include the 1100 and 1200 series of resulphurized and/or rephosphorized grades of free-machining steel. For purposes of these investigations, "other" special quality hot-rolled products are other than the hot-rolled lead or bismuth products defined above (which are also considered generically to be "special" quality).

Machinability

Machinability is that combination of properties in a material that affects its response to removal by a cutting tool. The machining of a steel may be enhanced by additives, such as lead, bismuth, selenium, tellurium, sulphur, phosphorus, or calcium, to the steel at its liquid phase. Or, for certain types of steel, machinability may be enhanced by annealing.[1]

Machinability depends upon the dynamic reactions which occur in the workpiece material (including its chemical and metallurgical compositions), the machine tool, the tool's geometry, the lubricant employed, and operating conditions. Among other items, tool life, the rate of metal removal, surface finish, ease of chip removal, and the reduction of cutting forces are important criteria for evaluating a steel's machinability.[2]

Additions of lead, in combination with selenium or tellurium, or bismuth significantly improve machinability, and these grades are most often used when the part that is to be made requires the removal of relatively large amounts of metal (greater than 30 percent, for example, according to one estimate).[3] They are most often specified when the machine to be utilized is an automatic screw machine, lathe, or drill press.[4] As indicated earlier, there are other types of additions, most of which are made at the ladle, including calcium, phosphorus, and sulphur, which also affect the machinability of the steel. Calcium is used to minimize the detrimental effect of alumina inclusions on some carbide tools; it assists castability and is often used in applications calling for casting parts to near net shape.

Steel Series

Carbon, certain alloy, and alloy steels are categorized according to their chemical content. The primary elements that are specified are carbon, manganese, phosphorus, and sulphur for carbon steels (other elements such as copper and silicon are specified in terms of maximum allowable levels); and, these elements plus nickel, chromium, and molybdenum for alloy steels. Carbon steel grades include the 1000, 1100, 1200, and 1500 series (see further description below). Alloy steel grades include the 1300, 4000, 4100, 4300, 4400, 4600, 4700, 4800, 5000, 5100, 5200, 6100, 8100, 8600, 9200, and 9300 series.[5]

The primary series for carbon steels, including special bar quality, are shown in the following tabulation.

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[1] See, United States Steel, The Making, Shaping, and Treating of Steel, pp. 1465-1488.

[2] Debanshu Bhattacharya, "Machinability of Steel," Journal of Metals, Mar. 1987, p. 32.

[3] Staff interview with ***.

[4] Ibid.

[5] Alloy steels are outside the scope of these investigations; differences in the series are based on different chemical compositions, particularly for nickel, chromium, manganese, and molybdenum.

Grade	Comment
1000	Non-resulphurized carbon steels with a manganese content not exceeding 1.00 percent; used for forging axles, casings, shafting applications, and cold-heading applications (e.g., production of screws, nuts, and bolts). Termed a non-free cutting steel. Lead is added to enhance machinability such as in production of small fins and threads.
1100	Resulphurized carbon steels; used in forging applications where strength is needed (e.g., connecting rods and nuts); termed a free-cutting steel.
1200	Free-cutting resulphurized and rephosphorized carbon steels; not load-bearing; includes the bulk of lead and bismuth steels for use in such applications as valves and hydraulic fittings.
1500	Carbon steels with a manganese content exceeding 1.00 percent; lead or bismuth seldom added. Calcium may be added to ameliorate effects of alumina inclusions on high-speed tool steels.

Merchant bar quality[6]

This group is designated with the prefix M before the 1000 series (for example, M1010, a merchant low-carbon bar of the nonresulphurized series for forging). Steels in this group are known as merchant steels; the bar and rod category includes concrete reinforcing bar. They are used for structural and similar applications involving moderate cold bending, moderate hot forming, punching, and welding as used in the production of noncritical parts. They are characterized by wider physical and chemical tolerances and are produced to grade only. Merchant quality is produced to 0.50 percent maximum carbon, 0.60 percent maximum manganese, nonresulfurized, nonleaded, 0.04 percent maximum phosphorus, and 0.05 percent maximum sulfur content, i.e., standard chemical ranges and limits, used for special carbon grades, do not apply. Merchant quality bars are not produced to any specified silicon content, grain size, or other requirement that would influence the type of steel, and they may contain pronounced chemical segregation; internal porosity, surface seams, and other surface irregularities may also be present.

Special bar quality[7]

This group includes bars and rods that are produced to customer order and are characterized by tighter surface and chemical tolerances than M-quality steels. Applications include forging, heat treating, cold drawing,

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[6] ASTM Designation A 575-81, Standard Specification for Steel Bars, Carbon, Merchant Quality, M-Grades.

[7] ASTM Designation A 576-81, Standard Specification for Steel Bars, Carbon, Hot-wrought, Special Quality.

machining, and many structural uses. The primary melting may incorporate separate degassing or refining and may be followed by secondary melting (vacuum arc remelting or electroslag remelting); deoxification is performed. The steel is produced with internal soundness, i.e., relative freedom from segregation and porosity, grain size tolerances, and limits on the content of incidental chemical elements (e.g., copper, nickel, chromium, molybdenum, or others) are restrictive, i.e., not exceeding the limits shown on the customer's purchase order. A tight range for chemical composition is prescribed for carbon, manganese, phosphorus, and sulfur.

Restrictive requirements applicable to special quality.--Certain additional requirements are sometimes necessary for some applications or manufacturing processes, including the following:[8]

Restrictive requirement quality A & B
Multiple restrictive requirement quality
Scrapless nut quality
Axle shaft quality
Cold shearing quality
Cold forging quality
Cold extrusion quality A & B
Cold heading quality
Cold expansion quality
Restrictive cold working quality
Other quality designations:
  File quality
  Gun barrel quality
  Gun receiver quality
  Shell steel quality A, B, & C
  Spark plug leaded quality
  Spark plug non-leaded quality
  Standard tube round quality

Lead and bismuth steels.--These steels are part of the group designated special quality steels; leaded steels are designated by inserting the letter L between the 2-digit number that denotes the series and the 2-digit number that denotes the range of carbon present. When lead is required as an added element to a standard steel, a range of 0.15 to 0.35 percent is specified. When bismuth is added, a proprietary name may be used, although a letter insertion is not made.

[8] Steel Products Manual, AISI, Aug. 1977, pp. 89 and 90.

APPENDIX D
TARIFF HEADNOTES AND NOMENCLATURE

HARMONIZED TARIFF SCHEDULE of the United States (1992)

Annotated for Statistical Reporting Purposes

CHAPTER 72

IRON AND STEEL

XV
72-1

Notes

1. In this chapter and, in the case of notes (d), (e) and (f) below throughout the tariff schedule, the following expressions have the meanings hereby assigned to them:

(a) Pig iron

Iron-carbon alloys not usefully malleable, containing more than 2 percent by weight of carbon and which may contain by weight one or more other elements within the following limits:

- not more than 10 percent of chromium
- not more than 6 percent of manganese
- not more than 3 percent of phosphorus
- not more than 8 percent of silicon
- a total of not more than 10 percent of other elements.

(b) Spiegeleisen

Iron-carbon alloys containing by weight more than 6 percent but not more than 30 percent of manganese and otherwise conforming to the specification at (a) above.

(c) Ferroalloys

Alloys in pigs, blocks, lumps or similar primary forms, in forms obtained by continuous casting and also in granular or powder forms, whether or not agglomerated, commonly used as an additive in the manufacture of other alloys or as deoxidants, desulfurizing agents or for similar uses in ferrous metallurgy and generally not usefully malleable, containing by weight 4 percent or more of the element iron and one or more of the following:

- more than 10 percent of chromium
- more than 30 percent of manganese
- more than 3 percent of phosphorus
- more than 8 percent of silicon
- a total of more than 10 percent of other elements, excluding carbon, subject to a maximum content of 10 percent in the case of copper.

(d) Steel

Ferrous materials other than those of heading 7203 which (with the exception of certain types produced in the form of castings) are usefully malleable and which contain by weight 2 percent or less of carbon. However, chromium steels may contain higher proportions of carbon.

(e) Stainless steel

Alloy steels containing, by weight 1.2 percent or less of carbon and 10.5 percent or more of chromium, with or without other elements.

(f) Other alloy steel

Steels not complying with the definition of stainless steel and containing by weight one or more of the following elements in the proportion shown:

- 0.3 percent or more of aluminum
- 0.0008 percent or more of boron
- 0.3 percent or more of chromium
- 0.3 percent or more of cobalt
- 0.4 percent or more of copper
- 0.4 percent or more of lead
- 1.65 percent or more of manganese
- 0.08 percent or more of molybdenum
- 0.3 percent or more of nickel
- 0.06 percent or more of niobium
- 0.6 percent or more of silicon.
- 0.05 percent or more of titanium
- 0.3 percent or more of tungsten (wolfram)
- 0.1 percent or more of vanadium
- 0.05 percent or more of zirconium
- 0.1 percent or more of other elements (except sulfur, phosphorus, carbon and nitrogen), taken separately.

(g) Remelting scrap ingots of iron or steel

Products roughly cast in the form of ingots without feeder-heads or hot tops, or of pigs, having obvious surface faults and not complying with the chemical composition of pig iron, spiegeleisen or ferroalloys.

(h) Granules

Products of which less than 90 percent by weight passes through a sieve with a mesh aperture of 1 mm and of which 90 percent or more by weight passes through a sieve with a mesh aperture of 5 mm.

(ij) Semifinished products

Continuous cast products of solid section, whether or not subjected to primary hot-rolling; and

Other products of solid section, which heve not been further worked than subjected to primary hot-rolling or roughly shaped by forging, including blanks for angles, shapes or sections.

These products are not presented in coils.

(k) Flat-rolled products

Rolled products of solid rectangular (other than square) cross section, which do not conform to the definition at (ij) above in the form of:

- coils of successively superimposed layers, or
- straight lengths, which if of a thickness less than 4.75 mm are of a width measuring at least 10 times the thickness or if of a thickness of 4.75 mm or more are of a width which exceeds 150 mm and measures at least twice the thickness.

Flat-rolled products include those with patterns in relief derived directly from rolling (for example, grooves, ribs, checkers, tears, buttons, lozenges) and those which have been perforated, corrugated or polished, provided that they do not thereby assume the character of articles or products of other headings.

Flat-rolled products of a shape other than rectangular or square, of any size, are to be classified as products of a width of 600 mm or more, provided that they do not assume the character of articles or products of other headings.

(l) Bars and rods, hot-rolled, in irregularly wound coils

Hot-rolled products in irregularly wound coils, which have a solid cross section in the shape of circles, segments of circles, ovals, rectangles (including squares), triangles or other convex polygons. These products may have indentations, ribs, grooves or other deformations produced during the rolling process (reinforcing bars and rods).

(m) Other bars and rods

Products which do not conform to any of the definitions at (ij), (k) or (l) above or to the definition of wire, which have a uniform solid cross section along their whole length in the shape of circles, segments of circles, ovals, rectangles (including squares), triangles or other convex polygons. These products may:

- have indentations, ribs, grooves or other deformations produced during the rolling process (reinforcing bars and rods);

- be twisted after rolling.

(n) Angles, shapes and sections

Products having a uniform solid cross section along their whole length which do not conform to any of the definitions at (ij), (k), (l) or (m) above or to the definition of wire.

Chapter 72 does not include products of heading 7301 or 7302.

(o) Wire

Cold-formed products in coils, of any uniform solid cross section along their whole length, which do not conform to the definition of flat-rolled products.

(p) Hollow drill bars and rods

Hollow bars and rods of any cross section, suitable for drills, of which the greatest external dimension of the cross section exceeds 15 mm but does not exceed 52 mm, and of which the greatest internal dimension does not exceed one half of the greatest external dimension. Hollow bars and rods of iron or steel not conforming to this definition are to be classified in heading 7304.

2. Ferrous metals clad with another ferrous metal are to be classified as products of the ferrous metal predominating by weight.

3. Iron or steel products obtained by electrolytic deposition, by pressure casting or by sintering are to be classified according to their form, their composition and their appearance, in the headings of this chapter appropriate to similar hot-rolled products.

Subheading Notes

1. In this chapter the following expressions have the meanings hereby assigned to them:

(a) Alloy pig iron

Pig iron containing, by weight, one or more of the following elements in the specified proportions:

- more than 0.2 percent of chromium

- more than 0.3 percent of copper

- more than 0.3 percent of nickel

- more than 0.1 percent of any of the following elements: aluminum, molybdenum, titanium, tungsten (wolfram), vanadium.

(b) Nonalloy free-cutting steel

Nonalloy steel containing by weight one or more of the following elements in the specified proportions:

- 0.08 percent or more of sulfur

- 0.1 percent or more of lead

- more than 0.05 percent of selenium

- more than 0.01 percent of tellurium

- more than 0.05 percent of bismuth.

(c) Silicon electrical steel

Alloy steels containing by weight at least 0.6 percent but not more than 6 percent of silicon and not more than 0.08 percent of carbon. They may also contain by weight not more than 1 percent of aluminum but no other element in a proportion that would give the steel the characteristics of another alloy steel.

(d) High-speed steel

Alloy steels containing, with or without other elements, at least two of the three elements molybdenum, tungsten and vanadium with a combined content by weight of 7 percent or more, 0.6 percent or more of carbon and 3 to 6 percent of chromium.

(e) Silico-manganese steel

Alloy steels containing by weight:

- 0.35 percent or more but not more than 0.7 percent of carbon
- 0.5 percent or more but not more than 1.2 percent of manganese, and
- 0.6 percent or more but not more than 2.3 percent of silicon, but not containing any other element in a proportion that would give the steel the characteristics of another alloy steel.

2. For the classification of ferroalloys in the subheadings of heading 7202 the following rule should be observed:

A ferroalloy is considered as binary and classified under the relevent subheading (if it exists) if only one of the alloy elements exceeds the minimum percentage laid down in chapter note 1(c); by analogy, it is considered respectively as ternary or quaternary if two or three alloy elements exceed the minimum percentage.

For the application of this rule, the unspecified "other elements" referred to in chapter note 1(c) must each exceed 10 percent by weight.

Additional U.S. Notes

1. For the purposes of the tariff schedule the following expressions have the meanings hereby assigned to them:

(a) High-strength steel

Flat-rolled products of a thickness of less than 3 mm and having a minimum yield point of 275 MPa or of a thickness of 3 mm or more and having a minimum yield point of 355 MPa.

(b) Universal mill plate

Flat-rolled products rolled on four faces or in a closed box pass, of a width exceeding 150 mm but not exceeding 1,250 mm and of thickness of not less than 4 mm, not in coils and without patterns in relief.

(c) Concrete reinforcing bars and rods

Hot-rolled bars and rods containing indentations, ribs, grooves or other deformations produced during the rolling process or twisted after rolling.

(d) Razor blade steel

Flat-rolled products of stainless steel not over 0.25 mm in thickness and not over 23 mm in width, and containing by weight not over 14.7 percent of chromium, certified at the time of entry to be used in the manufacture of razor blades.

(e) Tool steel

Alloy steels which contain the following combinations of elements in the quantity by weight respectively indicated:

(i) more than 1.2 percent carbon and more than 10.5 percent chromium; or

(ii) not less than 0.3 percent carbon and 1.25 percent or more but less than 10.5 percent chromium; or

(iii) not less than 0.85 percent carbon and 1 percent to 1.8 percent, inclusive, manganese; or

(iv) 0.9 percent to 1.2 percent, inclusive, chromium and 0.9 percent to 1.4 percent, inclusive, molybdenum; or

(v) not less than 0.5 percent carbon and not less than 3.5 parcent molybdenum; or

(vi) not less than 0.5 percent carbon and not less than 5.5 percent tungsten.

(f) Chipper knife steel

Alloy tool steels which contain, in addition to iron, each of the following elements by weight in the amount specified:

(i) not less than 0.48 nor more than 0.55 percent of carbon;

(ii) not less than 0.2 nor more than 0.5 percent of manganese;

(iii) not less than 0.75 nor more than 1.05 percent of silicon;

(iv) not less than 7.25 nor more than 8.75 percent of chromium;

(v) not less than 1.25 nor more than 1.75 percent of molybdenum;

(vi) none, or not more than 1.75 percent of tungsten; and

(vii) not less than 0.2 nor more than 0.55 percent of vanadium.

(g) Heat-resisting steel

Alloy steels containing by weight less than 0.3 percent of carbon and 4 percent or more but less than 10.5 percent of chromium.

(h) Ball-bearing steel

Alloy tool steels which contain, in addition to iron, each of the following elements by weight in the amount specified:

(i) not less than 0.95 nor more than 1.13 percent of carbon;

(ii) not less than 0.22 nor more than 0.48 percent of manganese;

(iii) none, or not more than 0.03 percent of sulfur;

(iv) none, or not more than 0.03 percent of phosphorus;

(v) not less than 0.18 nor more than 0.37 percent of silicon;

(vi) not less than 1.25 nor more than 1.65 percent of chromium;

(vii) none, or not more than 0.28 percent of nickel;

(viii) none, or not more than 0.38 percent of copper; and

(ix) none, or not more than 0.09 percent of molybdenum.

2. For the purposes of this chapter, unless the context provides otherwise, the term "further worked" refers to products subjected to any of the following surface treatments: polishing and burnishing; artificial oxidation; chemical surface treatments such as phosphatizing, oxalating and borating; coating with metal; coating with nonmetallic substances (e.g., enameling, varnishing, lacquering, painting, coating with plastics materials); or cladding.

3. No allowance or reduction of duties for partial damage or loss in consequence of discoloration or rust occurring before entry shall be made upon iron or steel or upon any article of iron or steel.

HARMONIZED TARIFF SCHEDULE of the United States (1992)

Annotated for Statistical Reporting Purposes

Heading/ Subheading	Stat. Suf. & cd		Article Description	Units of Quantity	Rates of Duty 1 General	Rates of Duty 1 Special	Rates of Duty 2
			II. IRON AND NONALLOY STEEL				
7206			Iron and nonalloy steel in ingots or other primary forms (excluding iron of heading 7203):				
7206.10.00	00	5	Ingots	kg	4.2%	Free (E,IL) 2.5% (CA)	20%
7206.90.00	00	8	Other	kg	4.2%	Free (A,E,IL) 2.5% (CA)	20%
7207			Semifinished products of iron or nonalloy steel: Containing by weight less than 0.25 percent of carbon:				
7207.11.00	00	3	Of rectangular (including square) cross section, the width measuring less than twice the thickness	kg	4.2%	Free (E,IL) 2.5% (CA)	20%
7207.12.00			Other, of rectangular (other than square) cross section		4.2%	Free (E,IL) 2.5% (CA)	20%
	10	0	Having a width measuring less than four times the thickness	kg			
	50	1	Having a width measuring at least four times the thickness	kg			
7207.19.00			Other		4.2%	Free (E,IL) 2.5% (CA)	20%
	30	9	Of circular cross section	kg			
	90	6	Other	kg			
7207.20.00			Containing by weight 0.25 percent or more of carbon		4.2%	Free (E,IL) 2.5% (CA)	20%
			Of rectangular (including square) cross section:				
	25	3	Having a width measuring less than four times the thickness	kg			
	45	9	Having a width measuring at least four times the thickness	kg			
	75	2	Of circular cross section	kg			
	90	3	Other	kg			
7208			Flat-rolled products of iron or nonalloy steel, of a width of 600 mm or more, hot-rolled, not clad, plated or coated: In coils, not further worked than hot-rolled, of high-strength steel:				
7208.11.00	00	2	Of a thickness exceeding 10 mm	kg	6%	Free (E,IL) 3.6% (CA)	20%
7208.12.00	00	1	Of a thickness of 4.75 mm or more but not exceeding 10 mm	kg	6%	Free (E,IL) 3.6% (CA)	20%
7208.13			Of a thickness of 3 mm or more but less than 4.75 mm:				
7208.13.10	00	8	Pickled	kg	5.1%	Free (E,IL) 3% (CA)	0.4¢/kg + 20%
7208.13.50	00	9	Other	kg	4.9%	Free (E,IL) 2.9% (CA)	20%
7208.14			Of a thickness of less than 3 mm:				
7208.14.10	00	7	Pickled	kg	5.1%	Free (E,IL) 3% (CA)	0.4¢/kg + 20%
7208.14.50	00	8	Other	kg	4.9%	Free (E,IL) 2.9% (CA)	20%

HARMONIZED TARIFF SCHEDULE of the United States (1992)

Annotated for Statistical Reporting Purposes

Heading/ Subheading	Stat. Suf. & cd	Article Description	Units of Quantity	Rates of Duty 1 General	Rates of Duty 1 Special	Rates of Duty 2
7212		Flat-rolled products of iron or nonalloy steel, of a width of less than 600 mm, clad, plated or coated:				
7212.10.00	00 7	Plated or coated with tin	kg	3.5%	Free (E,IL) 2.1% (CA)	6%
		Electrolytically plated or coated with zinc:				
7212.21.00	00 4	Of high-strength steel	kg	6.5%	Free (E,IL) 3.9% (CA)	21.5%
7212.29.00	00 6	Other	kg	6.5%	Free (E,IL) 3.9% (CA)	21.5%
7212.30		Otherwise plated or coated with zinc:				
		Of a width of less than 300 mm:				
7212.30.10		Of a thickness exceeding 0.25 mm or more		3.4%	Free (E,IL) 2% (CA)	25%
	30 5	Of a width less than 51 mm, in coils	kg			
	90 2	Other	kg			
7212.30.30	00 7	Other	kg	2.4%	Free (E,IL) 1.4% (CA)	25%
7212.30.50	00 2	Other	kg	6.5%	Free (E,IL) 3.9% (CA)	21.5%
7212.40		Painted, varnished or coated with plastics:				
7212.40.10	00 9	Of a width of less than 300 mm	kg	3.4%	Free (E,IL) 2% (CA)	25%
7212.40.50	00 0	Other	kg	5.1%	Free (E,IL) 3% (CA)	0.4¢/kg + 20%
7212.50.00	00 8	Otherwise plated or coated	kg	6.5%	Free (E,IL) 3.9% (CA)	21.5%
7212.60.00	00 6	Clad	kg	6.5%	Free (E,IL) 3.9% (CA)	30%
7213		Bars and rods, hot-rolled, in irregularly wound coils, of iron or nonalloy steel:				
7213.10.00	00 6	Concrete reinforcing bars and rods	kg	4.9%	Free (E,IL) 2.9% (CA)	20%
7213.20.00	00 4	Of free-cutting steel	kg	1.9%	Free (E,IL) 1.1% (CA)	5.5%
		Other, containing by weight less than 0.25 percent of carbon:				
7213.31		Of circular cross section measuring less than 14 mm in diameter:				
7213.31.30	00 5	Not tempered, not treated and not partly manufactured	kg	1.9%	Free (E,IL) 1.1% (CA)	5.5%
7213.31.60	00 8	Other	kg	2.3%	Free (E,IL) 1.3% (CA)	6%
7213.39.00		Other		1.9%	Free (E,IL) 1.1% (CA)	5.5%
		Of circular cross section:				
	30 7	With a diameter of 14 mm or more but less than 19 mm	kg			
	60 0	With a diameter of 19 mm or more	kg			
	90 4	Other	kg			

HARMONIZED TARIFF SCHEDULE of the United States (1992)

Annotated for Statistical Reporting Purposes

Heading/ Subheading	Stat. Suf. & cd	Article Description	Units of Quantity	Rates of Duty 1 General	Rates of Duty 1 Special	Rates of Duty 2
7213 (con.)		Bars and rods, hot-rolled, in irregularly wound coils, of iron or nonalloy steel (con.):				
		Other, containing by weight 0.25 percent or more but less than 0.6 percent of carbon:				
7213.41		Of circular cross section measuring less than 14 mm in diameter:				
7213.41.30	00 3	Not tempered, not treated and not partly manufactured	kg	1.9%	Free (E,IL) 1.1% (CA)	5.5%
7213.41.60	00 6	Other	kg	2.3%	Free (E,IL) 1.3% (CA)	6%
7213.49.00		Other		1.9%	Free (E,IL) 1.1% (CA)	5.5%
		Of circular cross section:				
	30 5	With a diameter of 14 mm or more but less than 19 mm	kg			
	60 8	With a diameter of 19 mm or more	kg			
	90 2	Other	kg			
7213.50.00		Other, containing by weight 0.6 percent or more of carbon		1.9%	Free (E,IL) 1.1% (CA)	5.5%
		Of circular cross section:				
	20 3	With a diameter of less than 14 mm	kg			
	40 9	With a diameter of 14 mm or more but less than 19 mm	kg			
	60 4	With a diameter of 19 mm or more	kg			
	80 0	Other	kg			
7214		Other bars and rods of iron or nonalloy steel, not further worked than forged, hot-rolled, hot-drawn or hot-extruded, but including those twisted after rolling:				
7214.10.00	00 5	Forged	kg	4.7%	Free (E,IL) 2.8% (CA)	20%
7214.20.00	00 3	Concrete reinforcing bars and rods	kg	4.9%	Free (E,IL) 2.9% (CA)	20%
7214.30.00	00 1	Of free-cutting steel	kg	4.7%	Free (E,IL) 2.8% (CA)	20%
7214.40.00		Other, containing by weight less than 0.25 percent of carbon		4.7%	Free (E,IL) 2.8% (CA)	20%
	10 7	Flats	kg			
	30 3	Rounds	kg			
	50 8	Other	kg			
7214.50.00		Other, containing by weight 0.25 percent or more but less than 0.6 percent of carbon		4.7%	Free (E,IL) 2.8% (CA)	20%
	10 4	Flats	kg			
	30 0	Rounds	kg			
	50 5	Other	kg			
7214.60.00		Other, containing by weight 0.6 percent or or more of carbon		4.7%	Free (E,IL) 2.8% (CA)	20%
	10 2	Flats	kg			
	30 8	Rounds	kg			
	50 3	Other	kg			

HARMONIZED TARIFF SCHEDULE of the United States (1992)

Annotated for Statistical Reporting Purposes

Heading/ Subheading	Stat. Suf. & cd	Article Description	Units of Quantity	Rates of Duty 1 General	Rates of Duty 1 Special	Rates of Duty 2
7215		Other bars and rods of iron or nonalloy steel:				
7215.10.00	00 4	Of free-cutting steel, not further worked than cold-formed or cold-finished	kg	7.5%	Free (E,IL) 4.5% (CA)	0.3¢/kg + 20%
7215.20.00	00 2	Other, not further worked than cold-formed or cold-finished, containing by weight less than 0.25 percent of carbon	kg	7.5%	Free (E,IL) 4.5% (CA)	0.3¢/kg + 20%
7215.30.00	00 0	Other, not further worked than cold-formed or cold-finished, containing by weight 0.25 percent or more but less than 0.6 percent of carbon	kg	7.5%	Free (E,IL) 4.5% (CA)	0.3¢/kg + 20%
7215.40.00	00 8	Other, not further worked than cold-formed or cold-finished, containing by weight 0.6 percent or more of carbon	kg	7.5%	Free (E,IL) 4.5% (CA)	0.3¢/kg + 20%
7215.90		Other:				
		Plated or coated with metal:				
7215.90.10	00 5	Not cold-formed	kg	3.2%	Free (E,IL) 1.9% (CA)	0.4¢/kg + 20%
7215.90.30	00 1	Cold-formed	kg	7.5%	Free (E,IL) 4.5% (CA)	0.3¢/kg + 20%
7215.90.50	00 6	Other	kg	7.5%	Free (A,E,IL) 4.5% (CA)	0.3¢/kg + 20%
7216		Angles, shapes and sections of iron or nonalloy steel:				
7216.10.00		U, I or H sections, not further worked than hot-rolled, hot-drawn or extruded, of a height of less than 80 mm		0.9%	Free (E,IL) 0.5% (CA)	2%
	10 1	U sections	kg			
	50 2	Other	kg			
		L or T sections, not further worked than hot-rolled, hot-drawn or extruded, of a height of less than 80 mm:				
7216.21.00	00 0	L sections	kg	0.9%	Free (E,IL) 0.5% (CA)	2%
7216.22.00	00 9	T sections	kg	0.9%	Free (E,IL) 0.5% (CA)	2%
		U, I or H sections, not further worked than hot-rolled, hot-drawn or extruded, of a height of 80 mm or more:				
7216.31.00	00 8	U sections	kg	0.9%	Free (E,IL) 0.5% (CA)	2%
7216.32.00	00 7	I sections (standard beams)	kg	0.9%	Free (E,IL) 0.5% (CA)	2%
7216.33.00		H sections		0.9%	Free (E,IL) 0.5% (CA)	2%
	30 0	Weighing not more than 11.3 kg per 30.5 cm, with a web depth measuring 102 mm to 356 mm	kg			
	60 3	Weighing more than 11.3 kg but not more than 27.2 kg per 30.5 cm, with a web depth measuring 203 mm to 457 mm	kg			
	90 7	Other	kg			
7216.40.00		L or T sections, not further worked than hot-rolled, hot-drawn or extruded, of a height of 80 mm or more		0.9%	Free (E,IL) 0.5% (CA)	2%
	10 5	L sections	kg			
	50 6	Other	kg			
7216.50.00	00 4	Other angles, shapes and sections, not further worked than hot-rolled, hot-drawn or extruded	kg	0.9%	Free (E,IL) 0.5% (CA)	2%
7216.60.00	00 2	Angles, shapes and sections, not further worked than cold-formed or cold-finished	kg	4.9%	Free (A,E,IL) 2.9% (CA)	20%
7216.90.00	00 6	Other	kg	4.4%	Free (E,IL) 2.6% (CA)	20%

HARMONIZED TARIFF SCHEDULE of the United States (1992)

Annotated for Statistical Reporting Purposes

Heading/ Subheading	Stat. Suf. & cd	Article Description	Units of Quantity	Rates of Duty 1 General	Rates of Duty 1 Special	Rates of Duty 2
7227		Bars and rods, hot-rolled, in irregularly wound coils, of other alloy steel:				
7227.10.00	00 0	Of high-speed steel	kg	5.3%	Free (E,IL) 3.1% (CA)	14%
7227.20.00	00 8	Of silico-manganese steel	kg	4.5%	Free (E,IL) 2.7% (CA)	10%
7227.90		Other:				
		Of tool steel (other than high-speed steel):				
7227.90.10		Not tempered, not treated, and not partly manufactured		2.1%	Free (E,IL) 1.2% (CA)	12%
	30 5	Of ball-bearing steel	kg			
	60 8	Other	kg			
7227.90.20		Other		4.2%	Free (E,IL) 2.5% (CA)	11%
	30 3	Of ball-bearing steel	kg			
	60 6	Other	kg			
7227.90.60		Other		4.5%	Free (E,IL) 2.7% (CA)	10%
	05 5	Of high-nickel alloy steel	kg			
	50 9	Other	kg			
7228		Other bars and rods of other alloy steel; angles, shapes and sections, of other alloy steel; hollow drill bars and rods, of alloy or non-alloy steel:				
7228.10.00		Bars and rods, of high-speed steel		11.5%	Free (E,IL) 6.9% (CA)	32%
	10 7	Not cold-formed	kg			
		Cold-formed:				
	30 3	With a maximum cross-sectional dimension of less than 18 mm	kg			
	60 6	With a maximum cross-sectional dimension of 18 mm or more	kg			
7228.20		Bars and rods, of silico-manganese steel:				
7228.20.10	00 5	Not cold-formed	kg	6%	Free (E,IL) 3.6% (CA)	28%
7228.20.50	00 6	Cold-formed	kg	7.5%	Free (E,IL) 4.5% (CA)	28%
7228.30		Other bars and rods, not further worked than hot-rolled, hot-drawn or extruded:				
		Of tool steel (other than high-speed steel):				
7228.30.20	00 1	Of ball-bearing steel	kg	6.1%	Free (E,IL) 3.6% (CA)	29%
7228.30.40	00 7	Of chipper knife steel, not cold-formed	kg	Free		28%
7228.30.60	00 2	Other	kg	10.6%	Free (E,IL) 6.3% (CA)	29%
7228.30.80		Other		6%	Free (E,IL) 3.6% (CA)	28%
	05 3	Of high-nickel alloy steel	kg			
	50 7	Other	kg			
7228.40.00	00 3	Other bars and rods, not further worked than forged	kg	6%	Free (E,IL) 3.6% (CA)	28%

HARMONIZED TARIFF SCHEDULE of the United States (1992)

Annotated for Statistical Reporting Purposes

Heading/ Subheading	Stat. Suf. & cd	Article Description	Units of Quantity	Rates of Duty 1 General	Rates of Duty 1 Special	Rates of Duty 2
7228 (con.)		Other bars and rods of other alloy steel; angles, shapes and sections, of other alloy steel; hollow drill bars and rods, of alloy or non-alloy steel (con.):				
7228.50		Other bars and rods, not further worked than cold-formed or cold-finished:				
7228.50.10		Of tool steel (other than high-speed steel)	.....	10.6%	Free (E,IL) 6.3% (CA)	29%
	10 6	Of ball-bearing steel	kg			
		Other:				
		With a maximum cross-sectional dimension of less than 18 mm:				
	20 4	Of round or rectangular cross section with surfaces ground, milled or polished	kg			
	40 0	Other	kg			
		With a maximum cross-sectional dimension of 18 mm or more:				
	60 5	Of round or rectangular cross section with surfaces ground, milled or polished	kg			
	80 1	Other	kg			
7228.50.50		Other	.....	7.5%	Free (E,IL) 4.5% (CA)	28%
	05 4	Of high-nickel alloy steel	kg			
	50 8	Other	kg			
7228.60		Other bars and rods:				
7228.60.10		Of tool steel (other than high-speed steel)	.....	10.6%	Free (E,IL) 6.3% (CA)	29%
	30 0	Of ball-bearing steel	kg			
	60 3	Other	kg			
		Other:				
7228.60.60	00 5	Not cold-formed	kg.....	6%	Free (E,IL) 3.6% (CA)	28%
7228.60.80	00 1	Cold-formed	kg.....	7.5%	Free (E,IL) 4.5% (CA)	28%
7228.70		Angles, shapes and sections:				
7228.70.30		Hot-rolled, not drilled, not punched and not otherwise advanced	.....	2.1%	Free (E,IL) 1.2% (CA)	10%
		With a maximum cross-sectional dimension of 76 mm or more:				
	20 6	Angles	kg			
	40 2	Other	kg			
		With a maximum cross-sectional dimension of less than 76 mm:				
	60 7	Angles	kg			
	80 3	Other	kg			
7228.70.60	00 3	Other	kg.....	5.3%	Free (E,IL) 3.1% (CA)	28%
7228.80.00	00 4	Hollow drill bars and rods	kg.....	5.7%	Free (E,IL) 3.4% (CA)	30%
7229		Wire of other alloy steel:				
7229.10.00	00 8	Of high-speed steel	kg.....	10%	Free (E,IL) 6% (CA)	37%
7229.20.00	00 6	Of silico-manganese steel	kg.....	9%	Free (E,IL) 5.4% (CA)	33%
7229.90		Other:				
7229.90.10	00 9	Flat wire	kg.....	5.6%	Free (E,IL) 3.4% (CA)	33%
7229.90.50		Round wire	.....	9%	Free (E,IL) 5.4% (CA)	33%
	15 3	With a diameter of less than 1.0 mm	kg			
	30 4	With a diameter of 1.0 mm or more but less than 1.5 mm	kg			
	50 9	With a diameter of 1.5 mm or more	kg			
7229.90.90	00 2	Other wire	kg.....	6.2%	Free (E,IL) 3.7% (CA)	33%

APPENDIX E

AVAILABLE INFORMATION ON ALTERNATIVE "LIKE-PRODUCT" INDUSTRIES

INTRODUCTION

This appendix presents as much information as is available regarding alternative like product industries to the hot-rolled lead and bismuth carbon steel products industry defined by the scope of these investigations. The information presented is intended to address the Commission's general like-product criteria (physical characteristics and uses, interchangeability among products, channels of distribution, producer and customer perceptions of the articles, production facilities and employees, and, where appropriate, price).

The data presented herein have been compiled principally from responses to the Commission's questionnaires in these investigations, as well as from previous Commission investigations, and from secondary sources such as the AISI. During these investigations, questionnaires were sent to 75 U.S. producers of hot-rolled carbon steel products, and the 25 firms that responded accounted for approximately 75 percent of such hot-rolled products. Questionnaires were also sent to 125 U.S. importers of hot-rolled carbon steel products, and the 35 firms that responded also accounted for 75 percent of such hot-rolled product imports.[1] Figure E-1 presents a grid of 22 possible like-product industry scenarios that relate to hot-rolled carbon steel products.[2]

THE PRODUCTS

In addition to the hot-rolled lead and bismuth products subject to these investigations, the Commission's questionnaires sought information from U.S. producers and importers of "other special quality" hot-rolled carbon steel products and "merchant quality" hot-rolled carbon steel products,[3] each category consisting of bars, rods, and bar-size shapes.[4] (See also figure E-2).

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[1] Reporting coverage for product categories are approximately *** percent for hot-rolled bar products, approximately *** percent for hot-rolled rod products, and approximately *** percent for bar-size shapes.

[2] Information as to hot-rolled alloy steel products was not sought through the Commission's questionnaires, but available information is presented when possible. Inclusion of hot-rolled alloy steel products would warrant consideration of a potential additional 48 scenarios (see fig. E-1).

[3] Questionnaire data provided by Bethlehem, Inland, and USS/Kobe for merchant quality hot-rolled carbon steel products, have been reclassified as "other" special quality products.

[4] See definitions in app. C.

Figure E-1
Like-product scenarios: Hot-rolled steel products

Item		Bars	Rods	Bar-size Shapes	Bars & Rods	Bars & Shapes	Bars, Rods & Shapes
Carbon:	Lead & Bismuth	Table E-1.	Table E-7.	None	Table E-14.	Table E-1.	Table E-14.
	Other Special	Table E-2.	Table E-8.	None	Table E-15.	Table E-2.	Table E-15.
	Total Special	Table E-3.	Table E-9.	None	Table E-16.	Table E-3.	Table E-16.
	Merchant	Table E-4.	Table E-10.	Table E-13.	Table E-17.	Table E-20.	Table E-23.
	Total Non-Lead Carbon	Table E-5.	Table E-11.	Table E-13.	Table E-18.	Table E-21.	Table E-24.
	Total Carbon	Table E-6.	Table E-12.	Table E-13.	Table E-19.	Table E-22.	Table E-25.
Certain Alloy:	Lead & Bismuth	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	Other	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	Total Certain Alloy	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Carbon & Certain Alloy:	Lead & Bismuth	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	Other Special	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	Total Special	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	Merchant (Carbon only)	Table E-4.	Table E-10.	Table E-13.	Table E-17.	Table E-20.	Table E-23.
	Total Non-Lead Carbon & Alloy	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	Total Carbon & Alloy	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

N.A. = Not available.

The carbon steel bar and rod industry is small when compared with the U.S. industry producing steel mill products, as AISI data show in the following tabulation:

Product	Net shipments in 1991		Percent of total	
	Carbon	Certain alloy	Carbon	Certain alloy
	-----short tons------			
Wire rods.....	4,254,179	77,494	5.5	0.1
Bars:				
HR bars.....	3,799,914	1,591,811	4.9	2.1
Cold-finished bars..	1,047,168[1]	199,251[1]	1.4	0.3
Subtotal bars.....	4,847,082	1,791,062	6.3	2.3
Subtotal bars & rods.....	9,101,261	1,868,556	11.8	2.4
Bar-size shapes.....	1,157,226	[2]	1.5	[2]
Subtotal bars, rods, & shapes..	10,258,487	1,868,556	13.3	2.4
Reinforced bars.....	4,859,547	[2]	6.3	[2]
Semifinished.....	2,027,751	441,466	2.6	0.6
Shapes and plates.....	12,095,666	344,638	15.6	0.4
Rails.....	486,185	[2]	0.6	[2]
Tool steel.....		51,190		0.1
Pipe and tube.....	3,900,360	553,421	5.0	0.7
Wire products.....	801,590	40,012	1.0	0.1
Tin mill products.....	4,039,874	[2]	5.2	[2]
Sheets and strip.....	35,010,279	617,856	45.2	0.8
Total.....	73,479,739	3,917,139	94.9	5.1
Grand total...	77,396,878		100.0	

[1] Not included in HR bars category.
[2] Not applicable.

Further, the relatively minor position of the U.S. hot-rolled lead and bismuth carbon steel products industry when compared to the above carbon steel bar and rod industry data is shown in the following tabulation (in percent):

Category	Share of total carbon & alloy	Lead & bismuth share of category
HR bars.....	4.9	[1]
Cold-finished bars.....	1.4	[1]
Subtotal bars.....	6.3	5.2
Bar-size shapes.....	1.5	[1]
Subtotal bars & shapes.....	7.8	4.2
Wire rod.....	5.5	1.2
Subtotal bars & rods.....	11.8	3.3
Total bar, rods, & shapes.....	13.3	3.0

[1] Not available.

Description and Uses

Hot-rolled Carbon Steel Bar

The following is an excerpt from the Commission's 1978 investigation of hot-rolled carbon steel bar, which describes the product subject to those investigations.[5]

> "In general there are two major grades of hot-rolled carbon steel bars--merchant quality and special quality. Merchant-quality bars are produced to a variety of chemical and physical specifications, but the tolerances are broad and they are not designed to the rigorous specifications required for use in forging, heat treating, or other processes requiring close metallurgical control, internal soundness, and surface perfection. Merchant-quality bars are used in the production of noncritical components of most types of machinery, bridges, buildings, railway cars, earth-moving and road-building equipment, and agricultural implements, and for 'wrought' grills, railings, furniture, and other products."

> "Special-quality bars are ordered when the end use or the method of fabricating the end product requires characteristics not available in merchant-quality bars. Special-quality bars are made to exact chemical and physical specifications suitable for the production of many products that are made by forging, machining, drawing, cold heading, and heat treating. These bars are normally subdivided into forging-quality bars and free-machining quality bars. Free-machining bars are further subdivided into three types of bars--resulfurized, leaded, and resulfurized and leaded bars. The addition of either sulfur or lead or both sulfur and lead during the melting process or through ladle additions facilitates the formation of small uniform chips during the cutting (machining) operations on the bars. The formation of small uniform chips, in contrast to long, twisting rings, is desirable for trouble-free and economical high-speed machining operations. Quality tools, axles, gun parts, and many other precision products are made from special-quality bars. In addition, special-quality hot-rolled carbon steel bars are used for structural purposes."

The following is an excerpt from the Commission's 1982 investigations of hot-rolled carbon steel bar, which describes the product subject to those investigations.[6]

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[5] See Carbon Steel Bars and Carbon Steel Strip from the United Kingdom, USITC 855, Feb. 1978, pp. A-6 and A-7.

[6] See Certain Steel Products from Belgium, Brazil, France, Italy, Luxembourg, United Kingdom, and West Germany, Invs. Nos. 701-TA-125-129 and 146 and 147 (Preliminary), USITC 1221, Feb. 1982, p. VII-2).

"Hot-rolled carbon steel bars are divided into two principal grades. The differences between the two grades are based on such factors as degree of internal soundness, relative uniformity of chemical composition, and relative freedom from surface imperfections. The most widely produced grade of hot-rolled carbon steel bar is merchant bar. Merchant bar is used in the production of noncritical parts of bridges, building, ships, agricultural implements, motor vehicles, road-building equipment, railway equipment, and general types of machinery. Merchant bar is produced in a variety of standard sizes. It is estimated that 80 percent of U.S. production of hot-rolled carbon steel bars is of merchant bar. The second grade of hot-rolled carbon steel bar is special quality bar. This bar is used when quality characteristics not found in merchant bar are required."

Carbon Steel Wire Rod

The following is an excerpt from the Commission's 1982 investigations of carbon steel wire rod, which describes the product subject to those investigations.[7]

"Carbon steel wire rod is a hot-rolled, semifinished, coiled product of solid, round cross section, not under 0.2 inch nor over 0.74 inch in diameter. For purposes of these investigations, carbon steel wire rod is defined as a product which has not been tempered, treated, or partly manufactured. Carbon steel wire rod can be differentiated by its chemistry, diameter, and the process by which it is manufactured."

"Carbon steel wire rod can also be classified by its intended end use. In all phases of production, various practices are employed which determine the characteristics and quality of the finished product. The internal structure, surface quality, and physical properties of wire rod are affected by the method of casting the steel from which the rod is made and by altering the chemical composition of the steel. Thus, carbon steel wire rod can be produced that is particularly suited for drawing into such products as fine wire, tire cord, spring wire, welding electrodes, and into other products requiring less critical quality considerations such as wire for coat hangers, fencing, and mesh for concrete reinforcement."

Questionnaire Responses

The Commission's questionnaires in these investigations requested comments regarding the differences and similarities in the physical characteristics and uses of selected hot-rolled carbon steel products. The

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[7] See Carbon Steel Wire Rod from Brazil, Belgium, France, and Venezuela, USITC 1230, Mar. 1982, p. A-2).

following comments were received concerning hot-rolled lead and bismuth vs. other hot-rolled special quality carbon steel products:

Firm	Comments
***.....	"Lead and bismuth are used to enhance machinability of carbon and alloy products;" used in "machine shaft and engineered fastener applications. Other products (special) will have requirements to withstand severe heading, extrusion, high strength and fatigue;" used in fasteners, high strength spring wire, tire reinforcing."
***.....	Lead and bismuth products are used as "hydraulic fittings, auto crankshafts, and other uses that require extensive machining...SQ bars are used for difficult or critical applications such as automotive components or fasteners. They are generally not machined as extensively as parts made from leaded steel."
***.....	"The inclusions generated by this addition, reduce formability and resistance to fatigue loading, compared to nontreated steels." Other hot-rolled "S.B.Q. products are used in applications that require a heat treatment, or less machining, or forging, etc."
***.....	"Lead and bismuth inclusions in the microstructure enhance machinability... inclusions are not present in other special quality carbon steel products. The machinability of special quality steel bar is also critical, but it does not possess the ease of machinability of lead and bismuth...used in the manufacture of automotive crankshafts, control arms and in fasteners."

The following comments were received concerning hot-rolled lead and bismuth vs. hot-rolled merchant quality carbon steel products:

Firm	Comments
***.....	Merchant quality has "specified strengths, but typically low in proper demand level for steel products...typically sees only slight mechanical deformation in low liability locations...used for nails, field fence, bedding springs, road mesh."
***.....	"Lead and bismuth have enhanced machinability and much better surface quality and chemistry requirements...MQ products are used in simple non-critical applications such as bicycle racks."
***.....	Merchant quality products have "chemical variability and surface imperfections...MBQ bars are used in general purpose structural and miscellaneous non-critical applications that may involve mild cold bending, punching, welding, etc."
***.....	Merchant bars "do not typically possess the critical qualities of strength, toughness, fatigue resistance, fracture resistance, corrosion and wear resistance, machinability and formability of lead and bismuth...Merchant bars are "typically used in structural and general machinery applications."

The following comments were received concerning **special quality carbon steel products vs. merchant quality carbon steel products:**

Firm	Comments
***.....	"With the chemical analysis being equal there is no difference in physical characteristics of merchant quality vs. special quality steel. Merchant quality products are used in various applications, mainly structural. Special quality products would be used where surface appearance and internal quality would be important, such as forging, heat treating, turning, punching, etc."
***.....	"Special quality requires good surface and internal integrity"...used for "cold headed fasteners, severe drawing applications, and high strength requirements, in high product liability applications."

Firm	Comments
(Continued)	
***	"Special quality bars require closer dimensional tolerances, cleaner, pipe-free interior quality and no surface defects, as well as special chemical composition and physical properties. Special quality bars are used for critical fabricated parts such as automotive drive train, suspension and engine components, whereas merchant quality is used for general structural uses."
***	"SBQ bars guarantee surface conditions, tolerances, internal soundness, etc., vs. MBQ bars which only guarantee chemistry."
***	"Same facilities can be used to produce both. Costs to produce are probably greater for other special carbon products."

AISI Data Regarding End Use Markets

Major consumer markets in 1991 for all grades of hot-rolled bar (including bar-size shapes), cold-finished bar, and wire rod are identified as follows:

Market	Hot-rolled bar		Cold-finished bar		Wire rod	
	(tons)	(%)	(tons)	(%)	(tons)	(%)
Automotive	1,288,741	53.2	102,731	34.6	87,324	29.4
Rail transportation	95,717	4.0	508	0.2	1,679	0.6
Ship building & marine	6,546	0.3	811	0.3	2,007	0.6
Aircraft & aerospace	4,809	0.2	519	0.2	791	0.3
Oil & gas	85,552	3.5	4,938	1.7	3,500	1.2
Mining, quarrying & lumbering	351,512	14.5	4,872	1.6	72	[1]
Agriculture	107,349	4.4	20,983	7.1	48,117	16.2
Machinery, industrial equip. & tools	481,139	19.9	161,606	54.4	153,866	51.7
Total	2,421,365	100.0	296,968	100.0	297,356	100.0

[1] Less than 0.05 percent.

Manufacturing Processes

Hot-rolled Carbon Steel Bar

The following is an excerpt from the Commission's 1982 investigations of hot-rolled carbon steel bar, which describes the manufacturing process for the product subject to those investigations.[8]

> Hot-rolled carbon steel bar can be rolled from many grades of steel, ranging from low-carbon steel, to high-priced, high-carbon steel. The bars are generally hot rolled from billets, but can also be produced from old rails, axles, and other reclaimed products that can no longer function in the applications for which they are designed. The billets are first heated to a uniform temperature and then proceed to a series of rolls that form the steel into the desired shapes and sizes. After being rolled, the bars are cut to standard straight lengths, and then shipped as such, or coiled before shipping. Hot-rolled bars may be round, oval, square, round-cornered, square, round-cornered square, hexagonal, rectangular, and so forth, according to the desired end use. Because of the numerous cross sections and sizes required, hot-rolled bars are produced in a variety of mills especially designed to roll a variety of sections and sizes.

Carbon Steel Wire Rod

The following is an excerpt from the Commission's 1982 investigations of carbon steel wire rod, which describes the production process for the product subject to those investigations.[9]

> Wire rod is produced by rolling ingots into blooms which are then rolled into billets which are further rolled into wire rod is known as rimmed rod. This rod is typically produced only by integrated steel producers. The process by which steel scrap is melted and continuously cast into billets which are then rolled into wire rod produces what is known as cast rod. This rod is typically produced by nonintegrated steel producers, or what is generally referred to in the industry as the mini mills which are dedicated to the production of a narrow product line.

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[8] See Certain Steel Products from Belgium, Brazil, France, Italy, Luxembourg, United Kingdom, and West Germany, Invs. Nos. 701-TA-125-129 and 146 and 147 (Preliminary), USITC 1221, Feb. 1982, p. VII-2).

[9] See Carbon Steel Wire Rod from Brazil, Belgium, France, and Venezuela, USITC 1230, Mar. 1982, p. A-2).

Questionnaire Responses

The Commission's questionnaires in these investigations requested comments regarding the differences and similarities in the manufacturing processes used in the production of selected semifinished and hot-rolled carbon steel products. (See fig. E-2 for a listing of firms that responded to the questionnaires, and the products that those firms produce, or have produced). The following comments were received concerning **semifinished lead and bismuth vs. other semifinished special quality carbon steel products:**

Figure E-2
Carbon and alloy steel products: U.S. producers' production capability, by type, 1991

* * * * * * *

Firm	Comments
***.....	Lead and bismuth require "specialized pollution control equipment and worker protection equipment...exudation or atomic absorption testing," and have lower yield and higher rejection rates.
***.....	"There are no process differences between the two...Leaded steel is teemed at a higher temperature than non-leaded steel...There is no temperature difference between bismuth and SQ products...In rolling however, there are extra testing and environmental safety requirements in the production of leaded billets. Leaded steels also have a tendency to have lower yields."

The following comments were received concerning **semifinished lead and bismuth vs. semifinished merchant quality carbon steel products:**

Firm	Comments
***.....	"...merchant bar is normally billet cast with unprepared surface."

The following comments were received concerning **hot-rolled lead and bismuth vs. other hot-rolled special quality carbon steel products:**

Firm	Comments
***.....	"...merchant bar is normally billet cast with unprepared surface."
***.....	"Leaded steels react much more favorably during the hot rolling process with respect to surface condition. Higher levels of bismuth cause the product to become "hot short" and roll with significant surface problems. The temperature window for proper reduction is significantly reduced. At lower levels, bismuth can be successfully produced without problems...leaded products do not provide any unique rolling problems with regard to surface."
***.....	"Similar in that both require extensive surface preparation of semi-finished product. However, leaded semi-finished product require front-end preparation...lime coating to prevent sticking in the reheat furnace and billets are pointed on the end to reduce cobbles), special heating practices which average ***°F hotter (resulting in some scheduling difficulties with other grades of dissimilar heating practices, also more crop is required with leaded steel billets, lower yield..."
***.....	"Leaded billets are tested to assure even dispersion of the lead. (Sweat test) is unique for lead. Leaded steel also has a tendency to split during rolling, causing increased yield loses."
***.....	"Lead and bismuth are added to steel to improve machinability which it does without serious degradation to mechanical properties."
***.....	Products are "produced on the same manufacturing equipment, however, there are set up changes required. Because (lead) reacts differently when run on the same equipment, it is necessary to have special training from a labor aspect to properly produce this product...biproducts of these (leaded) grades have to be handled properly because of the environmental requirements."

Firm	Comments
(Continued)	
***	"We cannot produce lead and bismuth products because of EPA regulations for lead fumes and it being a toxic material; and we have never tried to produce bars containing bismuth. Our present facilities do not enable us to produce special quality bars."
***	"Hot-rolled special quality carbon steel bars are similar in their manufacturing processes up to the last steelmaking step of adding lead or bismuth. Both bar products require critical levels of strength, toughness, fatigue resistance, fracture resistance, corrosion and wear resistance, machinability and formability."

The following comments were received concerning hot-rolled lead and bismuth vs. hot-rolled merchant quality carbon steel products:

Firm	Comments
***	"...leaded billets require extensive surface preparation."
***	"Lead and bismuth products are produced to tighter surface and chemical tolerances...quality requirements for surface, physical properties, and chemical uniformity are much more stringent for SQ and leaded and bismuth products."
***	"The manufacturing process for merchant quality bars does not include the rigorous product analysis and critical chemical uniformity which give lead and bismuth hot-rolled steel bar their engineered steel qualities."

The following comments were received concerning special quality carbon steel products vs. merchant quality carbon steel products:

Firm	Comments
***	Special quality requires billet conditioning, more frequent rolling mill pass changes, rolling mill inspection, and finished product inspection. Because of the sensitive nature of special quality product, it requires special handling, storage and shipping techniques."

Firm	Comments
(Continued)	
***.....	"Hot rolled special quality carbon steel is a quality suitable for forging, heat treating, turning, etc., where surface appearance and internal quality are of more importance than merchant quality products. Special precautions in scrap selection, refining, rolling and inspections are taken to insure extra quality requirements are met. The equipment and labor used to produce special quality is the same as merchant quality."
***.....	Special quality requires a "selected scrap mix. More refining in melting furnace. Tighter chemistry controls. Most billets are surface prepared. Rolls in the rod mill are changed more frequently. Testing is more stringent and intense and includes the following: upset testing, macro-etching, metallographic test, hardenability, grain size and mill certifications."
***.....	"The basic differences are on process deviations allowed, chemical limits (tighter) degree of surface anomaly allowed, etc."
***.....	"We cannot produce SBQ bars. All equipment is basically the same. The primary difference is the kind of necessary equipment is more expensive and the steel is more costly to produce."

COMMENTS RECEIVED FROM U.S. PRODUCERS OF OTHER HOT-ROLLED CARBON STEEL PRODUCTS ON THE IMPACT OF IMPORTS OF HOT-ROLLED LEAD AND BISMUTH CARBON STEEL PRODUCTS FROM BRAZIL, FRANCE, GERMANY, AND THE UNITED KINGDOM ON THEIR GORWTH, INVESTMENT, ABILITY TO RAISE CAPITAL, AND EXISTING DEVELOPMENT EFFORTS

The Commission requested U.S. producers to describe and explain the actual and potential negative effects, if any, of imports of other hot-rolled carbon steel products from Brazil, France, Germany, and the United Kingdom on their growth, investment, ability to raise capital, and existing development and production efforts (including efforts to develop a derivative or improved version of hot-rolled lead and bismuth carbon steel products). ***. The other producer responses are shown below:

Actual Negative Effects

* * * * * * *

Influence of Imports on Capital Investments

* * * * * * *

PRICING

The Commission requested U.S. producers to provide f.o.b. plant prices, delivered prices and delivery costs, and total quantities and values for sales of two hot-rolled carbon steel bar products not subject to this investigation. For each product category listed below, the Commission requested price data for the largest sale to steel service centers or distributors during January 1989-March 1992.[10]

Product 1: Hot-rolled carbon steel bars, merchant quality, in cut lengths or coils, 3/16 through 2-15/16 inches in diameter/thickness, all shapes except flats, 1016 thru 1095 series, not thermal treated.

Product 2: Hot-rolled carbon steel bars, merchant quality, in cut lengths or coils, 3/16 through 2-15/16 inches in diameter/thickness, all shapes except flats, 12xx series.

No producers reported useable data for sales of product 1.[11] *** U.S. producers reported usable data for sales of product 2, although not necessarily for all quarters during January 1989-March 1992. Weighted-average net f.o.b. prices for product 2 are presented in table E-26. The weighted-average prices are largely dominated by the prices reported by ***. Prices for product 2 varied within the relatively narrow band of $*** to $*** per cwt during January 1989-March 1992.[12]

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[10] No price data for these products were requested from importers.

[11] Questionnaire data provided by Bethlehem, Inland, and USS/Kobe for merchant quality hot-rolled carbon steel products have been reclassified as "other" special quality products.

[12] Petitioners report that the range of products covered by each of these descriptions are generally sold at a single price on a per cwt basis.

Table E-1
Hot-rolled lead and bismuth carbon steel bars: Certain salient data of U.S. producers (and importers' U.S. imports), 1989-91, January-March 1991, and January-March 1992

Item	1989	1990	1991	Jan.-Mar.-- 1991	Jan.-Mar.-- 1992
Average-of-period capacity (short tons)	810,200	810,200	810,200	202,300	202,300
Production (short tons)	361,078	390,841	288,363	61,664	106,927
Average-of-period capacity utilization (percent)	44.6	48.2	35.6	30.5	52.9
U.S. shipments:					
Quantity (short tons)	337,615	352,649	252,469	57,790	96,625
Value (1,000 dollars)	186,738	189,801	138,837	32,229	53,198
Unit value (per ton)	$553	$538	$550	$558	$551
Export shipments:					
Quantity (short tons)	***	***	***	***	***
Value (1,000 dollars)	***	***	***	***	***
Unit value (per ton)	***	***	***	***	***
Total shipments:					
Quantity (short tons)	***	***	***	***	***
Value (1,000 dollars)	***	***	***	***	***
Unit value (per ton)	***	***	***	***	***
End-of period inventories (short tons)	***	***	***	***	***
Ratio of inventories to total shipments (percent)	6.1	5.7	8.9	7.4	5.5
Production and related workers (PRWs)	***	***	***	***	***
Hourly wages paid to PRWs	$15.23	$16.00	$16.73	$15.01	$15.98
Hourly total compensation paid to PRWs	$23.29	$24.88	$27.84	$24.51	$25.88
Unit labor costs (per ton)	$67.45	$71.51	$83.40	$101.21	$81.68
U.S. imports:					
Quantity (short tons)	106,759	112,139	124,275	17,025	14,705
Value (1,000 dollars)	54,771	54,538	61,522	8,036	7,241
Unit value (per ton)	$513	$486	$495	$472	$492
Apparent consumption quantity:					
Amount (short tons)	444,374	464,788	376,744	74,815	111,330
Producer's market share (percent)	76.0	75.9	67.0	77.2	86.8
Importer's market share (percent)	24.0	24.1	33.0	22.8	13.2
Financial data (1,000 dollars, except where noted):					
Net sales	***	***	***	***	***
Cost of goods sold	***	***	***	***	***
Gross profit	***	***	***	***	***
Selling, general and administrative expenses	***	***	***	***	***
Operating income or (loss)	***	***	***	***	***
Ratio of operating income or (loss) to net sales (percent)	***	***	***	***	***

Note.--Average ratios are calculated using data of firms supplying both numerator and denominator information. Part-year inventory ratios are annualized.

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

Table E-2
'Other' special quality hot-rolled carbon steel bars: Certain salient data of U.S. producers (and importers' U.S. imports), 1989-91, January-March 1991, and January-March 1992

Item	1989	1990	1991	Jan.-Mar.-- 1991	Jan.-Mar.-- 1992
Average-of-period capacity (short tons)	5,179,753	5,213,699	5,220,129	1,304,854	1,304,503
Production (short tons)	1,690,074	1,771,733	1,576,828	392,200	418,979
Average-of-period capacity utilization (percent)	32.5	33.8	30.0	29.8	32.0
U.S. shipments:					
Quantity (short tons)	1,702,250	1,753,612	1,550,820	397,803	420,694
Value (1,000 dollars)	825,354	825,560	733,494	189,339	193,671
Unit value (per ton)	$485	$471	$473	$476	$460
Export shipments:					
Quantity (short tons)	***	***	***	***	***
Value (1,000 dollars)	***	***	***	***	***
Unit value (per ton)	***	***	***	***	***
Total shipments:					
Quantity (short tons)	***	***	***	***	***
Value (1,000 dollars)	***	***	***	***	***
Unit value (per ton)	***	***	***	***	***
End-of period inventories (short tons)	***	***	***	***	***
Ratio of inventories to total shipments (percent)	7.4	7.5	9.4	8.1	8.9
Production and related workers (PRWs)	***	***	***	***	***
Hourly wages paid to PRWs	$14.97	$15.31	$15.55	$15.61	$16.29
Hourly total compensation paid to PRWs	$23.12	$22.88	$24.12	$23.96	$25.03
Unit labor costs (per ton)	$90.38	$87.21	$94.82	$95.66	$100.56
U.S. imports:					
Quantity (short tons)	136,109	109,036	134,282	29,243	31,507
Value (1,000 dollars)	67,049	53,886	62,848	13,613	14,976
Unit value (per ton)	$493	$494	$468	$466	$475
Apparent consumption quantity:					
Amount (short tons)	1,838,359	1,862,648	1,685,102	427,046	452,201
Producer's market share (percent)	92.6	94.1	92.0	93.2	93.0
Importer's market share (percent)	7.4	5.9	8.0	6.8	7.0
Financial data (1,000 dollars, except where noted):					
Net sales	***	***	***	***	***
Cost of goods sold	***	***	***	***	***
Gross profit	***	***	***	***	***
Selling, general and administrative expenses	***	***	***	***	***
Operating income or (loss)	***	***	***	***	***
Ratio of operating income or (loss) to net sales (percent)	***	***	***	***	***

Note.--Average ratios are calculated using data of firms supplying both numerator and denominator information. Part-year inventory ratios are annualized.

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

Table E-3
Hot-rolled lead and bismuth and other special-quality carbon steel bars: Certain salient data of U.S. producers (and importers' U.S. imports), 1989-91, January-March 1991, and January-March 1992

Item	1989	1990	1991	Jan.-Mar.-- 1991	Jan.-Mar.-- 1992
Average-of-period capacity (short tons)	5,989,953	6,023,899	6,030,329	1,507,154	1,506,803
Production (short tons)	2,051,152	2,162,574	1,865,191	453,864	525,906
Average-of-period capacity utilization (percent)	34.2	35.8	30.8	29.9	34.8
U.S. shipments:					
Quantity (short tons)	2,039,865	2,106,261	1,803,289	455,593	517,319
Value (1,000 dollars)	1,012,092	1,015,361	872,331	221,568	246,869
Unit value (per ton)	$496	$482	$484	$486	$477
Export shipments:					
Quantity (short tons)	***	***	***	***	***
Value (1,000 dollars)	***	***	***	***	***
Unit value (per ton)	***	***	***	***	***
Total shipments:					
Quantity (short tons)	***	***	***	***	***
Value (1,000 dollars)	***	***	***	***	***
Unit value (per ton)	***	***	***	***	***
End-of period inventories (short tons)	***	***	***	***	***
Ratio of inventories to total shipments (percent)	7.2	7.2	9.3	8.0	8.3
Production and related workers (PRWs)	***	***	***	***	***
Hourly wages paid to PRWs	$15.01	$15.42	$15.71	$15.52	$16.23
Hourly total compensation paid to PRWs	$23.14	$23.20	$24.64	$24.05	$25.19
Unit labor costs (per ton)	$85.89	$84.03	$92.82	$96.52	$96.13
U.S. imports:					
Quantity (short tons)	242,868	221,175	258,557	46,268	46,212
Value (1,000 dollars)	121,820	108,424	124,370	21,649	22,217
Unit value (per ton)	$502	$490	$481	$468	$481
Apparent consumption quantity:					
Amount (short tons)	2,282,733	2,327,436	2,061,846	501,861	563,531
Producer's market share (percent)	89.4	90.5	87.5	90.8	91.8
Importer's market share (percent)	10.6	9.5	12.5	9.2	8.2
Financial data (1,000 dollars, except where noted):					
Net sales	***	***	***	***	***
Cost of goods sold	***	***	***	***	***
Gross profit	***	***	***	***	***
Selling, general and administrative expenses	***	***	***	***	***
Operating income or (loss)	***	***	***	***	***
Ratio of operating income or (loss) to net sales (percent)	***	***	***	***	***

Note.--Average ratios are calculated using data of firms supplying both numerator and denominator information. Part-year inventory ratios are annualized.

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

Table E-4
Merchant quality hot-rolled carbon steel bars: Certain salient data of U.S. producers (and importers' U.S. imports), 1989-91, January-March 1991, and January-March 1992

Item	1989	1990	1991	Jan.-Mar.-- 1991	1992
Average-of-period capacity (short tons)	1,352,775	1,352,775	1,402,775	350,945	350,945
Production (short tons)	823,182	750,647	625,992	157,419	185,592
Average-of-period capacity utilization (percent)	60.6	55.2	44.3	44.4	52.8
U.S. shipments:					
Quantity (short tons)	821,935	761,704	624,388	160,094	180,156
Value (1,000 dollars)	303,671	274,404	220,700	57,766	63,128
Unit value (per ton)	$369	$360	$353	$361	$350
Export shipments:					
Quantity (short tons)	***	***	***	***	***
Value (1,000 dollars)	***	***	***	***	***
Unit value (per ton)	***	***	***	***	***
Total shipments:					
Quantity (short tons)	***	***	***	***	***
Value (1,000 dollars)	***	***	***	***	***
Unit value (per ton)	***	***	***	***	***
End-of period inventories (short tons)	***	***	***	***	***
Ratio of inventories to total shipments (percent)	14.3	14.2	16.9	16.4	15.5
Production and related workers (PRWs)	***	***	***	***	***
Hourly wages paid to PRWs	$13.67	$13.87	$13.96	$13.59	$13.59
Hourly total compensation paid to PRWs	$17.83	$18.60	$19.08	$18.24	$18.37
Unit labor costs (per ton)	$40.04	$43.01	$47.00	$46.94	$43.24
U.S. imports:					
Quantity (short tons)	26,378	20,136	24,343	3,385	7,758
Value (1,000 dollars)	9,913	7,575	8,341	1,059	2,507
Unit value (per ton)	$376	$376	$343	$313	$323
Apparent consumption quantity:					
Amount (short tons)	848,313	781,840	648,731	163,479	187,914
Producer's market share (percent)	96.9	97.4	96.2	97.9	95.9
Importer's market share (percent)	3.1	2.6	3.8	2.1	4.1
Financial data (1,000 dollars, except where noted):					
Net sales	***	***	***	***	***
Cost of goods sold	***	***	***	***	***
Gross profit	***	***	***	***	***
Selling, general and administrative expenses	***	***	***	***	***
Operating income or (loss)	***	***	***	***	***
Ratio of operating income or (loss) to net sales (percent)	***	***	***	***	***

Note.--Average ratios are calculated using data of firms supplying both numerator and denominator information. Part-year inventory ratios are annualized.

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

Table E-5
Non-lead and non-bismuth hot-rolled carbon steel bars: Certain salient data of U.S. producers (and importers' U.S. imports), 1989-91, January-March 1991, and January-March 1992

Item	1989	1990	1991	Jan.-Mar.-- 1991	1992
Average-of-period capacity (short tons)	6,532,528	6,566,474	6,622,904	1,655,799	1,655,448
Production (short tons)	2,513,256	2,522,380	2,202,820	549,619	604,571
Average-of-period capacity utilization (percent)	38.3	38.3	33.1	32.9	36.4
U.S. shipments:					
Quantity (short tons)	2,524,185	2,515,316	2,175,208	557,897	600,850
Value (1,000 dollars)	1,129,025	1,099,964	954,194	247,105	256,799
Unit value (per ton)	$447	$437	$439	$443	$427
Export shipments:					
Quantity (short tons)	***	***	***	***	***
Value (1,000 dollars)	***	***	***	***	***
Unit value (per ton)	***	***	***	***	***
Total shipments:					
Quantity (short tons)	***	***	***	***	***
Value (1,000 dollars)	***	***	***	***	***
Unit value (per ton)	***	***	***	***	***
End-of period inventories (short tons)	***	***	***	***	***
Ratio of inventories to total shipments (percent)	9.7	9.5	11.6	10.5	10.9
Production and related workers (PRWs)	***	***	***	***	***
Hourly wages paid to PRWs	$14.65	$14.98	$15.19	$15.14	$15.65
Hourly total compensation paid to PRWs	$21.84	$21.91	$23.00	$22.63	$23.44
Unit labor costs (per ton)	$72.44	$72.75	$79.77	$80.14	$80.67
U.S. imports:					
Quantity (short tons)	162,487	129,172	158,625	32,628	39,265
Value (1,000 dollars)	76,962	61,461	71,189	14,672	17,483
Unit value (per ton)	$474	$476	$449	$450	$445
Apparent consumption quantity:					
Amount (short tons)	2,686,672	2,644,488	2,333,833	590,525	640,115
Producer's market share (percent)	94.0	95.1	93.2	94.5	93.9
Importer's market share (percent)	6.0	4.9	6.8	5.5	6.1
Financial data (1,000 dollars, except where noted):					
Net sales	***	***	***	***	***
Cost of goods sold	***	***	***	***	***
Gross profit	***	***	***	***	***
Selling, general and administrative expenses	***	***	***	***	***
Operating income or (loss)	***	***	***	***	***
Ratio of operating income or (loss) to net sales (percent)	***	***	***	***	***

Note.--Average ratios are calculated using data of firms supplying both numerator and denominator information. Part-year inventory ratios are annualized.

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

Table E-6
Hot-rolled carbon steel bars: Certain salient data of U.S. producers (and importers' U.S. imports), 1989-91, January-March 1991, and January-March 1992

Item	1989	1990	1991	Jan.-Mar.-- 1991	Jan.-Mar.-- 1992
Average-of-period capacity (short tons)	7,342,728	7,376,674	7,433,104	1,858,099	1,857,748
Production (short tons)	2,874,334	2,913,221	2,491,183	611,283	711,498
Average-of-period capacity utilization (percent)	39.0	39.4	33.3	32.7	38.2
U.S. shipments:					
Quantity (short tons)	2,861,800	2,867,965	2,427,677	615,687	697,475
Value (1,000 dollars)	1,315,763	1,289,765	1,093,031	279,334	309,997
Unit value (per ton)	$460	$450	$450	$454	$444
Export shipments:					
Quantity (short tons)	***	***	***	***	***
Value (1,000 dollars)	***	***	***	***	***
Unit value (per ton)	***	***	***	***	***
Total shipments:					
Quantity (short tons)	***	***	***	***	***
Value (1,000 dollars)	***	***	***	***	***
Unit value (per ton)	***	***	***	***	***
End-of period inventories (short tons)	***	***	***	***	***
Ratio of inventories to total shipments (percent)	9.2	9.1	11.3	10.2	10.2
Production and related workers (PRWs)	6,419	6,161	5,774	5,782	5,831
Hourly wages paid to PRWs	$14.72	$15.11	$15.36	$15.13	$15.70
Hourly total compensation paid to PRWs	$22.01	$22.29	$23.54	$22.87	$23.82
Unit labor costs (per ton)	$71.77	$72.57	$80.23	$82.49	$80.84
U.S. imports:					
Quantity (short tons)	269,246	241,311	282,900	49,653	53,970
Value (1,000 dollars)	131,733	115,999	132,711	22,708	24,724
Unit value (per ton)	$489	$481	$469	$457	$458
Apparent consumption quantity:					
Amount (short tons)	3,131,046	3,109,276	2,710,577	665,340	751,445
Producer's market share (percent)	91.4	92.2	89.6	92.5	92.8
Importer's market share (percent)	8.6	7.8	10.4	7.5	7.2
Financial data (1,000 dollars, except where noted):					
Net sales	***	***	***	***	***
Cost of goods sold	***	***	***	***	***
Gross profit	***	***	***	***	***
Selling, general and administrative expenses	***	***	***	***	***
Operating income or (loss)	***	***	***	***	***
Ratio of operating income or (loss) to net sales (percent)	***	***	***	***	***

Note.--Average ratios are calculated using data of firms supplying both numerator and denominator information. Part-year inventory ratios are annualized.

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

Table E-7
Hot-rolled lead and bismuth carbon steel rods: Certain salient data of U.S. producers (and importers' U.S. imports), 1989-91, January-March 1991, and January-March 1992

Item	1989	1990	1991	Jan.-Mar.-- 1991	1992
Average-of-period capacity (short tons)	124,400	124,400	124,400	31,050	31,050
Production (short tons)	63,795	59,233	56,067	14,240	21,014
Average-of-period capacity utilization (percent)	51.3	47.6	45.1	45.9	67.7
U.S. shipments:					
Quantity (short tons)	59,199	56,463	51,667	13,662	19,471
Value (1,000 dollars)	33,838	31,178	28,502	7,487	10,422
Unit value (per ton)	$572	$552	$552	$548	$535
Export shipments:					
Quantity (short tons)	***	***	***	***	***
Value (1,000 dollars)	***	***	***	***	***
Unit value (per ton)	***	***	***	***	***
Total shipments:					
Quantity (short tons)	***	***	***	***	***
Value (1,000 dollars)	***	***	***	***	***
Unit value (per ton)	***	***	***	***	***
End-of period inventories (short tons)	***	***	***	***	***
Ratio of inventories to total shipments (percent)	8.2	6.3	8.3	5.8	5.8
Production and related workers (PRWs)	***	***	***	***	***
Hourly wages paid to PRWs	$14.67	$15.24	$15.65	$15.89	$15.93
Hourly total compensation paid to PRWs	$22.15	$22.78	$24.99	$24.50	$25.10
Unit labor costs (per ton)	$48.57	$51.91	$72.80	$58.74	$57.03
U.S. imports:					
Quantity (short tons)	72,454	66,951	60,956	3,280	4,801
Value (1,000 dollars)	36,005	32,431	29,265	1,629	2,352
Unit value (per ton)	$497	$484	$480	$497	$490
Apparent consumption quantity:					
Amount (short tons)	131,653	123,414	112,623	16,942	24,272
Producer's market share (percent)	45.0	45.8	45.9	80.6	80.2
Importer's market share (percent)	55.0	54.2	54.1	19.4	19.8
Financial data (1,000 dollars, except where noted):					
Net sales	***	***	***	***	***
Cost of goods sold	***	***	***	***	***
Gross profit	***	***	***	***	***
Selling, general and administrative expenses	***	***	***	***	***
Operating income or (loss)	***	***	***	***	***
Ratio of operating income or (loss) to net sales (percent)	***	***	***	***	***

Note.--Average ratios are calculated using data of firms supplying both numerator and denominator information. Part-year inventory ratios are annualized.

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

Table E-8
'Other' special quality hot-rolled carbon steel rods: Certain salient data of U.S. producers (and importers' U.S. imports), 1989-91, January-March 1991, and January-March 1992

Item	1989	1990	1991	Jan.-Mar.-- 1991	1992
Average-of-period capacity (short tons)	2,168,240	2,168,240	2,177,380	550,095	554,250
Production (short tons)	1,966,790	1,946,706	1,902,261	451,398	517,904
Average-of-period capacity utilization (percent)	74.7	72.0	69.1	63.4	73.7
U.S. shipments:					
Quantity (short tons)	1,957,521	1,879,605	1,886,887	498,907	545,605
Value (1,000 dollars)	746,433	741,591	697,487	189,084	202,995
Unit value (per ton)	$381	$395	$370	$379	$372
Export shipments:					
Quantity (short tons)	***	***	***	***	***
Value (1,000 dollars)	***	***	***	***	***
Unit value (per ton)	***	***	***	***	***
Total shipments:					
Quantity (short tons)	***	***	***	***	***
Value (1,000 dollars)	***	***	***	***	***
Unit value (per ton)	***	***	***	***	***
End-of period inventories (short tons)	***	***	***	***	***
Ratio of inventories to total shipments (percent)	3.1	4.3	5.0	4.6	4.7
Production and related workers (PRWs)	***	***	***	***	***
Hourly wages paid to PRWs	$17.01	$17.35	$18.03	$18.13	$18.18
Hourly total compensation paid to PRWs	$23.15	$23.39	$23.78	$23.38	$26.54
Unit labor costs (per ton)	$44.21	$46.19	$51.55	$50.77	$46.72
U.S. imports:					
Quantity (short tons)	300,216	323,562	370,816	69,593	103,257
Value (1,000 dollars)	124,916	137,964	152,387	29,393	41,820
Unit value (per ton)	$416	$426	$411	$422	$405
Apparent consumption quantity:					
Amount (short tons)	2,257,737	2,203,167	2,257,703	568,500	648,862
Producer's market share (percent)	86.7	85.3	83.6	87.8	84.1
Importer's market share (percent)	13.3	14.7	16.4	12.2	15.9
Financial data (1,000 dollars, except where noted):					
Net sales	***	***	***	***	***
Cost of goods sold	***	***	***	***	***
Gross profit	***	***	***	***	***
Selling, general and administrative expenses	***	***	***	***	***
Operating income or (loss)	***	***	***	***	***
Ratio of operating income or (loss) to net sales (percent)	***	***	***	***	***

Note.--Average ratios are calculated using data of firms supplying both numerator and denominator information. Part-year inventory ratios are annualized.

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

Table E-9
Hot-rolled lead and bismuth and other special-quality carbon steel rods: Certain salient data of U.S. producers (and importers' U.S. imports), 1989-91, January-March 1991, and January-March 1992

Item	1989	1990	1991	Jan.-Mar.-- 1991	Jan.-Mar.-- 1992
Average-of-period capacity (short tons)	2,292,640	2,292,640	2,301,780	581,145	585,300
Production (short tons)	2,030,585	2,005,939	1,958,328	465,638	538,918
Average-of-period capacity utilization (percent)	73.5	70.7	67.8	62.4	73.4
U.S. shipments:					
Quantity (short tons)	2,016,720	1,936,068	1,938,554	512,569	565,076
Value (1,000 dollars)	780,271	772,769	725,989	196,571	213,417
Unit value (per ton)	$387	$399	$375	$384	$378
Export shipments:					
Quantity (short tons)	***	***	***	***	***
Value (1,000 dollars)	***	***	***	***	***
Unit value (per ton)	***	***	***	***	***
Total shipments:					
Quantity (short tons)	***	***	***	***	***
Value (1,000 dollars)	***	***	***	***	***
Unit value (per ton)	***	***	***	***	***
End-of period inventories (short tons)	***	***	***	***	***
Ratio of inventories to total shipments (percent)	3.2	4.3	5.0	4.6	4.8
Production and related workers (PRWs)	***	***	***	***	***
Hourly wages paid to PRWs	$16.95	$17.29	$17.95	$18.07	$18.08
Hourly total compensation paid to PRWs	$23.12	$23.37	$23.83	$23.42	$26.47
Unit labor costs (per ton)	$44.34	$46.36	$52.20	$51.03	$47.15
U.S. imports:					
Quantity (short tons)	372,670	390,513	431,772	72,873	108,058
Value (1,000 dollars)	160,921	170,395	181,652	31,022	44,172
Unit value (per ton)	$432	$436	$421	$426	$409
Apparent consumption quantity:					
Amount (short tons)	2,389,390	2,326,581	2,370,326	585,442	673,134
Producer's market share (percent)	84.4	83.2	81.8	87.6	83.9
Importer's market share (percent)	15.6	16.8	18.2	12.4	16.1
Financial data (1,000 dollars, except where noted):					
Net sales	***	***	***	***	***
Cost of goods sold	***	***	***	***	***
Gross profit	***	***	***	***	***
Selling, general and administrative expenses	***	***	***	***	***
Operating income or (loss)	***	***	***	***	***
Ratio of operating income or (loss) to net sales (percent)	***	***	***	***	***

Note.--Average ratios are calculated using data of firms supplying both numerator and denominator information. Part-year inventory ratios are annualized.

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

Table E-10
Merchant quality hot-rolled carbon steel rods: Certain salient data of U.S. producers (and importers' U.S. imports), 1989-91, January-March 1991, and January-March 1992

Item	1989	1990	1991	Jan.-Mar.-- 1991	1992
Average-of-period capacity (short tons)	1,916,100	1,964,307	1,980,035	485,160	487,700
Production (short tons)	2,014,461	2,168,032	2,171,843	551,343	514,001
Average-of-period capacity utilization (percent)	86.7	93.9	92.0	98.4	88.1
U.S. shipments:					
Quantity (short tons)	1,988,102	2,024,451	2,079,428	505,422	509,446
Value (1,000 dollars)	627,245	622,817	608,127	151,810	150,153
Unit value (per ton)	$315	$308	$292	$300	$295
Export shipments:					
Quantity (short tons)	***	***	***	***	***
Value (1,000 dollars)	***	***	***	***	***
Unit value (per ton)	***	***	***	***	***
Total shipments:					
Quantity (short tons)	***	***	***	***	***
Value (1,000 dollars)	***	***	***	***	***
Unit value (per ton)	***	***	***	***	***
End-of period inventories (short tons)	***	***	***	***	***
Ratio of inventories to total shipments (percent)	3.6	4.8	3.7	6.3	4.1
Production and related workers (PRWs)	***	***	***	***	***
Hourly wages paid to PRWs	$16.59	$17.68	$18.31	$18.46	$18.78
Hourly total compensation paid to PRWs	$24.15	$25.37	$25.97	$27.05	$27.72
Unit labor costs (per ton)	$42.97	$41.45	$42.00	$40.85	$46.80
U.S. imports:					
Quantity (short tons)	326,296	284,858	264,813	37,661	79,040
Value (1,000 dollars)	130,304	115,029	98,348	15,108	27,822
Unit value (per ton)	$399	$404	$371	$401	$352
Apparent consumption quantity:					
Amount (short tons)	2,314,398	2,309,309	2,344,241	543,083	588,486
Producer's market share (percent)	85.9	87.7	88.7	93.1	86.6
Importer's market share (percent)	14.1	12.3	11.3	6.9	13.4
Financial data (1,000 dollars, except where noted):					
Net sales	***	***	***	***	***
Cost of goods sold	***	***	***	***	***
Gross profit	***	***	***	***	***
Selling, general and administrative expenses	***	***	***	***	***
Operating income or (loss)	***	***	***	***	***
Ratio of operating income or (loss) to net sales (percent)	***	***	***	***	***

Note.--Average ratios are calculated using data of firms supplying both numerator and denominator information. Part-year inventory ratios are annualized.

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

Table E-11
Non-lead and non-bismuth hot-rolled carbon steel rods: Certain salient data of U.S. producers (and importers' U.S. imports), 1989-91, January-March 1991, and January-March 1992

Item	1989	1990	1991	Jan.-Mar.-- 1991	1992
Average-of-period capacity (short tons)	4,084,340	4,132,547	4,157,415	1,035,255	1,041,950
Production (short tons)	3,981,251	4,114,738	4,074,104	1,002,741	1,031,905
Average-of-period capacity utilization (percent)	80.4	82.4	80.0	79.8	80.4
U.S. shipments:					
Quantity (short tons)	3,945,623	3,904,056	3,966,315	1,004,329	1,055,051
Value (1,000 dollars)	1,373,678	1,364,408	1,305,614	340,894	353,148
Unit value (per ton)	$348	$349	$329	$339	$335
Export shipments:					
Quantity (short tons)	***	***	***	***	***
Value (1,000 dollars)	***	***	***	***	***
Unit value (per ton)	***	***	***	***	***
Total shipments:					
Quantity (short tons)	***	***	***	***	***
Value (1,000 dollars)	***	***	***	***	***
Unit value (per ton)	***	***	***	***	***
End-of period inventories (short tons)	***	***	***	***	***
Ratio of inventories to total shipments (percent)	3.3	4.6	4.3	5.5	4.4
Production and related workers (PRWs)	***	***	***	***	***
Hourly wages paid to PRWs	$16.81	$17.51	$18.16	$18.29	$18.47
Hourly total compensation paid to PRWs	$23.62	$24.31	$24.76	$25.08	$27.11
Unit labor costs (per ton)	$43.61	$43.75	$46.56	$45.28	$46.76
U.S. imports:					
Quantity (short tons)	626,512	608,420	635,629	107,254	182,297
Value (1,000 dollars)	255,220	252,993	250,735	44,501	69,642
Unit value (per ton)	$407	$416	$394	$415	$382
Apparent consumption quantity:					
Amount (short tons)	4,572,135	4,512,476	4,601,944	1,111,583	1,237,348
Producer's market share (percent)	86.3	86.5	86.2	90.4	85.3
Importer's market share (percent)	13.7	13.5	13.8	9.6	14.7
Financial data (1,000 dollars, except where noted):					
Net sales	***	***	***	***	***
Cost of goods sold	***	***	***	***	***
Gross profit	***	***	***	***	***
Selling, general and administrative expenses	***	***	***	***	***
Operating income or (loss)	***	***	***	***	***
Ratio of operating income or (loss) to net sales (percent)	***	***	***	***	***

Note.--Average ratios are calculated using data of firms supplying both numerator and denominator information. Part-year inventory ratios are annualized.

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

Table E-12
Hot-rolled carbon steel rods: Certain salient data of U.S. producers (and importers' U.S. imports), 1989-91, January-March 1991, and January-March 1992

Item	1989	1990	1991	Jan.-Mar.-- 1991	1992
Average-of-period capacity (short tons)	4,208,740	4,256,947	4,281,815	1,066,305	1,073,000
Production (short tons)	4,045,046	4,173,971	4,130,171	1,016,981	1,052,919
Average-of-period capacity utilization (percent)	79.5	81.4	79.0	78.8	80.1
U.S. shipments:					
Quantity (short tons)	4,004,822	3,960,519	4,017,982	1,017,991	1,074,522
Value (1,000 dollars)	1,407,516	1,395,586	1,334,116	348,381	363,570
Unit value (per ton)	$351	$352	$332	$342	$338
Export shipments:					
Quantity (short tons)	***	***	***	***	***
Value (1,000 dollars)	***	***	***	***	***
Unit value (per ton)	***	***	***	***	***
Total shipments:					
Quantity (short tons)	***	***	***	***	***
Value (1,000 dollars)	***	***	***	***	***
Unit value (per ton)	***	***	***	***	***
End-of period inventories (short tons)	***	***	***	***	***
Ratio of inventories to total shipments (percent)	3.4	4.6	4.4	5.5	4.4
Production and related workers (PRWs)	***	***	***	***	***
Hourly wages paid to PRWs	$16.78	$17.47	$18.11	$18.25	$18.41
Hourly total compensation paid to PRWs	$23.59	$24.28	$24.77	$25.07	$27.05
Unit labor costs (per ton)	$43.69	$43.87	$46.95	$45.48	$46.98
U.S. imports:					
Quantity (short tons)	698,966	675,371	696,585	110,534	187,098
Value (1,000 dollars)	291,225	285,424	280,000	46,130	71,994
Unit value (per ton)	$417	$423	$402	$417	$385
Apparent consumption quantity:					
Amount (short tons)	4,703,788	4,635,890	4,714,567	1,128,525	1,261,620
Producer's market share (percent)	85.1	85.4	85.2	90.2	85.2
Importer's market share (percent)	14.9	14.6	14.8	9.8	14.8
Financial data (1,000 dollars, except where noted):					
Net sales	***	***	***	***	***
Cost of goods sold	***	***	***	***	***
Gross profit	***	***	***	***	***
Selling, general and administrative expenses	***	***	***	***	***
Operating income or (loss)	***	***	***	***	***
Ratio of operating income or (loss) to net sales (percent)	***	***	***	***	***

Note.--Average ratios are calculated using data of firms supplying both numerator and denominator information. Part-year inventory ratios are annualized.

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

Table E-13
Merchant quality hot-rolled carbon steel bar size shapes: Certain salient data of U.S. producers (and importers' U.S. imports), 1989-91, January-March 1991, and January-March 1992

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Table E-14
Hot-rolled lead and bismuth carbon steel bars and rods: Certain salient data of U.S. producers (and importers' U.S. imports), 1989-91, January-March 1991, and January-March 1992

Item	1989	1990	1991	Jan.-Mar.-- 1991	Jan.-Mar.-- 1992
Average-of-period capacity (short tons)	934,600	934,600	934,600	233,350	233,350
Production (short tons)	424,873	450,074	344,430	75,904	127,941
Average-of-period capacity utilization (percent)	45.5	48.2	36.9	32.5	54.8
U.S. shipments:					
Quantity (short tons)	396,814	409,112	304,136	71,452	116,096
Value (1,000 dollars)	220,576	220,979	167,339	39,716	63,620
Unit value (per ton)	$556	$540	$550	$556	$548
Export shipments:					
Quantity (short tons)	***	***	***	***	***
Value (1,000 dollars)	***	***	***	***	***
Unit value (per ton)	***	***	***	***	***
Total shipments:					
Quantity (short tons)	***	***	***	***	***
Value (1,000 dollars)	***	***	***	***	***
Unit value (per ton)	***	***	***	***	***
End-of period inventories (short tons)	***	***	***	***	***
Ratio of inventories to total shipments (percent)	6.3	5.8	8.8	7.1	5.6
Production and related workers (PRWs)	882	907	850	857	1,013
Hourly wages paid to PRWs	$15.17	$15.93	$16.58	$15.10	$15.98
Hourly total compensation paid to PRWs	$23.18	$24.70	$27.45	$24.51	$25.80
Unit labor costs (per ton)	$65.18	$69.45	$81.91	$94.43	$78.15
U.S. imports:					
Quantity (short tons)	179,213	179,090	185,231	20,305	19,506
Value (1,000 dollars)	90,776	86,969	90,787	9,665	9,593
Unit value (per ton)	$507	$486	$490	$476	$492
Apparent consumption quantity:					
Amount (short tons)	576,027	588,202	489,367	91,757	135,602
Producer's market share (percent)	68.9	69.6	62.1	77.9	85.6
Importer's market share (percent)	31.1	30.4	37.9	22.1	14.4
Financial data (1,000 dollars, except where noted):					
Net sales	225,094	224,971	177,022	40,514	63,728
Cost of goods sold	216,447	218,708	171,031	39,226	61,672
Gross profit	8,647	6,263	5,991	1,288	2,056
Selling, general and administrative expenses	6,743	7,229	7,622	2,107	2,050
Operating income or (loss)	1,904	(966)	(1,631)	(819)	6
Ratio of operating income or (loss) to net sales (percent)	0.8	(0.4)	(0.9)	(2.0)	[1]

[1] Less than 0.05 percent.
Note.--Average ratios are calculated using data of firms supplying both numerator and denominator information. Part-year inventory ratios are annualized.
Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table E-15
'Other' special quality hot-rolled carbon steel bars and rods: Certain salient data of U.S. producers (and importers' U.S. imports), 1989-91, January-March 1991, and January-March 1992

Item	1989	1990	1991	Jan.-Mar.-- 1991	1992
Average-of-period capacity (short tons)	7,347,993	7,381,939	7,397,509	1,854,949	1,858,753
Production (short tons)	3,656,864	3,718,439	3,479,089	843,598	936,883
Average-of-period capacity utilization (percent)	45.0	45.1	41.5	39.8	44.4
U.S. shipments:					
Quantity (short tons)	3,659,771	3,633,217	3,437,707	896,710	966,299
Value (1,000 dollars)	1,571,787	1,567,151	1,430,981	378,423	396,666
Unit value (per ton)	$429	$431	$416	$422	$411
Export shipments:					
Quantity (short tons)	***	***	***	***	***
Value (1,000 dollars)	***	***	***	***	***
Unit value (per ton)	***	***	***	***	***
Total shipments:					
Quantity (short tons)	***	***	***	***	***
Value (1,000 dollars)	***	***	***	***	***
Unit value (per ton)	***	***	***	***	***
End-of period inventories (short tons)	***	***	***	***	***
Ratio of inventories to total shipments (percent)	5.1	5.8	6.9	6.1	6.5
Production and related workers (PRWs)	8,153	7,720	7,354	7,166	6,921
Hourly wages paid to PRWs	$15.76	$16.10	$16.59	$16.63	$17.02
Hourly total compensation paid to PRWs	$23.13	$23.06	$23.99	$23.75	$25.54
Unit labor costs (per ton)	$66.25	$66.54	$72.04	$72.72	$71.51
U.S. imports:					
Quantity (short tons)	441,194	436,035	507,685	99,383	135,297
Value (1,000 dollars)	194,861	193,992	216,802	43,327	57,371
Unit value (per ton)	$442	$445	$427	$436	$424
Apparent consumption quantity:					
Amount (short tons)	4,100,965	4,069,252	3,945,392	996,093	1,101,596
Producer's market share (percent)	89.2	89.3	87.1	90.0	87.7
Importer's market share (percent)	10.8	10.7	12.9	10.0	12.3
Financial data (1,000 dollars, except where noted):					
Net sales	1,355,613	1,347,649	1,268,978	[1]	[1]
Cost of goods sold	1,206,635	1,205,524	1,191,133	[1]	[1]
Gross profit or (loss)	148,978	142,125	77,845	[1]	[1]
Selling, general and administrative expenses	75,702	77,942	91,683	[1]	[1]
Operating income or (loss)	73,276	64,183	(13,838)	[1]	[1]
Ratio of operating income or (loss) to net sales (percent)	5.4	4.8	(1.1)	[1]	[1]

[1] Not available.

Note.--Average ratios are calculated using data of firms supplying both numerator and denominator information. Part-year inventory ratios are annualized.

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

Table E-16
Hot-rolled lead and bismuth and other special-quality carbon steel bars and rods: Certain salient data of U.S. producers (and importers' U.S. imports), 1989-91, January-March 1991, and January-March 1992

Item	1989	1990	1991	Jan.-Mar.-- 1991	Jan.-Mar.-- 1992
Average-of-period capacity (short tons)	8,282,593	8,316,539	8,332,109	2,088,299	2,092,103
Production (short tons)	4,081,737	4,168,513	3,823,519	919,502	1,064,824
Average-of-period capacity utilization (percent)	45.1	45.4	41.0	39.0	45.6
U.S. shipments:					
Quantity (short tons)	4,056,585	4,042,329	3,741,843	968,162	1,082,395
Value (1,000 dollars)	1,792,363	1,788,130	1,598,320	418,139	460,286
Unit value (per ton)	$442	$442	$427	$432	$425
Export shipments:					
Quantity (short tons)	***	***	***	***	***
Value (1,000 dollars)	***	***	***	***	***
Unit value (per ton)	***	***	***	***	***
Total shipments:					
Quantity (short tons)	***	***	***	***	***
Value (1,000 dollars)	***	***	***	***	***
Unit value (per ton)	***	***	***	***	***
End-of period inventories (short tons)	***	***	***	***	***
Ratio of inventories to total shipments (percent)	5.2	5.8	7.1	6.2	6.4
Production and related workers (PRWs)	9,035	8,627	8,204	8,023	7,934
Hourly wages paid to PRWs	$15.70	$16.08	$16.59	$16.46	$16.87
Hourly total compensation paid to PRWs	$23.13	$23.25	$24.35	$23.84	$25.58
Unit labor costs (per ton)	$66.12	$66.90	$73.08	$74.82	$72.45
U.S. imports:					
Quantity (short tons)	620,407	615,125	692,916	119,688	154,803
Value (1,000 dollars)	285,637	280,961	307,589	52,992	66,964
Unit value (per ton)	$460	$457	$444	$443	$433
Apparent consumption quantity:					
Amount (short tons)	4,676,992	4,657,454	4,434,759	1,087,850	1,237,198
Producer's market share (percent)	86.7	86.8	84.4	89.0	87.5
Importer's market share (percent)	13.3	13.2	15.6	11.0	12.5
Financial data (1,000 dollars, except where noted):					
Net sales	1,580,707	1,572,620	1,446,000	[1]	[1]
Cost of goods sold	1,423,082	1,424,232	1,362,164	[1]	[1]
Gross profit or (loss)	157,625	148,388	83,836	[1]	[1]
Selling, general and administrative expenses	82,445	85,171	99,305	[1]	[1]
Operating income or (loss)	75,180	63,217	(15,469)	[1]	[1]
Ratio of operating income or (loss) to net sales (percent)	4.8	4.0	(1.1)	[1]	[1]

[1] Not available.

Note.--Average ratios are calculated using data of firms supplying both numerator and denominator information. Part-year inventory ratios are annualized.

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

Table E-17
Merchant quality hot-rolled carbon steel bars and rods: Certain salient data of U.S. producers (and importers' U.S. imports), 1989-91, January-March 1991, and January-March 1992

Item	1989	1990	1991	Jan.-Mar.-- 1991	Jan.-Mar.-- 1992
Average-of-period capacity (short tons)	3,268,875	3,317,082	3,382,810	836,105	838,645
Production (short tons)	2,837,643	2,918,679	2,797,835	708,762	699,593
Average-of-period capacity utilization (percent)	75.9	78.1	72.2	75.8	73.3
U.S. shipments:					
Quantity (short tons)	2,810,037	2,786,155	2,703,816	665,516	689,602
Value (1,000 dollars)	930,916	897,221	828,827	209,576	213,281
Unit value (per ton)	$331	$322	$307	$315	$309
Export shipments:					
Quantity (short tons)	***	***	***	***	***
Value (1,000 dollars)	***	***	***	***	***
Unit value (per ton)	***	***	***	***	***
Total shipments:					
Quantity (short tons)	***	***	***	***	***
Value (1,000 dollars)	***	***	***	***	***
Unit value (per ton)	***	***	***	***	***
End-of period inventories (short tons)	***	***	***	***	***
Ratio of inventories to total shipments (percent)	6.7	7.3	6.7	8.7	7.1
Production and related workers (PRWs)	2,437	2,372	2,377	2,335	2,322
Hourly wages paid to PRWs	$15.56	$16.39	$16.94	$16.83	$16.97
Hourly total compensation paid to PRWs	$21.58	$22.73	$23.45	$23.70	$24.00
Productivity (short tons)	0.5	0.6	0.6	0.6	0.6
Unit labor costs (per ton)	$41.94	$41.94	$43.37	$42.46	$45.65
U.S. imports:					
Quantity (short tons)	352,674	304,994	289,156	41,046	86,798
Value (1,000 dollars)	140,217	122,604	106,689	16,167	30,329
Unit value (per ton)	$398	$402	$369	$394	$349
Apparent consumption quantity:					
Amount (short tons)	3,162,711	3,091,149	2,992,972	706,562	776,400
Producer's market share (percent)	88.8	90.1	90.3	94.2	88.8
Importer's market share (percent)	11.2	9.9	9.7	5.8	11.2
Financial data (1,000 dollars, except where noted):					
Net sales	992,254	1,000,462	904,832	[1]	[1]
Cost of goods sold	893,121	929,264	860,966	[1]	[1]
Gross profit or (loss)	99,133	71,198	43,866	[1]	[1]
Selling, general and administrative expenses	46,152	45,573	46,594	[1]	[1]
Operating income or (loss)	52,981	25,625	(2,728)	[1]	[1]
Ratio of operating income or (loss) to net sales (percent)	5.3	2.6	(0.3)	[1]	[1]

[1] Not available.

Note.--Average ratios are calculated using data of firms supplying both numerator and denominator information. Part-year inventory ratios are annualized.

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

Table E-18
Non-lead and non-bismuth hot-rolled carbon steel bars and rods: Certain salient data of U.S. producers (and importers' U.S. imports), 1989-91, January-March 1991, and January-March 1992

Item	1989	1990	1991	Jan.-Mar.-- 1991	Jan.-Mar.-- 1992
Average-of-period capacity (short tons)	10,616,868	10,699,021	10,780,319	2,691,054	2,697,398
Production (short tons)	6,494,507	6,637,118	6,276,924	1,552,360	1,636,476
Average-of-period capacity utilization (percent)	54.5	55.3	51.2	51.0	53.4
U.S. shipments:					
Quantity (short tons)	6,469,808	6,419,372	6,141,523	1,562,226	1,655,901
Value (1,000 dollars)	2,502,703	2,464,372	2,259,808	587,999	609,947
Unit value (per ton)	$387	$384	$368	$376	$368
Export shipments:					
Quantity (short tons)	***	***	***	***	***
Value (1,000 dollars)	***	***	***	***	***
Unit value (per ton)	***	***	***	***	***
Total shipments:					
Quantity (short tons)	***	***	***	***	***
Value (1,000 dollars)	***	***	***	***	***
Unit value (per ton)	***	***	***	***	***
End-of period inventories (short tons)	***	***	***	***	***
Ratio of inventories to total shipments (percent)	5.8	6.5	6.8	7.2	6.8
Production and related workers (PRWs)	10,590	10,092	9,731	9,501	9,243
Hourly wages paid to PRWs	$15.69	$16.20	$16.71	$16.70	$17.00
Hourly total compensation paid to PRWs	$22.61	$22.95	$23.82	$23.73	$25.02
Unit labor costs (per ton)	$55.82	$55.80	$59.35	$58.71	$60.34
U.S. imports:					
Quantity (short tons)	788,999	737,592	794,254	139,882	221,562
Value (1,000 dollars)	332,182	314,454	321,924	59,173	87,125
Unit value (per ton)	$421	$426	$405	$423	$393
Apparent consumption quantity:					
Amount (short tons)	7,258,807	7,156,964	6,935,777	1,702,108	1,877,463
Producer's market share (percent)	89.1	89.7	88.5	91.8	88.2
Importer's market share (percent)	10.9	10.3	11.5	8.2	11.8
Financial data (1,000 dollars, except where noted):					
Net sales	2,347,867	2,348,111	2,173,810	[1]	[1]
Cost of goods sold	2,099,756	2,134,788	2,052,099	[1]	[1]
Gross profit or (loss)	248,111	213,323	121,711	[1]	[1]
Selling, general and administrative expenses	121,854	123,515	138,277	[1]	[1]
Operating income or (loss)	126,257	89,808	(16,566)	[1]	[1]
Ratio of operating income or (loss) to net sales (percent)	5.4	3.8	(0.8)	[1]	[1]

[1] Not available.

Note.--Average ratios are calculated using data of firms supplying both numerator and denominator information. Part-year inventory ratios are annualized.

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

Table E-19
Hot-rolled carbon steel bars and rods: Certain salient data of U.S. producers (and importers' U.S. imports), 1989-91, January-March 1991, and January-March 1992

Item	1989	1990	1991	Jan.-Mar.-- 1991	1992
Average-of-period capacity (short tons)	11,551,468	11,633,621	11,714,919	2,924,404	2,930,748
Production (short tons)	6,919,380	7,087,192	6,621,354	1,628,264	1,764,417
Average-of-period capacity utilization (percent)	53.8	54.7	50.0	49.5	53.5
U.S. shipments:					
Quantity (short tons)	6,866,622	6,828,484	6,445,659	1,633,678	1,771,997
Value (1,000 dollars)	2,723,279	2,685,351	2,427,147	627,715	673,567
Unit value (per ton)	$397	$393	$377	$384	$380
Export shipments:					
Quantity (short tons)	***	***	***	***	***
Value (1,000 dollars)	***	***	***	***	***
Unit value (per ton)	***	***	***	***	***
Total shipments:					
Quantity (short tons)	***	***	***	***	***
Value (1,000 dollars)	***	***	***	***	***
Unit value (per ton)	***	***	***	***	***
End-of period inventories (short tons)	***	***	***	***	***
Ratio of inventories to total shipments (percent)	5.8	6.4	6.9	7.2	6.7
Production and related workers (PRWs)	11,472	10,999	10,581	10,358	10,256
Hourly wages paid to PRWs	$15.65	$16.18	$16.70	$16.58	$16.90
Hourly total compensation paid to PRWs	$22.65	$23.09	$24.08	$23.80	$25.10
Unit labor costs (per ton)	$56.47	$56.81	$60.73	$60.65	$61.87
U.S. imports:					
Quantity (short tons)	968,212	916,682	979,485	160,187	241,068
Value (1,000 dollars)	422,958	401,423	412,711	68,838	96,718
Unit value (per ton)	$437	$438	$421	$430	$401
Apparent consumption quantity:					
Amount (short tons)	7,834,834	7,745,166	7,425,144	1,793,865	2,013,065
Producer's market share (percent)	87.6	88.2	86.8	91.1	88.0
Importer's market share (percent)	12.4	11.8	13.2	8.9	12.0
Financial data (1,000 dollars, except where noted):					
Net sales	2,572,961	2,573,082	2,350,832	[1]	[1]
Cost of goods sold	2,316,203	2,353,496	2,223,130	[1]	[1]
Gross profit or (loss)	256,758	219,586	127,702	[1]	[1]
Selling, general and administrative expenses	128,597	130,744	145,899	[1]	[1]
Operating income or (loss)	128,161	88,842	(18,197)	[1]	[1]
Ratio of operating income or (loss) to net sales (percent)	5.0	3.5	(0.8)	[1]	[1]

[1] Not available.

Note.--Average ratios are calculated using data of firms supplying both numerator and denominator information. Part-year inventory ratios are annualized.

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

Table E-20
Merchant quality hot-rolled carbon steel bars and bar size shapes: Certain salient data of U.S. producers (and importers' U.S. imports), 1989-91, January-March 1991, and January-March 1992

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Table E-21
Non-lead and non-bismuth hot-rolled carbon steel bars and bar size shapes: Certain salient data of U.S. producers (and importers' U.S. imports), 1989-91, January-March 1991, and January-March 1992

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Table E-22
Hot-rolled carbon steel bars and bar size shapes: Certain salient data of U.S. producers (and importers' U.S. imports), 1989-91, January-March 1991, and January-March 1992

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Table E-23
Merchant quality hot-rolled carbon steel bars, rods, and bar size shapes: Certain salient data of U.S. producers (and importers' U.S. imports), 1989-91, January-March 1991, and January-March 1992

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Table E-24
Non-lead and non-bismuth hot-rolled carbon steel products: Certain salient data of U.S. producers (and importers' U.S. imports), 1989-91, January-March 1991, and January-March 1992

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Table E-25
Hot-rolled carbon steel products: Certain salient data of U.S. producers (and importers' U.S. imports), 1989-91, January-March 1991, and January-March 1992

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Table E-26
Weighted-average net f.o.b. prices of product 2 reported by U.S. producers, for sales to steel service center or distributors by quarters, January 1989-March 1992

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Table E-27
Hot-rolled carbon steel products: Shares of apparent consumption held by the subject imports of hot-rolled lead carbon steel products under affected like-product scenarios, 1989-91, January-March 1991, and January-March 1992

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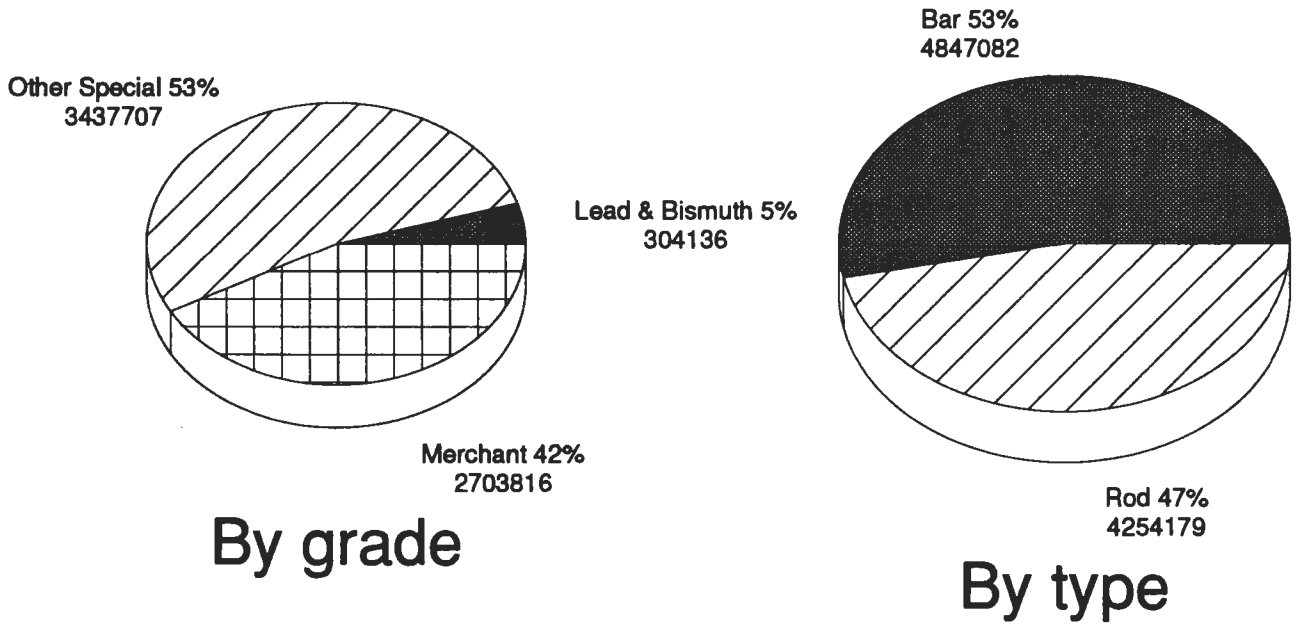
Additional Graphs

Figures E-3 through E-6 present graphic presentation of certain salient data.

Figure E-3. HR Carbon Steel products

(1991 U.S. shipments; short tons)

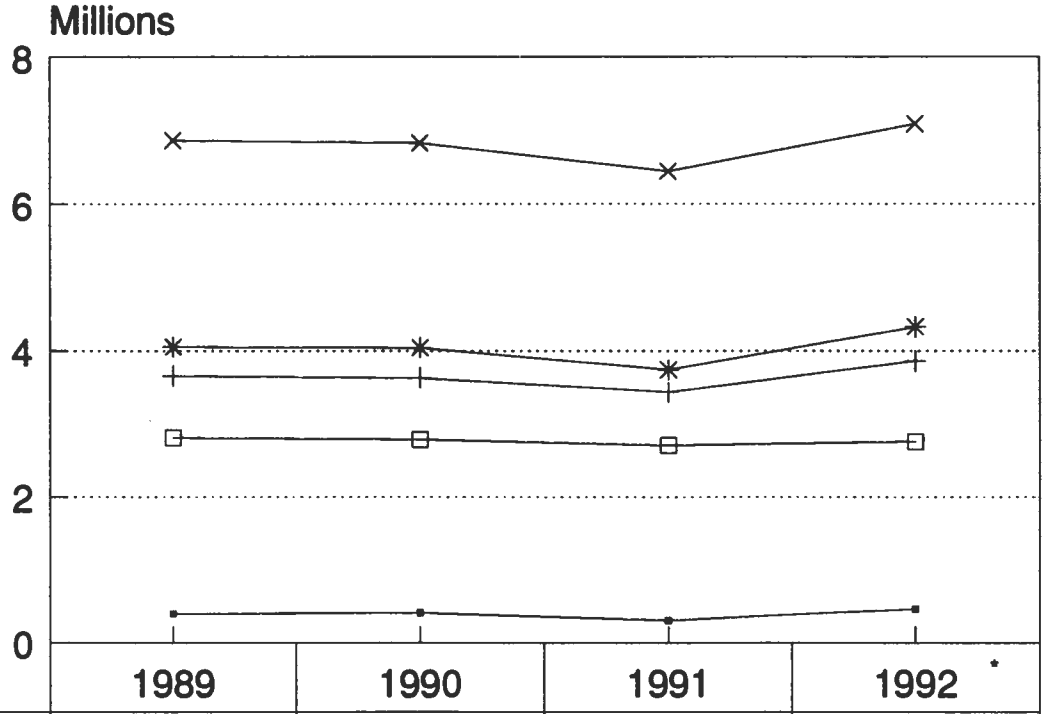


By grade

By type

Source: App. E and AISI data.

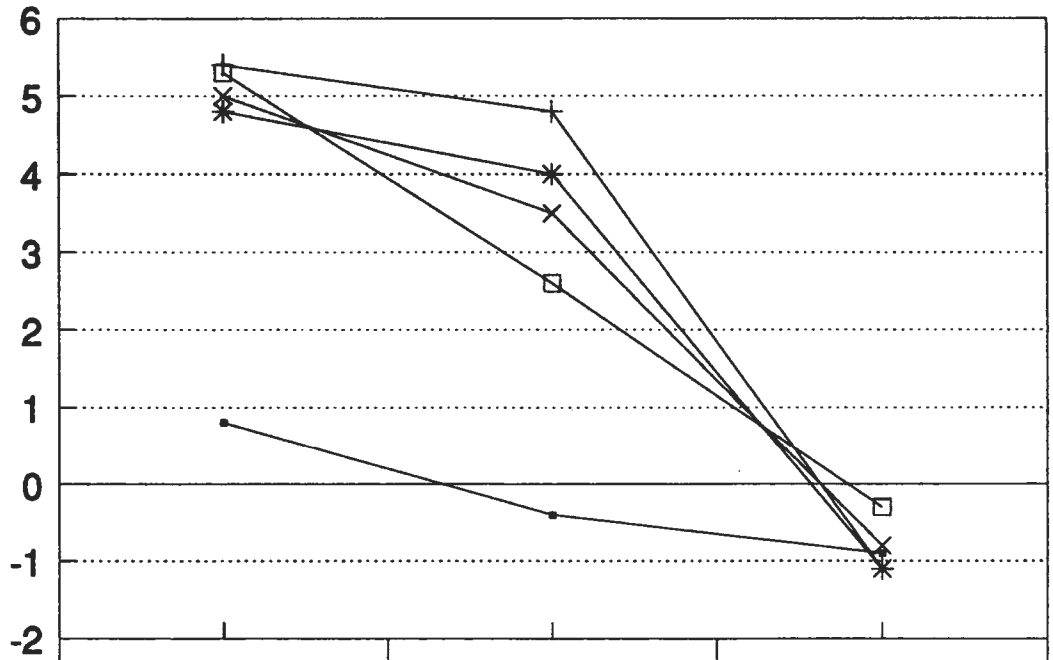
Figure E-4: Alternatiave scenarios--
Trends in U.S. shipments



	1989	1990	1991	1992
Total Hot-rolled	6.867	6.828	6.446	7.088
Merchant	2.81	2.786	2.704	2.758
Total Special	4.057	4.042	3.742	4.33
Other Special	3.66	3.633	3.438	3.865
Lead and Bismuth	0.397	0.409	0.304	0.464

*Annualized from January-March data.
Source: App. E.

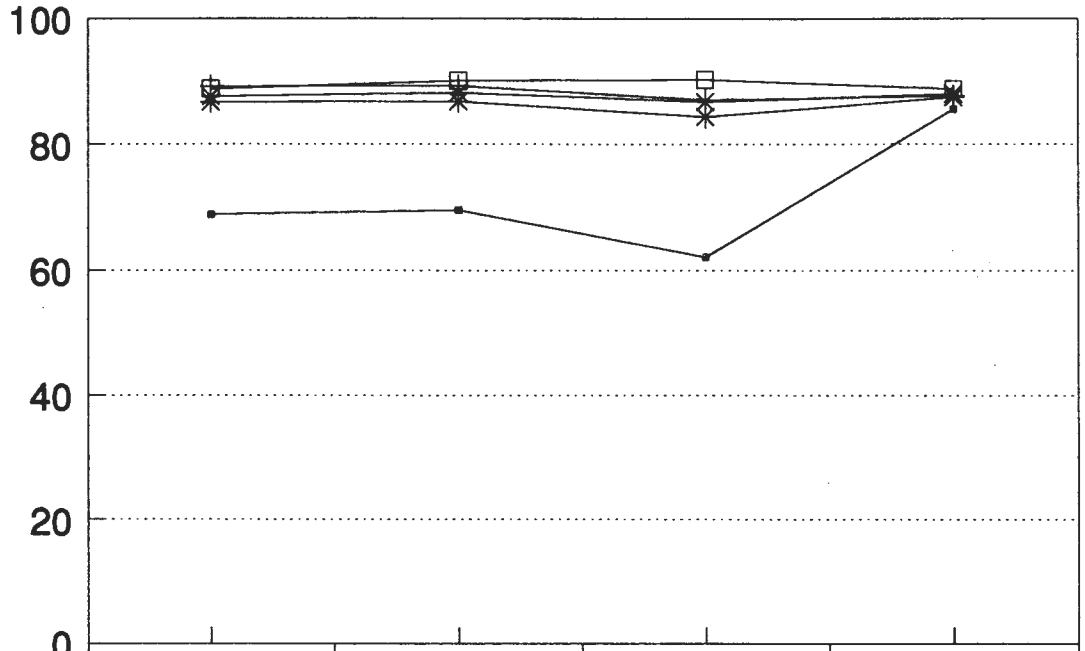
Figure E-5: Alternatiave scenarios--
Trends in operating income ratios



	1989	1990	1991
Total Hot-rolled	5	3.5	-0.8
Merchant	5.3	2.6	-0.3
Total Special	4.8	4	-1.1
Other Special	5.4	4.8	-1.1
Lead and Bismuth	0.8	-0.4	-0.9

Source: App. E.

Figure E-6: Alternatiave scenarios--
Trends in U.S. producers' market share



	1989	1990	1991	1992 *
Total Hot-rolled	87.6	88.2	86.8	88
Merchant	88.8	90.1	90.3	88.8
Total Special	86.7	86.8	84.4	87.5
Other Special	89.2	89.3	87.1	87.7
Lead and Bismuth	68.9	69.6	62.1	85.6

*Annualized from January-March data.
Source: App. E.

APPENDIX F

COMMENTS ON IMPACT OF IMPORTS

COMMENTS RECEIVED FROM U.S. PRODUCERS ON THE IMPACT OF IMPORTS OF HOT-ROLLED LEAD AND BISMUTH CARBON STEEL PRODUCTS FROM BRAZIL, FRANCE, GERMANY, AND THE UNITED KINGDOM ON THEIR GORWTH, INVESTMENT, ABILITY TO RAISE CAPITAL, AND EXISTING DEVELOPMENT EFFORTS

The Commission requested U.S. producers to describe and explain the actual and potential negative effects, if any, of imports of hot-rolled lead and bismuth carbon steel products from Brazil, France, Germany, and the United Kingdom on their growth, investment, ability to raise capital, and existing development and production efforts (including efforts to develop a derivative or improved version of hot-rolled lead and bismuth carbon steel products). Their responses are shown below:

Actual Negative Effects

* * * * * * *

Influence of Imports on Capital Investment

* * * * * * *