

UNITED STATES INTERNATIONAL TRADE COMMISSION

MALLEABLE CAST-IRON PIPE AND TUBE FITTINGS

**Report to the President
on Investigation No. TA-201-26
Under Section 201 of the Trade Act of 1974**



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UNITED STATES INTERNATIONAL TRADE COMMISSION

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

SUMMARY

Investigation No. TA-201-26 was instituted by the Commission on April 13, 1977, following receipt of a petition filed on March 29, 1977, by the American Pipe Fittings Association on behalf of the eight U.S. producers of malleable cast-iron pipe and tube fittings. The imported articles covered in the scope of this investigation consist of cast-iron pipe and tube fittings, malleable, whether or not advanced in condition by operations subsequent to the casting process.

Malleable cast-iron pipe and tube fittings, available in some 3,000 or more shapes and sizes, join pipes in straight lines, change direction of piping systems, provide access for cleaning and branching in piping systems, and reduce or increase the diameters of piping systems. The method of producing malleable cast-iron imparts considerable strength, ductility, and machinability to the metal; consequently, malleable fittings can be machined and subjected to stress with less possibility of fracture than nonmalleable fittings. Malleable cast-iron fittings are used principally in piping systems with pressures of up to 300 pounds per square inch (e.g., gas pipelines, piping systems of oil refineries, and gas and water systems of buildings).

In 1976 there were eight firms producing malleable cast-iron pipe fittings. Some of these enterprises are multiproduct firms, manufacturing other products not subject to this investigation. They employed about 2,500 production workers in 1976, and the number increased 10 percent during January-April 1977. In 1976, total shipments of such malleable fittings by domestic firms were valued at \$92 million, U.S. imports were valued at approximately \$10 million, and U.S. exports were valued at \$6.5 million.

Imports of malleable cast-iron pipe and tube fittings fell from 28 million pounds in 1972 to 13 million pounds in 1974, and then increased to 22 million pounds in 1976; imports continued to rise in January-April 1977. In terms of quantity (poundage), imports amounted to 17.4 percent of domestic production and 15.0 percent of apparent domestic consumption in 1972. In 1976, these ratios were 17.2 percent and 15.3 percent, almost identical to those in 1972, although they had been significantly lower in the intervening years. Japan was the principal source of U.S. imports from 1972 through 1976, accounting for two-thirds to nine-tenths of total quantities imported. The Republic of China (Taiwan) and the Republic of Korea, both designated as beneficiary countries eligible for duty-free treatment under the Generalized System of Preferences, are growing in importance as sources for imports of malleable cast-iron pipe fittings.

U.S. production of malleable cast-iron pipe and tube fittings since 1971 has fluctuated between a high of 171 million pounds in 1973 and a low of 123 million pounds in 1975; output in 1976, at 129

million pounds, remained well below production levels in 1972, 1973, and 1974. Domestic producers' shipments of malleable cast-iron fittings, based on quantity measured in pounds, followed a similar pattern, as did apparent domestic consumption. Exports rose in 1973 and 1974, the peak production years for the domestic industry, but still accounted for only 4 percent of total production between 1972 and 1976. Inventories held by domestic producers have been relatively stable at about 51 million to 54 million pounds since 1972. Capacity utilization rates in the industry have fallen almost steadily from nearly 80 percent in 1973 to less than 60 percent in 1976.

Net operating profit (before tax) on the malleable cast-iron pipe and tube fitting operations of the U.S. producers declined each year between 1972 and 1975 before registering an increase in 1976. The same pattern occurred for the ratio of net operating profit to net sales, which declined from 13 percent in 1972 to 4.3 percent in 1975 and then increased to 6.4 percent in 1976.

REPORT TO THE PRESIDENT

United States International Trade Commission
September 29, 1977

To the President:

In accordance with section 201(d)(1) of the Trade Act of 1974 (Trade Act), the United States International Trade Commission herein reports the results of an investigation relating to malleable cast-iron pipe and tube fittings.

The investigation (Inv. No. TA-201-26) was undertaken to determine whether cast-iron pipe and tube fittings, malleable, provided for in items 610.70, 610.71, and 610.74 of the Tariff Schedules of the United States (TSUS), are being imported into the United States in such increased quantities as to be a substantial cause of serious injury, or the threat thereof, to the domestic industry producing articles like or directly competitive with the imported articles.

The Commission instituted the investigation, under the authority of section 201(b)(1) of the Trade Act, on April 13, 1977, following receipt on March 29, 1977, of a petition for import relief under section 201 of the Trade Act of 1974 (19 U.S.C. 2251) filed by the American Pipe Fittings Association, representing the eight domestic producers of malleable cast-iron pipe and tube fittings.

The Commission held a public hearing on this matter in Washington, D.C., on June 21, 1977.

Notice of the institution of the investigation and time and place of the hearing was published in the Federal Register of April 19, 1977 (42 F.R. 20355).

The information for this report was obtained from field work and interviews by members of the Commission's staff, from other Federal agencies, from responses to the Commission's questionnaires, from information presented at the public hearings, from briefs submitted by interested parties, and from the Commission's files.

A transcript of the hearing and copies of briefs submitted by interested parties in connection with the investigation are attached. 1/

1/ Attached to the original report sent to the President, and available for inspection at the U.S. International Trade Commission, except for material submitted in confidence.

DETERMINATION OF THE COMMISSION

On the basis of the investigation, the Commission unanimously determines that cast-iron pipe and tube fittings, malleable, provided for in items 610.70, 610.71 and 610.74 of the TSUS, are not being imported into the United States in such increased quantities as to be a substantial cause of serious injury, or the threat thereof, to the domestic industry producing articles like or directly competitive with the imported articles.

Views of the Commission

On March 29, 1977, the American Pipe Fittings Association petitioned the United States International Trade Commission for import relief under section 201 of the Trade Act of 1974. The Commission instituted an investigation on April 13, 1977, to determine whether cast-iron pipe and tube fittings, malleable, provided for in items 610.70, 610.71, and 610.74 of the Tariff Schedules of the United States, are being imported into the United States in such increased quantities as to be a substantial cause of serious injury, or the threat thereof, to the domestic industry producing articles like or directly competitive with the imported article.

Section 201(b)(1) of the Trade Act requires that each of the following conditions must be satisfied before an affirmative determination can be made:

- (1) Imports of an article into the United States are increasing (either actually or relative to domestic production);
- (2) The domestic industry producing an article like or directly competitive with the imported article is being seriously injured, or threatened with serious injury; and
- (3) Increased imports are a substantial cause (i.e., an important cause and not less than any other cause) of serious injury, or the threat thereof, to the domestic industry producing an article like or directly competitive with the imported article.

Determination

On the basis of information obtained in the present investigation, we have determined that malleable cast-iron pipe and tube fittings are not being imported into the United States in such increased quantities as to be a substantial cause of serious injury, or the threat thereof, to the domestic industry producing articles like or directly competitive with the imported articles.

The domestic industry

We have determined that the domestic industry in the present investigation consists of facilities in the United States devoted to the production of malleable cast-iron pipe and tube fittings (hereinafter referred to as the domestic industry). There are eight firms operating such facilities.

No serious injury or the threat thereof caused by imports

Section 201(b)(2) of the Trade Act outlines certain guidelines which the Commission is to take into account in determining whether serious injury, or the threat thereof, exists. In determining whether serious injury exists, the Commission is directed by the Trade Act to take into account all economic factors which it considers relevant, including the significant idling of productive facilities in the industry, the inability of a significant number of firms to operate at a reasonable level of profit, and significant unemployment or underemployment within the industry. When evaluated in light of the foregoing, imports of malleable cast-iron

pipe and tube fittings are not causing serious injury to the domestic industry within the meaning of the act.

Information obtained in this investigation establishes that the domestic industry supplied about 85 percent of domestic consumption of malleable cast-iron pipe and tube fittings in 1976. This is about the same percentage supplied by the domestic industry in 1972 and only slightly below the 1972-76 average of approximately 88 percent.

The net sales of the domestic industry in 1976 were the highest in the last five years, with the exception of 1974, a recession year. Responses to the Commission's questionnaire show that although the ratio of net operating profit to net sales declined between 1972 and 1975, it increased from 1975 to 1976, when imports were increasing. Moreover, if the poor financial performance of a domestic producer that experienced a five-month strike in 1976 is excluded from the aggregate industry profit-and-loss data, the domestic industry projected an even stronger profit image, recording a higher average profit ratio than that reported for all fabricated metal products producers in 1976.

The recent domestic financial picture is complemented by domestic price trends for the articles covered in this investigation. For the period 1972 through the first quarter of 1977, trends indicate that domestic prices have nearly doubled.

During 1972-76 no firms left the domestic industry, and the only plant closing was temporary and due to a strike. During the same

period, there was a rise in the production capacity of the domestic industry. The increase in capacity is the result of new more efficient equipment being installed by a number of the members of the domestic industry. Capacity utilization has declined from the high level reached in 1973; however, the decline occurred in part because the increase in capacity noted above took place during a concurrent slump in demand which began in 1974.

Information obtained during the investigation shows that although there was some reduction in employment in 1975 and 1976, employment increased during January-April 1977. The decline in employment in 1975 and 1976 reflected the reduced consumption during those years while the industry's productivity reached an all-time high in 1976.

In determining whether there is a threat of serious injury, the Commission is directed to take into account all economic factors it considers relevant, including a decline in sales, a higher and growing inventory, and a downward trend in production, profits, wages, or employment. An evaluation of the information obtained in the Commission's investigation does not support a finding of threat of serious injury. Sales of domestic malleable cast-iron pipe and tube fittings increased 9.3 percent from 1975 to 1976. As noted earlier, profit also climbed in that period. Production rose by 4.6 percent in the same period. Inventories were at a five-year low at the end of 1976 having declined by over 11 percent from 1972 levels. In addition, new construction activity, to which

the production of malleable cast-iron pipe and tube fittings is closely related, appears to be maintaining its upward trend.

Conclusion

From the foregoing, we have determined that malleable cast-iron pipe and tube fittings are not being imported in such increased quantities as to be a substantial cause of serious injury or the threat thereof to the domestic industry.

INFORMATION OBTAINED IN THE INVESTIGATION

Introduction

On March 29, 1977, the American Pipe Fittings Association filed a petition with the United States International Trade Commission for import relief under section 201 of the Trade Act of 1974. The petition was supported by the International Molders and Allied Workers Union and the International Association of Machinists and Aerospace Workers.

On April 13, 1977, the Commission instituted an investigation under section 201(b) of the act to determine whether malleable cast-iron pipe and tube fittings, provided for in items 610.70, 610.71, and 610.74 of the Tariff Schedules of the United States (TSUS), are being imported into the United States in such increased quantities as to be a substantial cause of serious injury, or the threat thereof, to the domestic industry producing articles like or directly competitive with the imported articles.

The notice of the institution of this investigation and the place and time of the public hearing was published in the Federal Register of April 19, 1977 (42 F.R. 20355). The public hearing was held on June 21, 1977, in Washington, D.C.

Description and Uses

Malleable cast-iron pipe and tube fittings are made in part from malleable grades of pig iron and, after cooling and cleaning, are annealed. The annealing process for malleable cast-iron fittings continues for several days and improves the property of the metal by reducing its brittleness. It is not considered, for tariff purposes, to be an operation that advances the condition of the fittings beyond the casting stage.

Malleable fittings can be machined and subjected to stress with less likelihood of fracture than nonmalleable fittings. Virtually all malleable cast-iron pipe and tube fittings are advanced beyond the casting stage; the additional processing consists of machining, principally threading. Nonadvanced malleable fittings are also included in the scope of this investigation since these items can be imported and machined domestically. Therefore, they can be considered as reasonably close substitutes for advanced malleable fittings.

Pipe fittings serve to join pipes in straight lines, change direction of piping systems, provide access for cleaning and branching in piping systems, and reduce or increase the diameters of piping systems. Malleable cast-iron pipe fittings are available in some 3,000 or more shapes and sizes; the most common are elbows, tees, couplings,

unions, reducers, bushings, flanges, traps, and caps. The fittings considered here are commonly produced with inside diameters of 1/8 inch to 6 inches; other diameters are available on special order. These fittings are produced in both black (ungalvanized) and galvanized form.

In addition to the traditional malleable cast-iron pipe fittings described above, a new type of fitting which is easier to install has recently been imported into the U.S. market. Since the fitting is not threaded, it is currently being imported under TSUS item 610.70 (see section on tariff treatment). ITT-Grinnell Corp., one of the domestic producers of malleable cast-iron pipe fittings, is considering production of this new grooved fitting. 1/

The principal application for malleable cast-iron pipe and tube fittings, which are used with many types of pipe, is in piping systems capable of withstanding pressures of up to 300 pounds per square inch (e.g. gas pipelines, piping systems of oil refineries, and gas and water systems of buildings). Copper and plastic pipe fittings are used in lower pressure residential and commercial building piping systems, both in water service and distribution and in drainage, waste, and vent applications. There is some evidence that in the 1950's and 1960's plastic and/or copper fittings may have displaced malleable cast-iron fittings in certain uses, especially in residential systems. Since at least 1973, however, market structures have been such that there is little or no direct competition between malleable cast-iron fittings and fittings of plastic or copper in most applications.

U.S. Tariff Treatment

Cast-iron pipe and tube fittings, malleable, advanced in condition by operations or processes subsequent to the casting process (hereinafter referred to as advanced malleable cast-iron pipe and tube fittings) are classified under TSUS item 610.74 at a column 1 rate of duty of 11 percent ad valorem. The current rate of duty represents a reduction, pursuant to the Kennedy round reductions, from 22.5 percent ad valorem applicable on December 31, 1967.

Cast-iron pipe and tube fittings, malleable, not advanced in condition by operations or processes subsequent to the casting process, are classified under TSUS items 610.70 (cast iron, other than alloy cast iron) and 610.71 (alloy cast iron). TSUS item 610.70--hereinafter referred to as nonalloyed, nonadvanced, malleable cast-iron pipe and tube fittings--was not subject to Kennedy round reductions; its column 1 rate of duty--8 percent ad valorem--has been in effect since July 1, 1963.

1/ See transcript of the hearing, p. 97.

TSUS item 610.71--hereinafter referred to as alloyed, nonadvanced, malleable cast-iron pipe and tube fittings--has a column 1 rate of duty of 10 percent ad valorem plus additional duties. This is a reduction, pursuant to the Kennedy round, from the 12 percent ad valorem rate of duty applicable on December 31, 1967. The tabulation below contains a summary of the column 1 additional duties applicable to those alloyed, nonadvanced, malleable cast-iron pipe fittings which contain, by weight, one or more of the listed elements in the quantity indicated. Fittings entered under TSUS item 610.71 may be misclassified, however, since alloyed malleable iron is generally rare or unknown in foundry practice.

Quantity of element	Additional duties
Over 0.2 percent of chromium-----	75 cents/lb
Over 0.1 percent of molybdenum-----	17.5 cents/lb
Over 0.3 percent of tungsten-----	25 cents/lb
Over 0.1 percent of vanadium-----	20 cents/lb

Imports of malleable cast-iron pipe and tube fittings under all three TSUS items from designated beneficiary countries are eligible for duty-free treatment under the Generalized System of Preferences (CSP) (see section on sources of U.S. imports).

The Question of Increased Imports

U.S. imports

Imports of malleable cast-iron pipe and tube fittings consist mainly of those types of fittings produced and used in the United States in the largest volume. These are 1/2-inch to 2-inch (inside diameter) 90° and 45° malleable elbows and malleable tees, in both ungalvanized (black) and galvanized form. The proportions of both imports and domestic production accounted for by various types are shown in the table on the following page.

The "high volume" fittings mentioned above were a larger proportion of imports than of production in 1972, 1974, 1975, and January-April 1977. This was especially true in 1972 and the early part of 1977, when a markedly higher proportion of imports were 1/2- to 2-inch 90° galvanized elbows. In 1973, 1976, and January-April 1976, the share of total domestic production taken by high volume fittings was greater than that of imports, especially for 1/2- to 2-inch 90° black elbows. Imports have not been consistently higher in the high volume fittings category.

Malleable cast-iron pipe and tube fittings: Percentage distribution of U.S. imports and U.S. production, by product types, 1972-76, January-April 1976, and January-April 1977

Product type	1972		1973		1974		1975		1976		January-April--			
											1976		1977	
	U.S. imports	U.S. production	U.S. imports	U.S. production	U.S. imports	U.S. production	U.S. imports	U.S. production	U.S. imports	U.S. production	U.S. imports	U.S. production	U.S. imports	U.S. production
Total-----	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Malleable fittings, 1/2"-2":	48	40	30	42	42	39	41	40	38	40	40	46	46	36
90° elbow, black-----	8	13	5	14	7	12	6	13	9	15	10	18	13	11
90° elbow, galvanized---	24	14	12	15	22	14	21	14	16	12	18	13	18	9
Tee, black-----	3	5	3	5	3	5	3	5	4	5	4	4	5	6
Tee, galvanized-----	10	6	8	6	8	6	8	6	7	6	6	7	8	6
45° elbow, black-----	1	1	1	1	1	1	1	1	1	1	1	2	1	2
45° elbow, galvanized---	2	1	1	1	1	1	2	1	1	1	1	2	1	2
All other malleable fittings-----	43	44	62	41	49	47	49	39	53	42	48	37	44	47
Malleable unions-----	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Malleable fittings--not advanced-----	***	***	***	***	***	***	***	***	***	***	***	***	***	***

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

During 1972-76, imports of malleable cast-iron pipe and tube fittings (both advanced and nonadvanced) were highest in 1972 and 1976 but dropped sharply in the intervening years, with the low point in 1974 (see table 1 in app. A and fig. 1 on the following page). As a result, the trend line for the period 1972-76 is slightly downward; when import data for 1972 are not included, however, the trend line moves slightly upward for the period 1973-76. Import data covering January-April 1976 and January-April 1977 indicate a continuation of the upward trend evident since 1974.

About 97 percent of all imports of malleable cast-iron pipe fittings in 1976 were advanced in form (TSUS item 610.74) (see the table below). As a result, the import trend line for advanced malleable pipe fittings (fig. 2) was almost identical to that for all malleable fittings. Of the remaining 3 percent, virtually all were nonalloyed, nonadvanced fittings (TSUS item 610.70). The negligible amount of imports which were entered as alloyed, nonadvanced fittings (TSUS item 610.71) may have been misclassified, as explained earlier. The import trend line for nonadvanced malleable pipe fittings was constant for the period 1972-76 (fig. 3).

Malleable cast-iron pipe and tube fittings: Percentage distribution of imports, by form, 1972-76

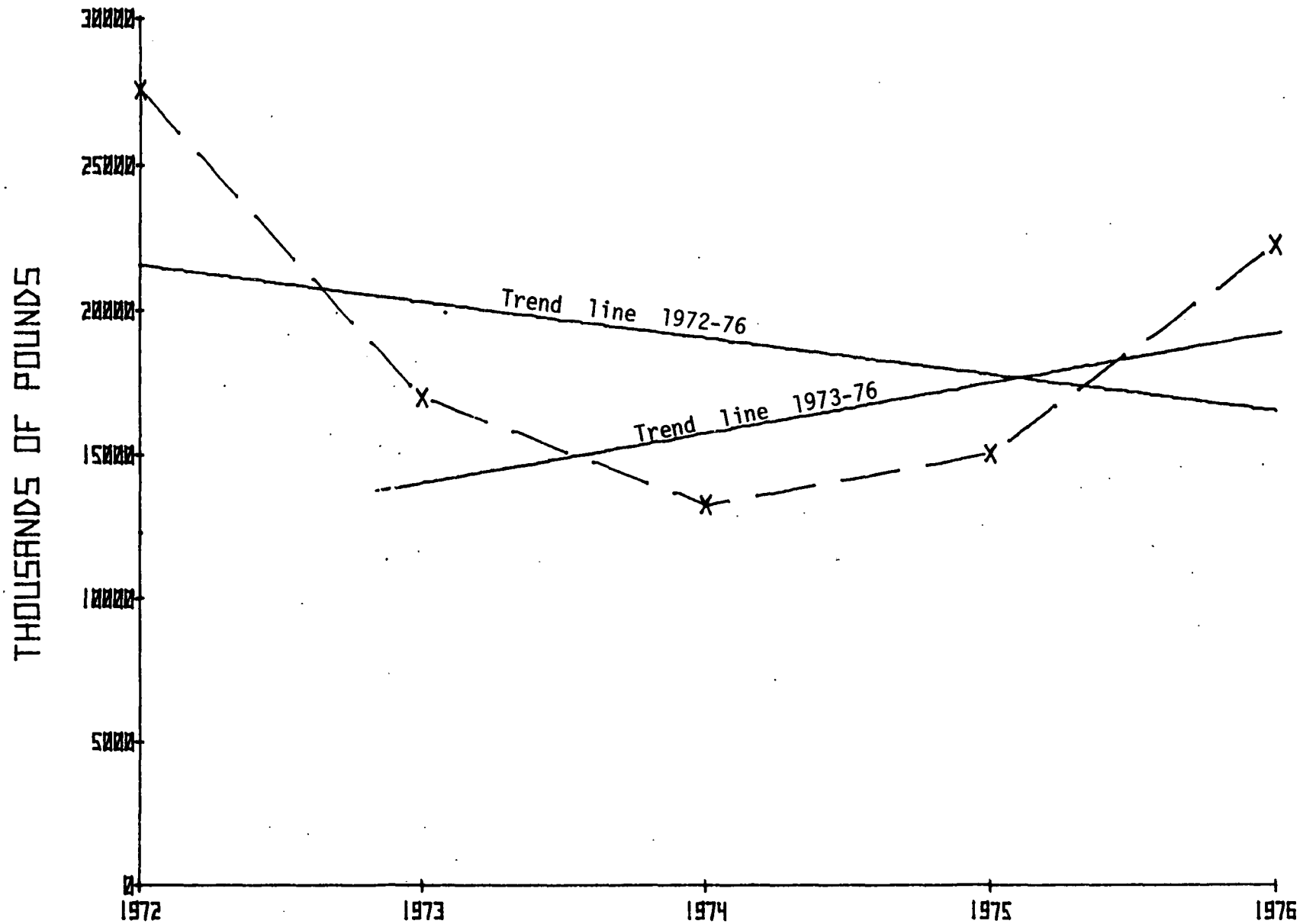
Form	: 1972	: 1973	: 1974	: 1975	: 1976
Advanced-----	: 98.3	: 95.4	: 90.7	: 97.4	: 96.7
Nonadvanced-----	: 1.7	: 4.6	: 9.3	: 2.6	: 3.3
	: :	: :	: :	: :	: :

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

Factors affecting U.S. imports

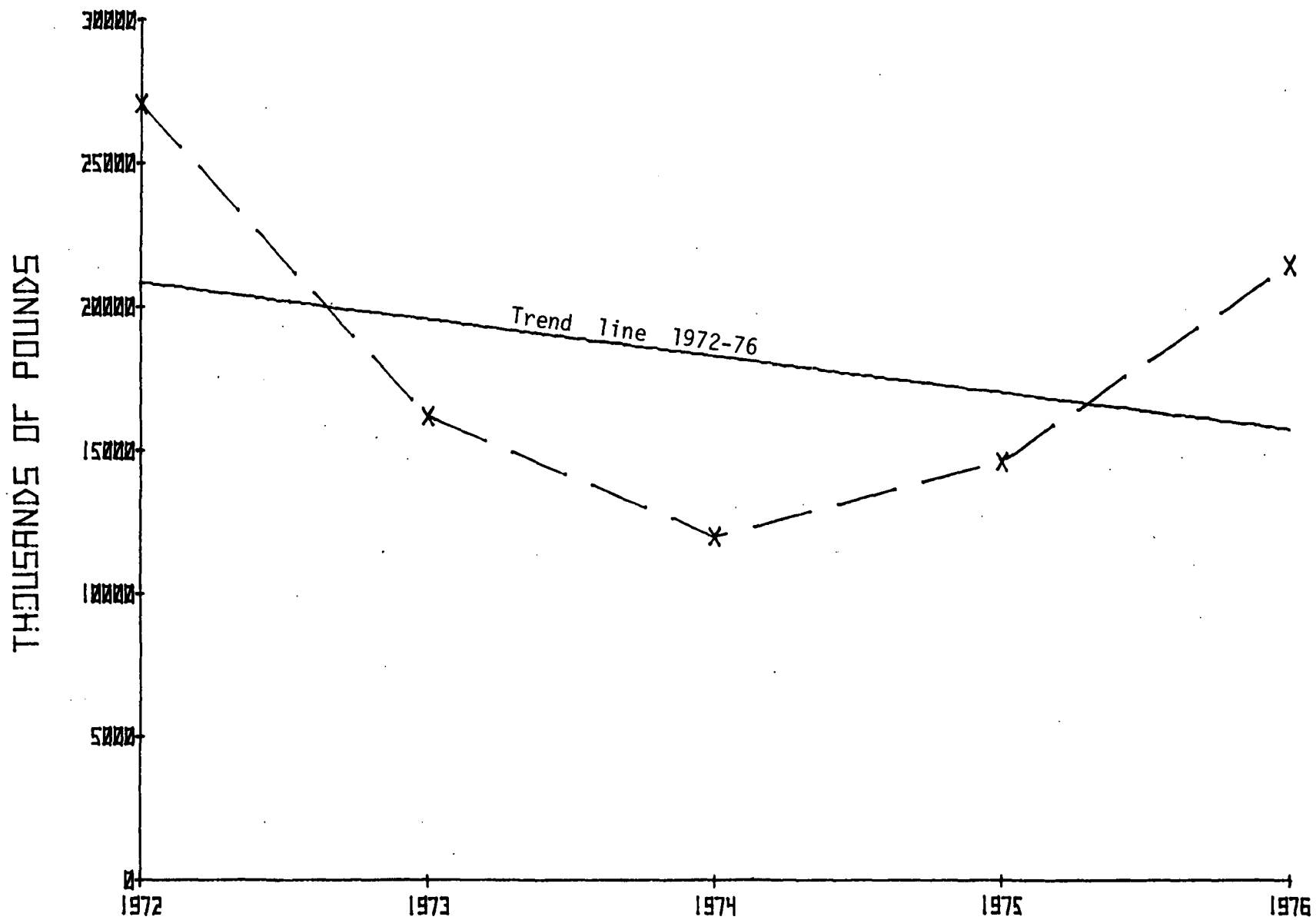
The principal factors which apparently affected U.S. imports of malleable cast-iron pipe and tube fittings were the 1973 steel shortage and the 1974-75 recession in the United States: imports declined markedly in 1973 and 1974. The economic recovery which began in the second half of 1975 reversed this trend; imports increased to meet demand while domestic production declined through 1975. Although domestic production increased in 1976 and early 1977, imports continued to rise at a faster rate.

Figure 1.--Malleable cast-iron pipe and tube fittings:
U.S. imports, 1972-76.



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

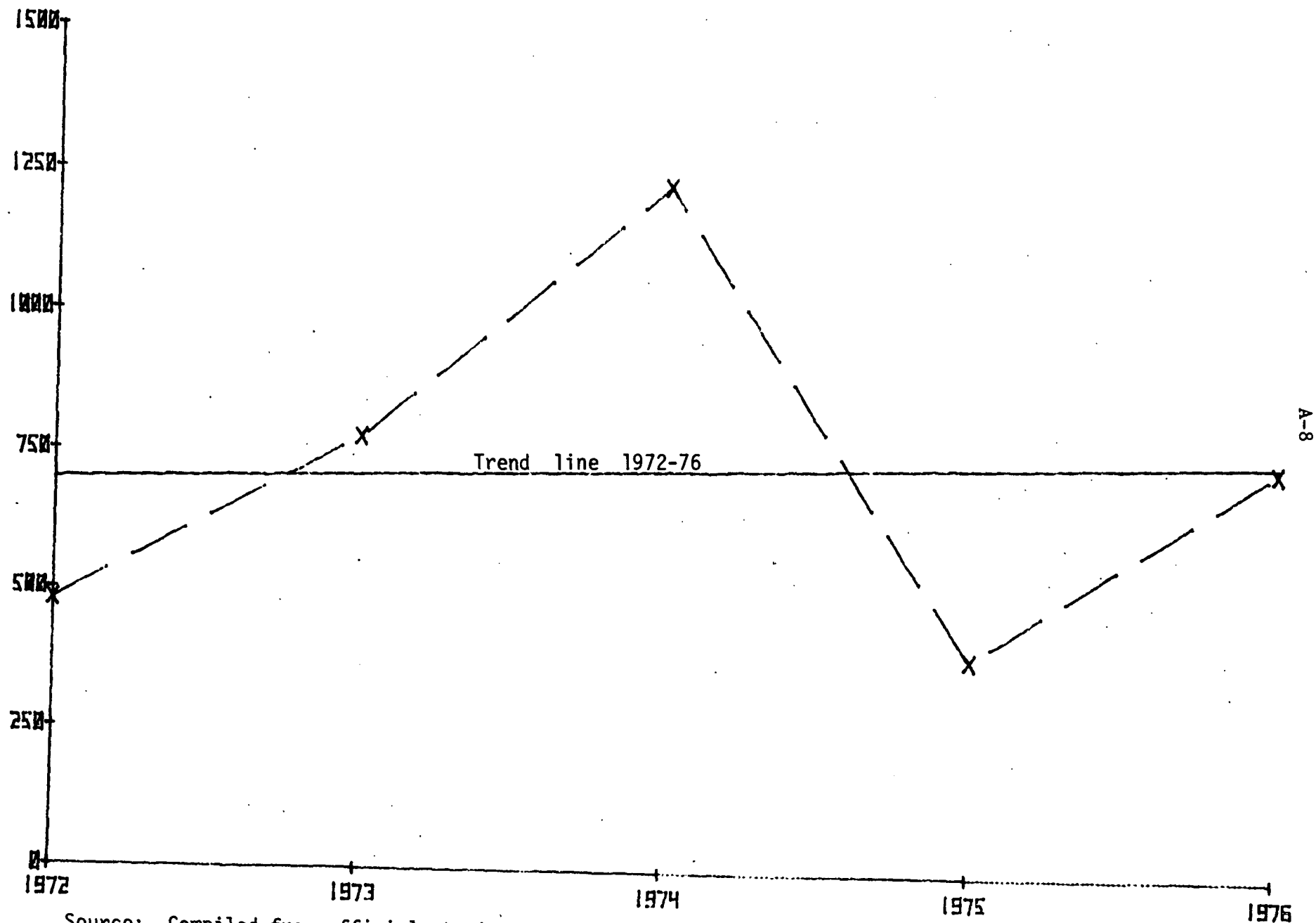
Figure 2.--Malleable cast-iron pipe and tube fittings, advanced: U.S. imports, 1972-76.



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

Figure 3.--Malleable cast-iron pipe and tube fittings, not advanced: U.S. imports, 1972-76.

THOUSANDS OF POUNDS



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

Sources of U.S. imports

During 1972-76, Japan was the principal source of U.S. imports of advanced malleable cast-iron pipe and tube fittings, accounting for two-thirds to nine-tenths of the total quantity imported (table 2). The only other import sources of note were Taiwan, Korea, the United Kingdom, and Canada. Imports of nonadvanced malleable cast-iron pipe fittings are shown in tables 3-5.

Imports of malleable cast-iron pipe fittings are eligible for duty-free treatment under the GSP, a provision of the Trade Act of 1974 which permits duty-free entry for designated products from certain developing countries. Taiwan and Korea, designated developing countries, are growing in importance as sources for imports of advanced malleable pipe fittings. The share of total imports (in terms of quantity) entered from these two GSP countries increased from 3.1 percent in 1975 to 13.5 percent in 1976. A comparison of import data for January-April 1976 and January-April 1977 indicates that this trend is continuing. Both the actual level of imports and the share of total quantity entered from Japan dropped, while the share of the total taken by Taiwan and Korea rose from 10.3 percent in January-April 1976 to 15.6 percent in the corresponding period of 1977.

Ratios of U.S. imports to production and consumption

The changes in the ratios of U.S. imports of malleable cast-iron pipe and tube fittings to U.S. production and consumption reflect the effects of the steel shortage in 1973 and the 1974-75 recession. The ratios of imports to domestic production and consumption rose in each year between 1974 and 1976; a comparison of 1972 and 1976 shows little change in the level of import penetration (see following table) and a decline in the actual level of imports.

Malleable cast-iron pipe and tube fittings: Ratios of imports to total U.S. production and consumption, 1972-76, January-April 1976, and January-April 1977

(In percent)							
Item	:	:	:	:	:	:	January-
	:	1972	1973	1974	1975	1976	April--
	:	:	:	:	:	:	1976 : 1977
Ratio of imports of malle-	:	:	:	:	:	:	:
able cast-iron pipe and	:	:	:	:	:	:	:
tube fittings to:	:	:	:	:	:	:	:
Production-----	:	17.4	9.9	8.2	12.2	17.2	13.6 : 14.0
Consumption-----	:	15.0	9.3	8.0	11.6	15.3	13.0 : 14.6
	:	:	:	:	:	:	:

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission and from official statistics of the U.S. Department of Commerce.

The Question of Serious Injury or Threat Thereof to the Domestic Industry

In determining whether the domestic industry is suffering serious injury or the threat thereof, the Commission may consider all relevant economic factors. Discussed below are producers' plant utilization rates, shipments, inventories, exports, employment, profitability, prices, capital and R. & D. expenditures, and industry efforts to compete with imports.

Production of malleable cast-iron pipe and tube fittings is not separately reported in statistics available from the U.S. Department of Commerce. Data compiled from questionnaire responses provided the detail necessary for this investigation and are hereafter used exclusively. All domestic producers responded to the questionnaire.

U.S. producers

Malleable cast-iron pipe and tube fittings are produced by eight U.S. companies, all of which are members of the American Pipe Fittings Association, the petitioner. Five of these companies--Stanley G. Flagg & Co., Inc., Stowe, Pa.; ITT-Grinnell Corp., Providence, R.I.; Stockham Valves & Fittings Co., Birmingham, Ala.; U-Brand Corp., Ashland, Ohio; and J. P. Ward Foundries, Inc., Blossburg, Pa.--produce all or a major part of the approximately 3,000 or more shapes and sizes which are considered to be

a full malleable cast-iron pipe fittings line. In addition, there are three smaller specialty firms--Dart Union Co., Providence, R.I.; Jefferson Union Co., Inc., Lexington, Mass.; and The Warwick Co., Warwick, R.I.—which produce primarily malleable cast-iron unions. 1/

The number of establishments producing malleable cast-iron pipe and tube fittings declined from 28 in 1950 to 8 in 1976. Half the domestic producers ceased operations between 1950 and 1960. The Commission located former executives of three ex-producers of malleable cast-iron fittings and asked them why their firms left the industry during the 1950's and 1960's. One cited the lower prices of Japanese imports and the other two cited general unprofitability of malleable fitting production resulting from overcapacity in the industry.

Only two firms have left the industry since 1960, which suggests that the major reductions in capacity in the industry were accomplished before the start of the present decade. No company left the industry during the period under consideration. Since 1972, in fact, industry capacity has increased by about 5 percent. There have been no new entries into the industry since 1950 among the reported producers, however. The following table lists the companies which produced malleable pipe fittings in the United States in 1950, 1960, 1970, and 1977.

1/ A union is a fitting composed of three parts which facilitates connection and disconnection of pipes by connecting the ends of two pipes, neither of which can be turned.

Malleable cast-iron pipe and tube fittings: U.S.
producers, specified years 1950 to 1977

Firm	1950	1960	1970	1977
Dart Union Co-----	X	X	X	X
Stanley G. Flagg & Co., Inc-----	X	X	X	X
ITT-Grinnell Corp-----	X	X	X	X
Jefferson Union Co., Inc-----	X	X	X	X
Stockham Valves & Fittings Co-----	X	X	X	X
U-Brand Corp-----	X	X	X	X
J. P. Ward Foundries, Inc-----	X	X	X	X
The Warwick Co-----	X	X	X	X
General Fittings Co-----	X	X	X	
Wheeling Machine Products Co-----	X	X		
Crane Co-----	X	X		
The Grabler Manufacturing Co-----	X	X		
Illinois Malleable Iron Co-----	X	X		
James Foundry Corp-----	X	X		
MIF-Detroit Pipe Fittings Division-----	X	X		
Ravena Iron Co-----	X	X		
W & K Manufacturing Co-----	X	X		
Walworth Co., Inc-----	X	X		
The Corley Co-----	X			
The Fanner Manufacturing Co-----	X			
Jarecki Manufacturing Co-----	X			
King Union Co., Inc-----	X			
Lockport Fittings Co-----	X			
Malleable Fittings Corp. of California--	X			
New England Union Co., Inc-----	X			
Jay H. Newbury & Sons, Inc-----	X			
Pittsburgh Valves & Fittings Co-----	X			
Rhode Island Fittings Co-----	X			

Source: American Pipe Fittings Association.

Utilization of productive facilities

To evaluate the extent of idling of productive capacity, the Commission asked the domestic producers to report their annual capacity to produce malleable cast-iron pipe and tube fittings for the years 1972-76 based on the operation of their facilities at two shifts a day, 5 days a week. Both capacity and utilization data are shown in the following table.

Malleable cast-iron pipe and tube fittings: Domestic production and practical capacity, 1/ 1972-76

Item	: 1972	: 1973	: 1974	: 1975	: 1976
Domestic produc-	:	:	:	:	:
tion---1,000 pounds--	:157,924	:171,111	:162,947	:123,439	: 129,124
Capacity-----do-----	:214,766	:215,428	:216,154	:223,366	: 225,332
Ratio of domestic	:	:	:	:	:
production to	:	:	:	:	:
capacity---percent--	: 74	: 79	: 75	: 55	: 57
	:	:	:	:	:

1/ Capacity data based on operation of facilities at two shifts a day, 5 days a week.

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

The ratio of domestic production to practical capacity peaked at 79 percent in 1973, which was also the year of highest production in the industry. Capacity continued to rise slightly during the ensuing 3 years, while production declined in 1974 and 1975. The industry operated at 55 percent of its productive capacity in 1975 and performed only marginally better in 1976.

Production data by detailed product types shown in the following table indicate that about 40 percent of total malleable fitting production is accounted for by six product types: 1/2- to 2-inch 90° elbows, tees, and 45° elbows.

Malleable cast-iron pipe and tube fittings: U.S. production, by product types, 1972-76, January-April 1976, and January-April 1977

(In millions of pounds)								
Product type	1972	1973	1974	1975	1976	Jan.-Apr.—		
						1976	1977	
Total-----	158	171	163	123	129	46	53	
Malleable fittings, 1/2"-2"---	64	72	63	49	52	21	19	
90° elbow, black-----	21	23	20	16	19	8	6	
90° elbow, galvanized-----	22	26	22	17	16	6	5	
Tee, black-----	7	8	8	6	7	2	3	
Tee, galvanized-----	10	11	10	7	8	3	3	
45° elbow, black-----	2	2	1	1	1	1	1	
45° elbow, galvanized-----	2	2	2	2	1	1	1	
All other malleable fittings-----	69	70	76	48	54	17	25	
Malleable unions-----	***	***	***	***	***	***	***	
Malleable fittings--not advanced-----	***	***	***	***	***	***	***	

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

U.S. producers' shipments

There was a significant decline in domestic producers' shipments (in terms of quantity measured in pounds) between 1972 and 1976, with the lowest shipment level occurring in 1975 (see the table on the following page). However, comparison of January-April data for 1976 and 1977 indicates that the increase in shipments which began in 1976 has continued into 1977.

As a result of price increases since 1972, producers' shipments in terms of value followed the opposite trend; rather than declining, the value of shipments rose to peaks in 1974 and 1976, with a drop in evidence only in 1975. Data for January-April 1977 show improvement over the corresponding period of 1976 similar to that exhibited by the quantity of shipments.

Malleable cast-iron pipe and tube fittings: U.S. producers' shipments, by product types, 1972-76, January-April 1976, and January-April, 1977

Product type	1972	1973	1974	1975	1976	January-April--	
						1976	1977
Quantity (million pounds)							
Total-----	161	174	161	120	131	44	48
Malleable fittings, 1/2"-2"----	71	74	66	50	55	19	19
90° elbow, black-----	22	24	21	16	19	6	6
90° elbow, galvanized-----	25	26	22	17	17	6	6
Tee, black-----	8	9	8	6	7	2	2
Tee, galvanized-----	12	11	11	8	9	3	3
45° elbow, black-----	2	2	2	1	1	1	1
45° elbow, galvanized-----	2	2	2	2	2	1	1
All other malleable fittings--	63	70	68	46	53	16	20
Malleable unions-----	***	***	***	***	***	***	***
Malleable fittings--not advanced-----	***	***	***	***	***	***	***
Value (million dollars)							
Total-----	73	83	91	81	92	31	36
Malleable fittings, 1/2"-2"----	25	26	30	27	30	11	11
90° elbow, black-----	7	7	8	8	9	3	3
90° elbow, galvanized-----	9	10	11	10	11	4	4
Tee, black-----	3	3	4	3	3	1	1
Tee, galvanized-----	4	4	5	4	5	2	2
45° elbow, black-----	1	1	1	1	1	<u>1/</u>	<u>1/</u>
45° elbow, galvanized-----	1	1	1	1	1	<u>1/</u>	<u>1/</u>
All other malleable fittings--	32	38	41	34	42	13	17
Malleable unions-----	***	***	***	***	***	***	***
Malleable fittings--not advanced-----	***	***	***	***	***	***	***

1/ Less than \$500,000.

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

Inventories

U.S. producers have maintained a relatively stable yearend inventory level since 1972. Consequently, the ratio of yearend inventories to shipments has fluctuated to reflect the changes in the level of shipments (fig. 4). The ratio ranged from 30 percent in 1973, the peak shipment year for domestic producers, to 44 percent in 1975, when total shipments were at the lowest point during the time period under consideration. The following tabulation shows yearend inventories of U.S. producers during 1972-76 (in thousands of pounds):

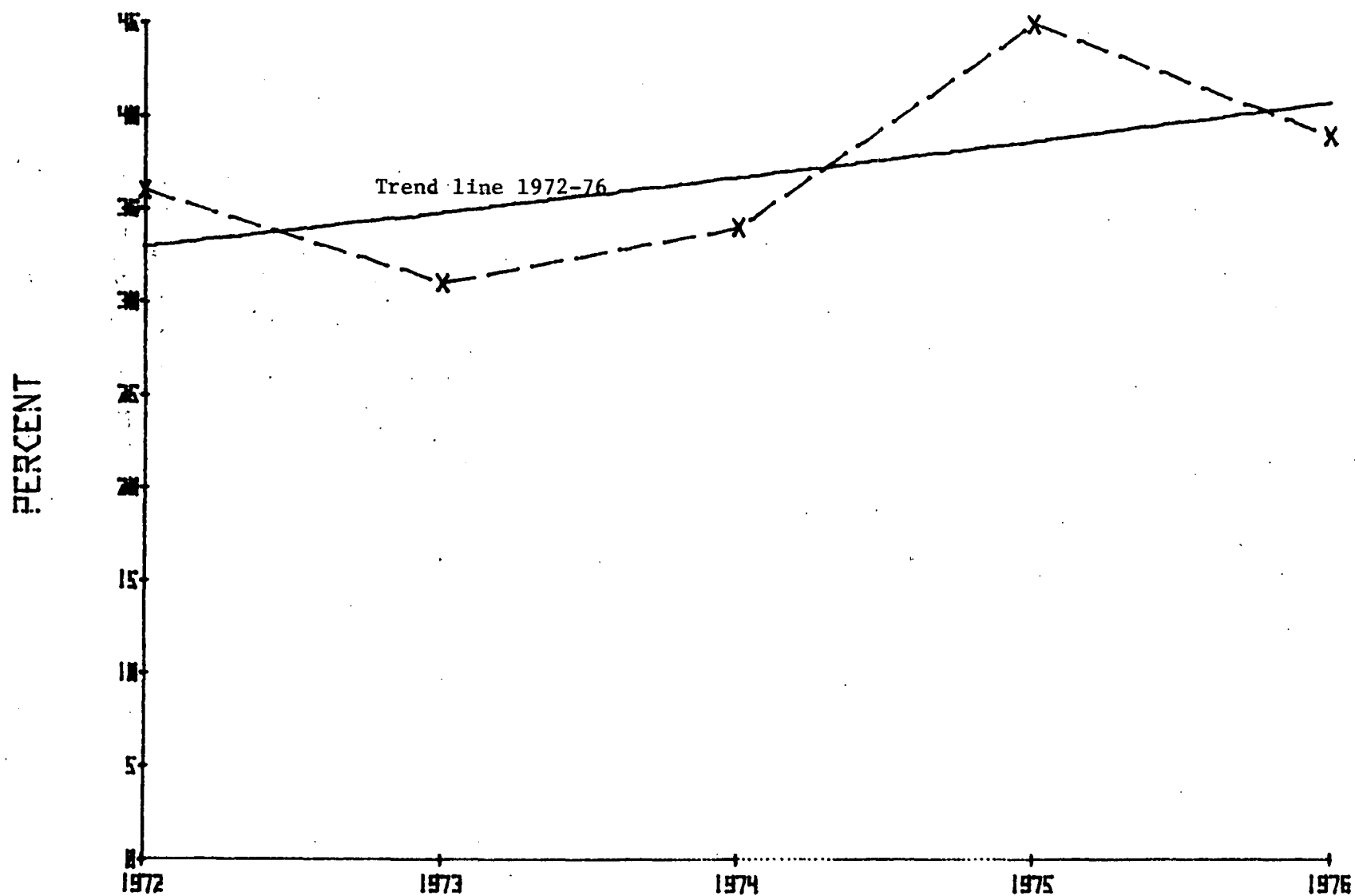
	<u>Quantity</u>
1972-----	58,200
1973-----	53,300
1974-----	53,800
1975-----	54,300
1976-----	51,500

U.S. exports

Exports of malleable cast-iron pipe and tube fittings accounted for only 4 percent of total production during 1972-76, and fluctuated considerably over the period. They rose in 1973 and 1974, the years of peak production for the domestic producers, dropped in 1975, and then rose again in 1976, as shown in the table on page A-18.

The principal market for U.S. exports has been Canada, which has received from 40 to 74 percent of domestic exports.

Figure 4.--Malleable cast-iron pipe and tube fittings; Ratios of yearend inventories to shipments, 1972-76,



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

Malleable cast-iron pipe and tube fittings: 1/ U.S. exports,
1972-76, January-April 1976, and January-April 1977

Period	Quantity	Value
	<u>1,000</u>	<u>1,000</u>
	<u>pounds</u>	<u>dollars</u>
1972-----	4,600	2,700
1973-----	7,500	5,400
1974-----	8,200	5,900
1975-----	4,600	4,600
1976-----	7,700	6,500
January-April--		
1976-----	1,900	1,700
1977-----	4,800	2,800

1/ Malleable cast-iron pipe and tube fittings are not separated into advanced and not advanced categories in official export statistics. The bulk of exports are believed to be advanced malleable cast-iron pipe and tube fittings.

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

Employment

The average number of production and related workers producing malleable cast-iron pipe fittings increased slightly between 1972 and 1973 and then declined for the remainder of the period, with a sharp drop in 1975 (see the following table). The pattern for man-hours worked is similar. The installation of more automated machinery was

Malleable cast-iron pipe and tube fittings: Average number of production workers, and man-hours worked, 1972-76, January-April 1976, and January-April 1977

Period	: Production :and related : workers	: Man- hours worked
		<u>1,000</u> hours
1972-----	3,137	6,185
1973-----	3,342	6,580
1974-----	3,317	6,385
1975-----	2,630	4,835
1976-----	2,499	4,712
January-April--		
1976-----	2,584	1,523
1977-----	2,841	1,721

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

coincidental with productivity gains in the industry in 1976. As shown below, the number of pounds of fittings produced per man-hour increased from 25.5 in 1975 to 27.4 in 1976:

	<u>Pounds per man-hour</u>
1972-----	25.5
1973-----	26.0
1974-----	25.5
1975-----	25.5
1976-----	27.4

Prior to 1976, however, the industry showed little or no productivity improvement.

Four petitions for adjustment assistance have been received by the U.S. Department of Labor; two, involving 190 workers, were approved. One of the petitions, on behalf of workers at an ITT-Grinnell facility in Princeton, Ky., was denied on February 17, 1977, because there had been no involuntary separations of production workers from November 1, 1975, to November 1, 1976. The 25 workers involved in this petition were determined to be service workers, not production workers, since they were employed in a warehouse operation.

The other petition, involving 90 workers at Stockham Valves & Fittings Co. in Birmingham, Ala., was denied on April 14, 1977. Stockham manufactures three products: valves, malleable cast-iron pipe fittings, and nonmalleable cast-iron pipe fittings. The Labor Department determined that there had been no involuntary separations from employment in valve or malleable cast-iron pipe fitting production but that involuntary separations had occurred in nonmalleable cast-iron pipe fitting production. Since there had been a decline in imports of nonmalleable cast-iron pipe fittings, both absolutely and relative to production, the petition for adjustment assistance was denied.

No petitions for adjustment assistance from companies in this industry have been received by the U.S. Department of Commerce.

Profit-and-loss experience of U.S. producers

The Commission asked the eight U.S. producers to supply detailed financial data on both their overall establishment operations and their malleable cast-iron pipe fitting operations. All the domestic producers supplied such data for 1972-76 (table 6).

Malleable cast-iron pipe and tube fitting operations.—Between 1972 and 1974, net sales rose steadily and peaked at \$91.2 million, fell in the following year, and then rose again to \$84.8 million in 1976 (see table below). Net operating profit (before taxes) on malleable cast-iron pipe and tube fitting operations declined each year between 1972 and 1975 before registering an increase to \$5.4 million in 1976. The same pattern occurred for the ratio of net operating profit to net sales, which declined from 13 percent in 1972 to 4.3 percent in 1975, and then increased to 6.4 percent in 1976.

Aggregate profit-and-loss experience of domestic producers on their malleable cast-iron pipe and tube fitting operations, 1972-76

Year	: Net sales :	:Net operating profit: before income taxes :	Ratio of net operating profit to net sales
	: <u>1,000</u> :	: <u>1,000 dollars</u> :	: <u>Percent</u> :
	: <u>dollars</u> :		
1972-----	: 72,277 :	: 9,397 :	: 13.0 :
1973-----	: 81,454 :	: 9,054 :	: 11.1 :
1974-----	: 91,211 :	: 6,925 :	: 7.6 :
1975-----	: 80,874 :	: 3,511 :	: 4.3 :
1976-----	: 84,838 :	: 5,436 :	: 6.4 :

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

A comparison of the above profit ratios with those of all fabricated metal products manufacturers and all manufacturing corporations shows that malleable cast-iron pipe and tube fitting operations were more profitable than the other two in 1972 and 1973, but less profitable in 1974-76 (see the following table).

Ratios of net operating profit or (loss) to net sales for domestic producers of malleable cast-iron pipe and tube fittings on their malleable cast-iron pipe and tube fitting operations, for producers of fabricated metal products, and for all manufacturing corporations, 1972-76

(In percent)						
Industry and company	1972	1973	1974	1975	1976	
Malleable cast-iron pipe and tube fittings:						
Dart-----	***	***	***	***	***	***
Flagg-----	***	***	***	***	***	***
Grinnell-----	***	***	***	***	***	***
Jefferson-----	***	***	***	***	***	***
Stockham-----	***	***	***	***	***	***
U-Brand-----	***	***	***	***	***	***
Ward-----	***	***	***	***	***	***
Warwick-----	***	***	***	***	***	***
Total-----	13.0	11.1	7.6	4.3	6.4	
Fabricated metal products-----	6.5	7.3	7.9	7.4	8.3	
All manufacturing-----	7.5	8.0	8.7	7.5	8.7	

1/ * * *.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission and from the Federal Trade Commission quarterly financial report for manufacturing operations.

* * * * *

Overall establishment operations.—The following table indicates that, in general, the domestic producers fared better on their overall establishment operations than on their malleable cast-iron pipe fitting operations. * * *. The domestic producers' ratio of net operating profit to net sales was higher than the comparable figure for all fabricated metal products producers and for all manufacturing corporations in every year except 1975, when it was marginally lower.

Ratios of net operating profit to net sales for domestic producers of malleable cast-iron pipe and tube fittings on their overall establishment operations, for producers of fabricated metal products, and for all manufacturing corporations, 1972-76

(In percent)						
Industry and company	1972	1973	1974	1975	1976	
Overall establishment						
operations of						
malleable cast-iron						
pipe fitting						
producers:						
Dart-----	***	***	***	***	***	***
Flagg-----	***	***	***	***	***	***
Grinnell-----	***	***	***	***	***	***
Jefferson-----	***	***	***	***	***	***
Stockham-----	***	***	***	***	***	***
U-Brand-----	***	***	***	***	***	***
Ward-----	***	***	***	***	***	***
Warwick-----	***	***	***	***	***	***
Total-----	14.0	11.6	9.0	7.2	10.2	
Fabricated metal prod-						
ucts-----	6.5	7.3	7.9	7.4	8.3	
All manufacturing-----	7.5	8.0	8.7	7.5	8.7	

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission and from the Federal Trade Commission quarterly financial report for manufacturing operations.

Investment in productive facilities.—The table on the following page presents the domestic producers' investment in productive facilities for both the establishments within which malleable cast-iron pipe fittings are produced and for operations on malleable cast-iron pipe fittings alone for 1972-76. The table also shows ratios of operating profit to investment in such facilities. * * *.

Malleable cast-iron pipe and tube fittings: Investment in productive facilities 1/ and net operating profit, 1972-76

Item and year	:	:	:	Ratio of net	
	:	Investment in	:	operating	
	:	productive	Net	profit to	
	:	facilities at	operat-	investment in	
Item and year	:	end of year	ing	productive	
	:		profit	facilities	
	:	Original:Net book:		Original:Net book	
	:	cost : value :		cost : value	
	:	<u>1,000</u> : <u>1,000</u> :	<u>1,000</u> :		
	:	<u>dollars</u> : <u>dollars</u> :	<u>dollars</u> :	<u>Percent</u> :	<u>Percent</u>
	:				
Total establishment	:				
operations:	:				
1972-----	:	60,278 : 31,636 :	15,920 :	26.4 :	50.3
1973-----	:	66,419 : 34,853 :	14,703 :	22.1 :	42.2
1974-----	:	72,989 : 38,310 :	12,987 :	17.8 :	33.9
1975-----	:	77,666 : 40,592 :	9,481 :	12.2 :	23.4
1976-----	:	84,530 : 43,342 :	13,976 :	16.5 :	32.2
Operations on malleable	:				
cast-iron pipe and	:				
tube fittings:	:				
1972-----	:	43,912 : 24,190 :	9,397 :	21.4 :	38.8
1973-----	:	47,516 : 25,692 :	9,054 :	19.1 :	35.2
1974-----	:	51,115 : 27,246 :	6,925 :	13.5 :	25.4
1975-----	:	54,880 : 29,211 :	3,511 :	6.4 :	12.0
1976-----	:	61,828 : 32,906 :	5,436 :	8.8 :	16.5
	:				

1/ * * *.

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

The domestic producers' total investment in productive facilities--in both original cost and book value--trended upward during 1972-76 for both total establishment operations and malleable cast-iron pipe and tube fitting operations. The ratio of net operating profit to investment in productive facilities--in both original cost and book value--was higher for total establishment operations than for malleable cast-iron pipe fitting operations in each of the years 1972-76. This was especially true in 1975 and 1976, when the return on investment in productive facilities was twice as high for total establishment operations as for operations on malleable pipe fittings.

The ratio of net operating profit to investment in productive facilities--in both original cost and net book value--declined steadily for total establishment operations between 1972 and 1975, and then rebounded in 1976 to nearly the 1974 levels. A similar downward trend in the return on investment in productive facilities for malleable cast-iron pipe and tube fitting operations occurred between 1972 and 1975. However, not only was the decline between 1974 and 1975 greater for malleable pipe fitting operations than for total establishment operations, but the recovery in 1976 was not as strong as for total operations of the establishments and the 1976 ratios were far below the comparable ratios for 1974.

The ratio of profit to investment in productive facilities should not be construed as a return on total investment. Total investment includes, in addition to investment in productive facilities, investment in working capital, in nonproductive facilities, and in other fixed assets.

Capital expenditures and research and development costs

Total capital expenditures for U.S. facilities in which malleable cast-iron pipe and tube fittings are produced increased from \$4.4 million in 1972 to \$6.5 million in 1976, with the largest increases in 1975 and 1976. The principal capital expense was the purchase of new automated equipment. There was a sharp jump in research and development expenses in 1974 and 1975, but such expenses were relatively low in the other years. Detailed information on capital expenditures and research and development costs is shown in the table on the following page.

Malleable cast-iron pipe and tube fittings: Capital expenditures and research and development expenses incurred by U.S. producers, 1972-76

(In thousands of dollars)					
Item	1972	1973	1974	1975	1976
Capital expenditures:					
Land and land improvements-----	24	33	5	8	29
Building and leasehold improvements-----	506	384	204	81	232
Machinery and equipment:					
New-----	3,858	3,592	3,718	4,818	6,087
Used-----	0	3	44	118	194
Other-----	3	2	155	154	1
Total-----	4,391	4,014	4,126	5,179	6,543
Research and development expenses-----	205	147	1,792	1,340	489

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

For the industry as a whole, the increases in capital expenditures and research and development costs between 1974 and 1976 coincided with the industry's lowest profit ratios. * * *.

Efforts of U.S. producers to compete with imports

U.S. producers were asked to describe their efforts in recent years to compete more effectively in the U.S. market. * * *.

The remaining six firms reported that they had engaged in one or more of the activities listed below in order to compete with imports:

(1) All six stated that they had installed additional automated production equipment, predominantly for molding and machining processes, in order to reduce labor costs and minimize price increases. * * *.

*

A substantial further discussion of efforts of U.S. producers to compete with imports is deleted as confidential.

*

Prices in the U.S. market

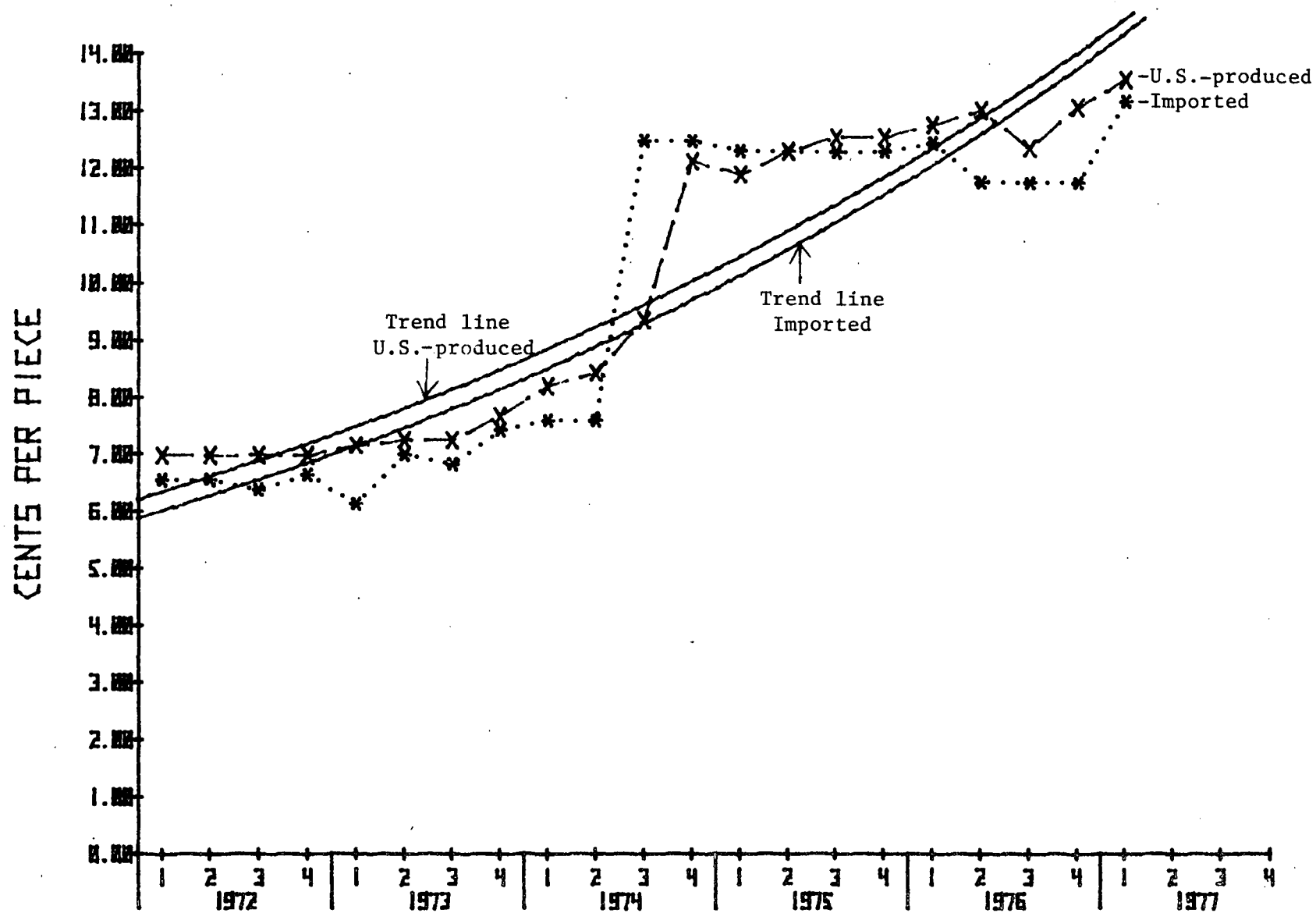
Pricing practices and discounts.—Both domestic and imported malleable cast-iron pipe and tube fittings are sold at published discounts from published list prices according to size of order. For example, a shipment of 50 cases of 1/2-inch 90° malleable elbows will be discounted 55 percent: A larger shipment of 500 cases will first be discounted 10 percent below the price resulting from the previously mentioned discount, and then the new price is further discounted by 5 percent. That resulting price is discounted by another 5 percent to arrive at the price for a carload shipment (40,000 pounds).

There is a major difference in the discounting practices of importers and domestic producers. * * *.

Price trends.—Both domestic producers and importers of malleable cast-iron pipe and tube fittings were asked to supply the lowest net selling price for six items (1/2-inch size) for each quarter during January 1972-March 1977. These prices were then weighted by the proportion of total quantity shipped by each producer or importer to obtain the weighted average lowest net delivered price for each of the six product types. The results are shown in figures 5 through 10 and in table 8.

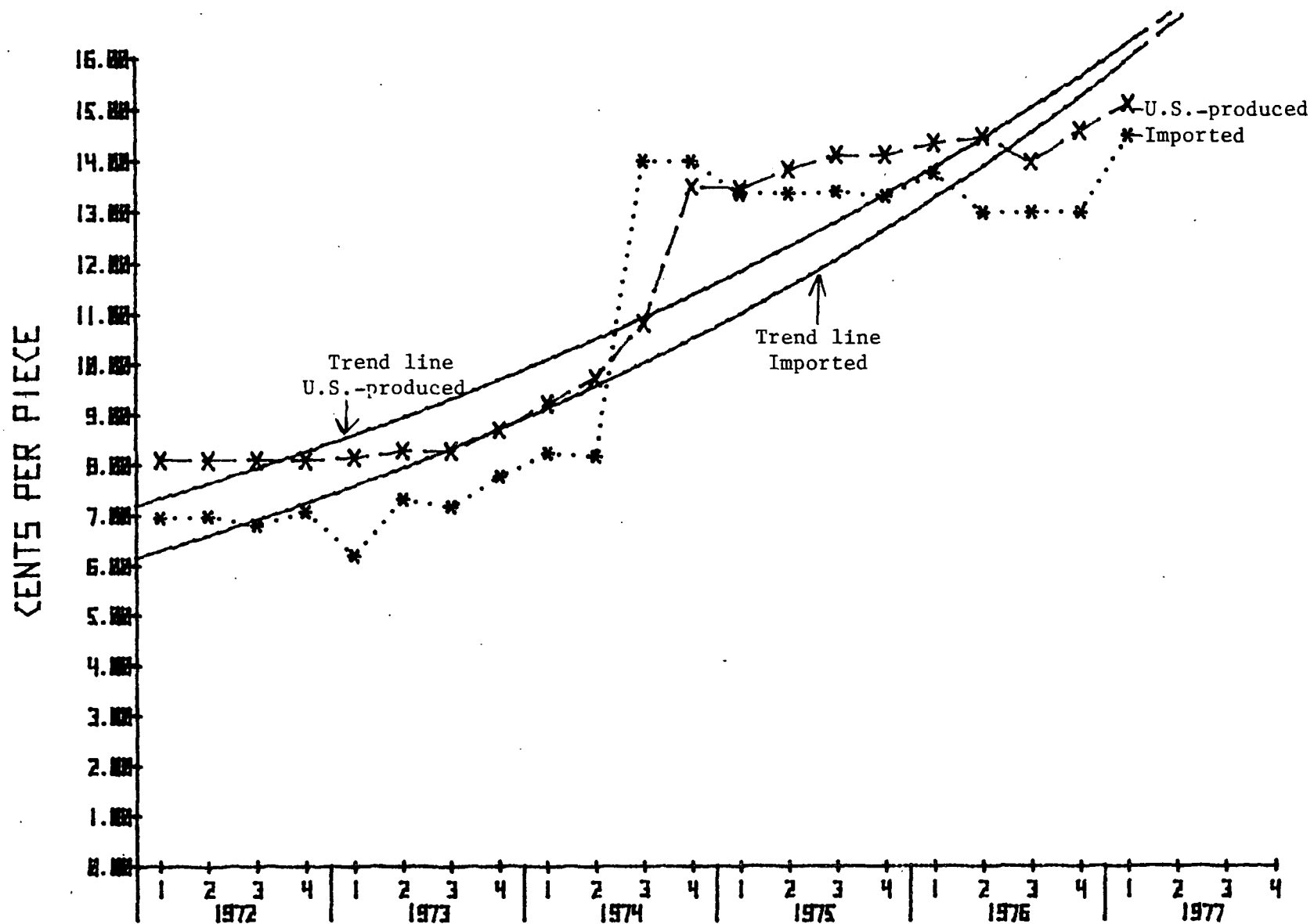
In general, prices for both domestic and imported malleable cast-iron pipe fittings were fairly constant between 1972 and the first half of 1974, with the exception of a temporary drop in import prices for the six items in the first quarter of 1973. Import prices rose markedly between the second and third quarters of 1974 as wage and price controls were removed, but comparable price increases for domestically produced articles did not occur until the final quarter of 1974, reflecting increases in basic-metal prices which had occurred several months earlier. There was a temporary decline in domestic prices in the third quarter of 1976 which did not last through the next quarter. In the fourth quarter of 1976, domestic prices for all six items rose, while the weighted average import price for the same items remained relatively constant. Despite an increase in the price of imported articles in the first quarter of 1977, the prices of imports remained from 3 to 6 percent below those of domestically produced pipe fittings.

Figure 5.--Malleable cast-iron pipe and tube fittings: Weighted average lowest net delivered price per piece for U.S.-produced and imported 90° elbows, black, by quarters, 1972-77.



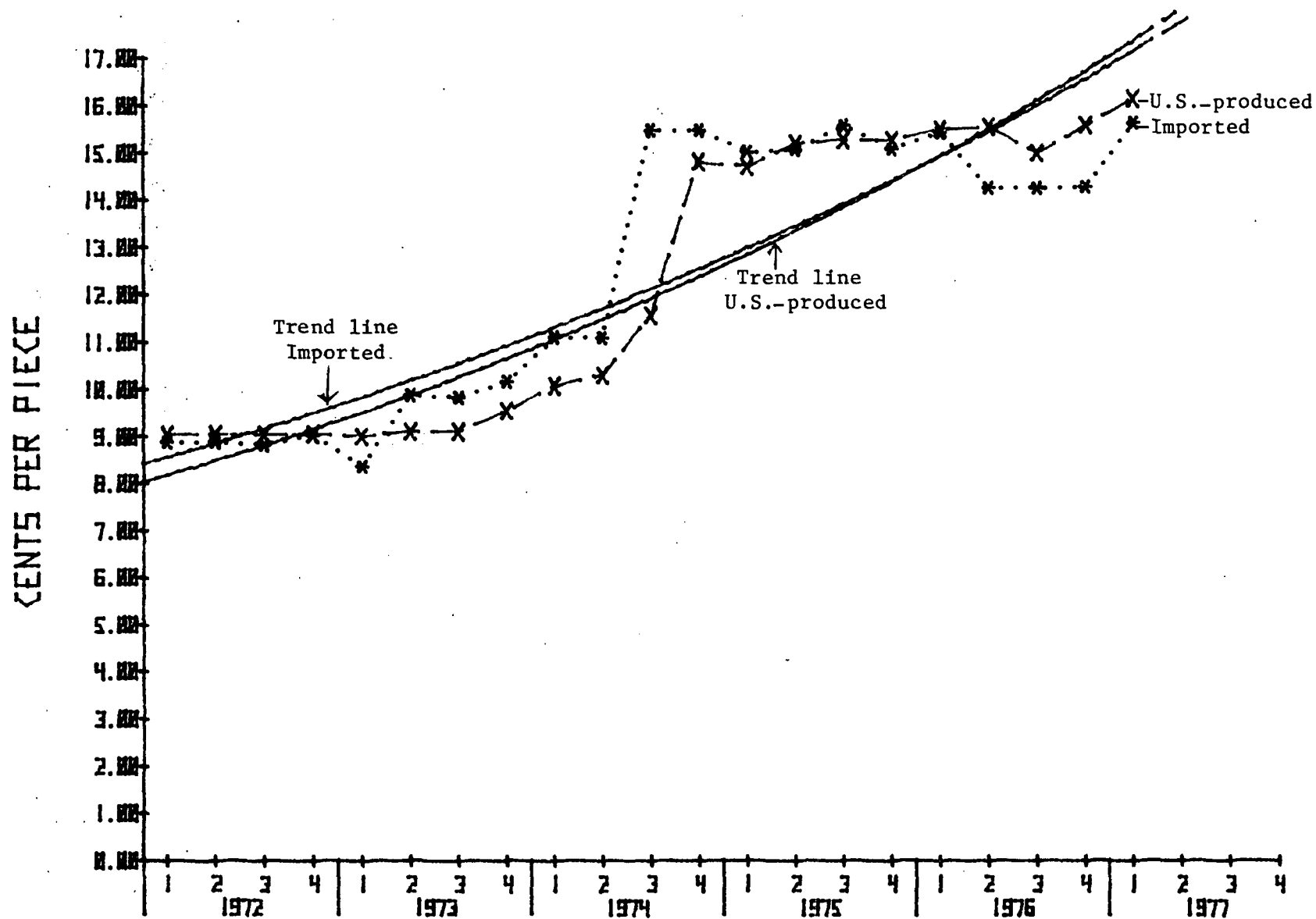
Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Figure 6.--Malleable cast-iron pipe and tube fittings: Weighted average lowest net delivered price per piece for U.S.-produced and imported 90° elbows, galvanized, by quarters, 1972-77.



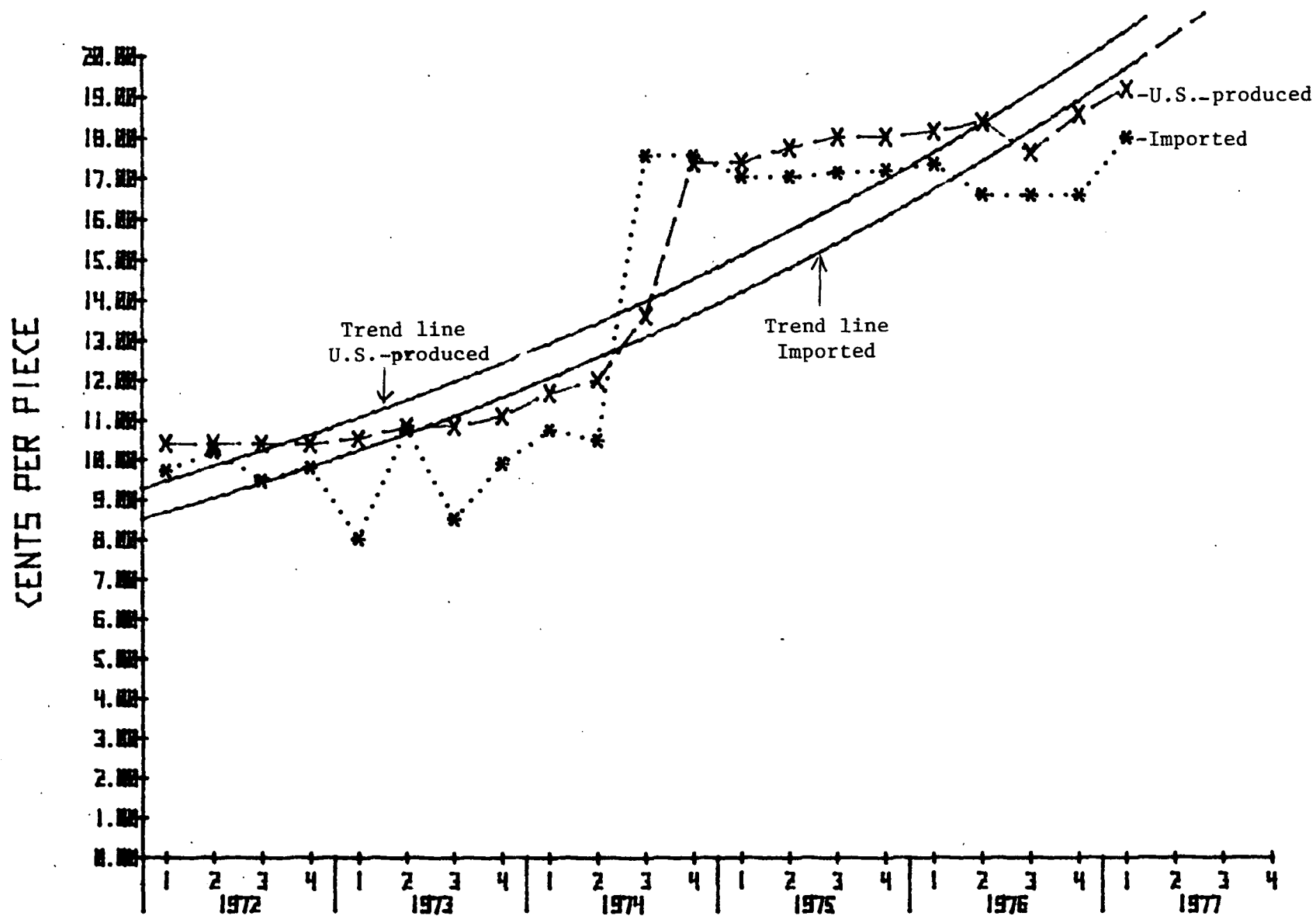
Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Figure 7.--Malleable cast-iron pipe and tube fittings: Weighted average lowest net delivered price per piece for U.S.-produced and imported tees, black, by quarters, 1972-77.



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

Figure 8.--Malleable cast-iron pipe and tube fittings: Weighted average lowest net delivered price per piece for U.S.-produced and imported tees, galvanized, by quarters, 1972-77.



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

Figure 9.--Malleable cast-iron pipe and tube fittings: Weighted average lowest net delivered price per piece for U.S.-produced and imported 45° elbows, black, by quarters, 1972-77.

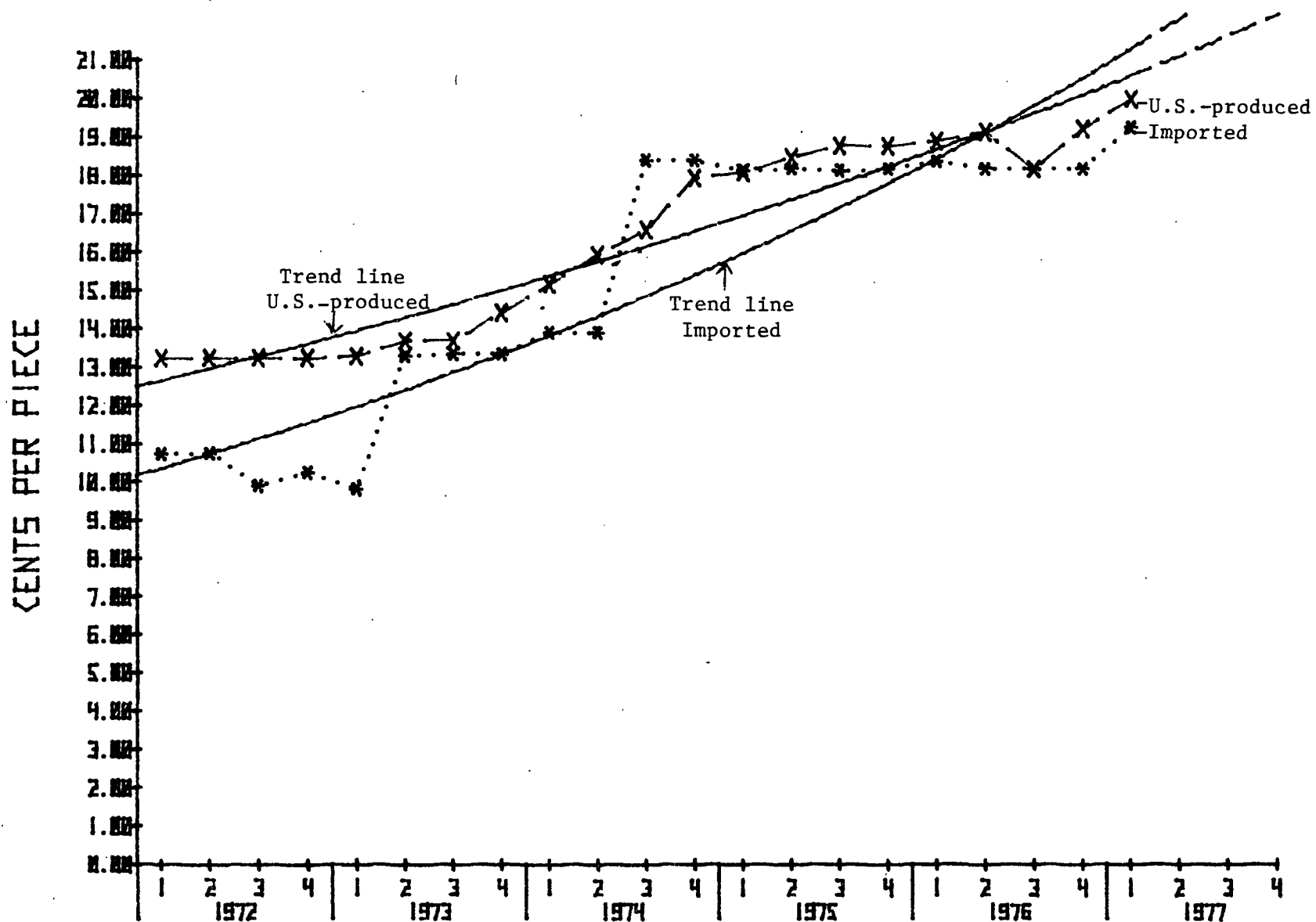
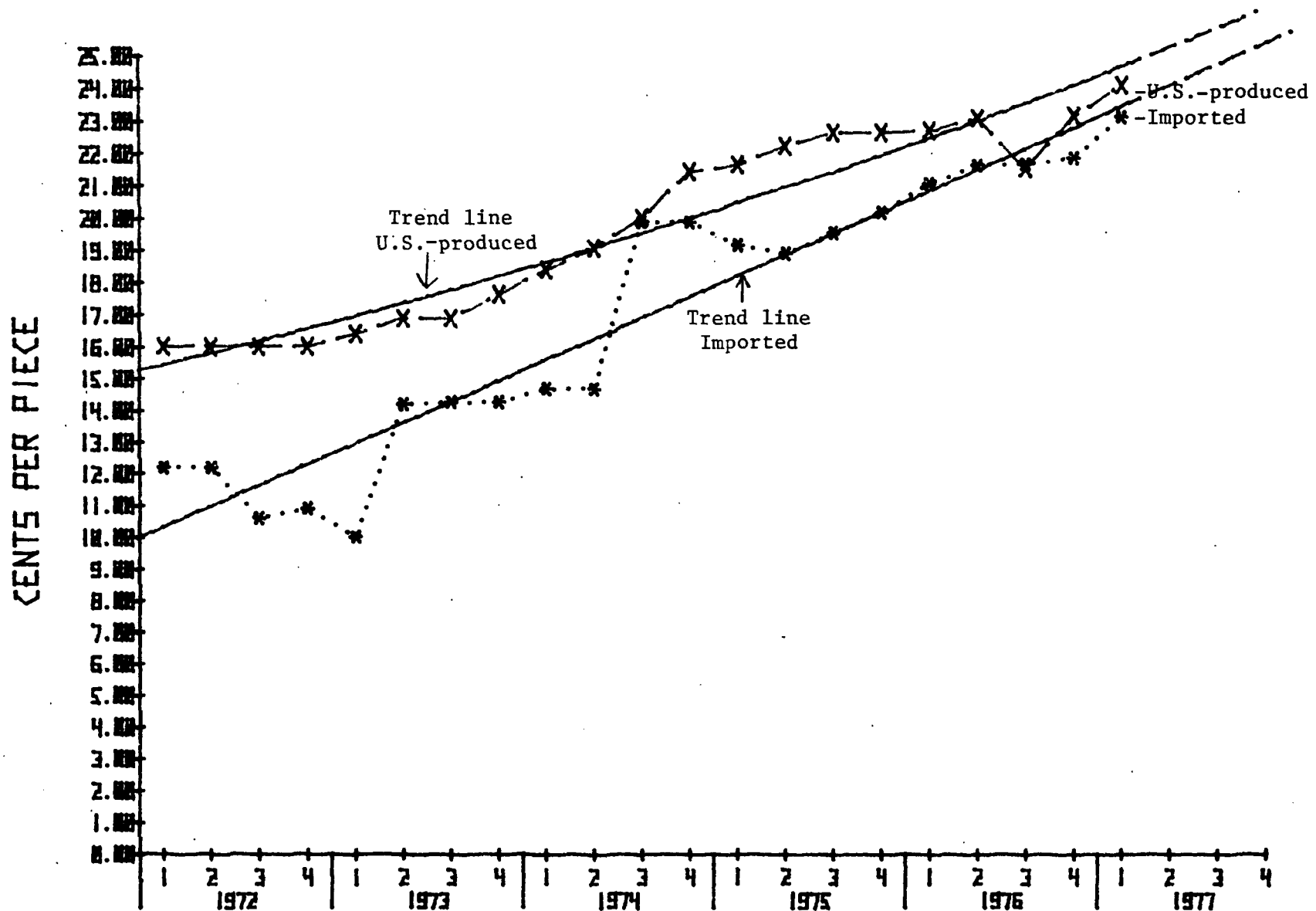


Figure 10.--Malleable cast-iron pipe and tube fittings: Weighted average lowest net delivered price per piece for U.S.-produced and imported 45° elbows, galvanized, by quarters, 1972-77.



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

The Question of Imports as a Substantial Cause of Serious Injury

The petitioners allege that increased imports are a substantial cause of serious injury, or the threat thereof. Section 201(b)(4) of the Trade Act of 1974 defines the term "substantial cause" to be "a cause which is important and not less than any other cause." Section 201(b)(2) of the Trade Act further states that the Commission, in determining whether increased imports are a substantial cause of injury, should consider all relevant economic factors, including, but not limited to, an increase in imports (either actual or relative to domestic production) and a decline in the proportion of the domestic market supplied by the domestic producers.

Apparent U.S. consumption

Apparent domestic consumption of malleable cast-iron pipe and tube fittings fell during 1972-76, with the sharpest drop occurring between 1974 and 1975, as indicated in the table below. Although there was a recovery in demand in 1976, domestic consumption of malleable pipe fittings remained below the level set in 1972, the peak year.

Malleable cast-iron pipe and tube fittings: Apparent U.S.
consumption, 1972-76

Year	: Apparent : consumption : 1,000 pounds :
1972-----	183,928
1973-----	183,239
1974-----	165,775
1975-----	130,111
1976-----	145,283
	:

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission and official statistics of the U.S. Department of Commerce.

Imports and market penetration

Although the actual level of imports was lower in 1976 than in 1972, there was a sharp jump from the 1975 level. The ratio of imports to apparent domestic consumption fell in 1973 and 1974 and then climbed back to the 1972 ratio in the next 2 years. As shown in the following table, the rise in the ratio of imports to consumption continued in January-April 1977, compared with the corresponding period of 1976.

Malleable cast-iron pipe and tube fittings: Ratios of imports to consumption, 1972-76, January-April 1976, and January-April 1977

(In percent)

Period	:Ratio of imports : to consumption
1972-----	15.0
1973-----	9.3
1974-----	8.0
1975-----	11.6
1976-----	15.3
January-April--	
1976-----	13.0
1977-----	14.6

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission and official statistics of the U.S. Department of Commerce.

Conversely, the share of the domestic malleable cast-iron pipe fitting market held by U.S. producers rose in 1973 and peaked in 1974 at 92 percent. The domestic producers' market share has been declining since 1974 and amounted to about 85 percent in January-April 1977, the same market share held by the domestic industry in 1972 (see the following table).

Malleable cast-iron pipe and tube fittings: Ratios of U.S. production to consumption, 1972-76, January-April 1976, and January-April 1977

(In percent)

Period	: Ratio of U.S. : production to : consumption
1972-----	85.0
1973-----	90.7
1974-----	92.0
1975-----	88.4
1976-----	84.7
January-April--	
1976-----	87.0
1977-----	85.4

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission and official statistics of the U.S. Department of Commerce.

Information developed during the investigation indicates that several former purchasers of domestic malleable cast-iron pipe and tube fittings have switched to imported pipe fittings in the last few years. The former purchasers most often cited among their reasons for buying imports the lower price and better quality of the imported article.

U.S. importers have submitted that one reason for the rapid growth of imports during the last year is a switch in marketing methods. The principal importer is establishing a warehouse system so that malleable cast-iron fittings can be supplied from inventories in the United States rather than being imported against orders received. 1/ Inventories of U.S. imports of such fittings are shown in the following table.

Malleable cast-iron pipe and tube fittings: Inventories of U.S. imports, 1972-76, January-April 1976, and January-April 1977

(In thousands of pounds)

Period	: Inven- : tories
1972-----	: ***
1973-----	: ***
1974-----	: ***
1975-----	: ***
1976-----	: ***
January-April--	:
1976-----	: ***
1977-----	: ***
	:

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

Other alleged causes of injury

U.S. importers contend that any alleged injury being suffered by domestic producers is due not to imports but to the decline in housing starts during the 1974-75 recession and to the substitution of plastic and, to a lesser extent, copper fittings for malleable cast-iron pipe fittings. 2/

The domestic producers of malleable cast-iron pipe and tube fittings contend that malleable cast-iron pipe fittings are seldom

1/ Transcript of the hearing, pp. 117-118.

2/ Transcript of the hearing, pp. 125-139.

used in residential applications at the present time and that the principal period of substitution of copper and plastic pipe fittings for those made of malleable cast-iron occurred several years ago. 1/ The testimony of the domestic producers also submitted that plastic pipe fittings are currently being substituted for copper and cast-iron (a different product than malleable cast-iron) in drainage applications.

No information that would support the statement that malleable cast-iron pipe and tube fittings face substantial competition from copper and plastic fittings in most applications was developed during the investigation.

The table on the following page presents data on total new construction, total private construction, and total residential and non-residential construction during 1972-76 and U.S. shipments and imports of malleable cast-iron pipe fittings during the same period. Changes in the level of U.S. shipments of malleable cast-iron pipe fittings corresponded more closely with changes in nonresidential construction activity than with any of the other types of construction activity, on a constant-dollar basis. For example, residential construction declined by 26 percent between 1973 and 1974, continued to drop between 1974 and 1975, and then increased between 1975 and 1976. Nonresidential construction and domestic shipments of malleable cast-iron pipe fittings both fell sharply between 1974 and 1975, a year later than the comparable decline in residential construction. Unlike residential construction, nonresidential construction did not improve between 1975 and 1976 and was actually lower in January-April 1977 than in the corresponding period of 1976. Shipments of malleable cast-iron pipe fittings increased by 8 percent between 1975 and 1976.

1/ Transcript of the hearing, pp. 166-169.

Total new, private, residential, and nonresidential construction and U.S. shipments and imports of malleable cast-iron pipe fittings, 1972-76, January-April 1976, and January-April 1977

Period	Construction				Malleable cast-iron pipe fittings	
	New	Private	Residential	Nonresidential	U.S. shipments	Imports
Value in current dollars (million dollars)						
1972-----	124,077	93,893	54,288	39,605	73	7
1973-----	135,456	102,894	57,623	45,271	83	6
1974-----	138,526	100,179	47,044	53,135	91	6
1975-----	132,043	93,034	46,476	46,558	81	7
1976-----	144,494	108,197	59,552	48,645	92	10
January-April--						
1976-----	39,314	28,866	14,119	14,747	31	3
1977-----	43,500	34,360	19,679	14,681	36	3
Value in constant dollars ^{1/} (million dollars)						
1972-----	124,077	93,893	54,288	39,605	73	7
1973-----	127,884	97,142	54,402	42,740	78	6
1974-----	119,215	86,214	40,486	45,728	78	5
1975-----	103,773	73,115	36,525	36,590	64	6
1976-----	108,038	80,899	44,527	36,372	69	7
January-April--						
1976-----	30,126	22,120	10,819	11,301	24	2
1977-----	31,477	24,863	14,240	10,623	26	2
Change in constant-dollar value ^{1/} (percent)						
1973 from 1972-----	3.1	3.5	0.2	7.9	6.8	-14.3
1974 from 1973-----	-6.8	-11.2	-25.6	7.0	-	-16.7
1975 from 1974-----	-13.0	-15.2	-9.8	-20.0	-17.9	20.0
1976 from 1975-----	4.1	10.6	21.9	-.6	7.8	16.7
January-April 1977 from						
January-April 1976-----	4.5	12.4	31.6	-6.0	8.3	-

^{1/} 1972 is the base year for constant dollar calculations.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission and from official statistics of the U.S. Department of Commerce.

Views of Interested Parties

The domestic producers supporting the petition assert that imports of malleable cast-iron pipe and tube fittings increased dramatically between 1973 and 1976, accounting for one-fifth to one-fourth of domestic consumption. Increased imports have been a contributing cause of the decline in U.S. companies producing this article from 34 in 1948 to 8 in 1977. Employment at facilities producing malleable cast-iron pipe fittings declined 79 percent between 1973 and 1976, and the Department of Labor has certified workers at two facilities as eligible for trade adjustment assistance. This is a serious trend since malleable cast-iron pipe fitting manufacturing facilities are generally located in small communities and are a major factor in local economies.

The domestic malleable cast-iron pipe fitting industry is currently operating at 60 to 70 percent of capacity. Both domestic production and sales have decreased since 1973; although some of the decline was the result of the 1974-75 recession, the primary cause was the shift by customers to lower cost imports. The decline in housing starts is not a greater cause of injury than imports because malleable cast-iron pipe fittings have not been used in new home construction for 25 years, having been replaced by copper fittings. Since malleable cast-iron pipe fittings are primarily used in industrial applications, sales for new residential construction are an insignificant portion of the malleable cast-iron pipe fittings market, and a decline in housing starts cannot be responsible for any injury. Plastic is being substituted for copper, not malleable cast-iron.

The U.S. producers also state that imports are priced from 10 to 35 percent less than domestic products. Domestic producers cannot meet these price levels and believe that tariff levels should reflect the large capital investments required of domestic producers by U.S. Government-mandated programs (Occupational Safety and Health Administration, Environmental Protection Agency, and so forth). The following types of relief were recommended by supporters of the petition: (1) An increase in the tariff rate from the current 11 percent ad valorem on advanced malleable cast-iron pipe and tube fittings to 45 percent ad valorem for "high volume" malleable cast-iron pipe fittings and to 22.5 percent ad valorem for "other" malleable cast-iron pipe fittings; or (2) the imposition of a quota on imported pipe fittings of 16.1 million pounds--12.4 million pounds for Japan and the remainder of the quota for all other countries. The domestic producers also recommended the following actions: (1) A requirement that country-of-origin markings be on all imported articles; (2) the imposition of a countervailing duty to equal export subsidies provided by foreign governments; (3) a requirement that imported fittings be subjected to the same standards as domestic fittings, with tests to be conducted at a U.S. laboratory; (4) a requirement that foreign producers post a liability bond with

a domestic insurance company; and (5) the enactment of various tax reforms regarding investment tax credits and depreciation.

Legal counsel for Japanese importers and manufacturers of malleable cast-iron pipe fittings states that petitioner is not entitled to relief under section 201 of the Trade Act of 1974 because the statutory requirements have not been met. Imports as a share of domestic consumption were not significantly higher in 1976 than in 1972, when the domestic producers raised no complaint. Furthermore, as a result of the principal importer's having established a warehousing system, there has been a trend in the last 2 years toward imports for inventory rather than immediate sale; any increase in imports in the last 2 years is a reflection of this trend.

Legal counsel for the Japanese importers also contends that the domestic industry is not suffering serious injury, or the threat thereof. One or two companies may be experiencing some difficulty in recovering from the recession, but this can be attributed to factors other than imports, i.e., sharp pricing competition by two of the domestic producers, strikes, and failure to move into production of newer products. In addition, nearly every ex-producer of malleable cast-iron pipe fittings cited in the petition ceased production prior to 1966, when imports were a relatively small factor in this market. There are also at least two causes which individually are greater in their impact on domestic producers than are imports: the decline in housing starts and the substitution of plastic, and to a lesser extent, copper and bronze pipe fittings for malleable cast-iron pipe fittings.

APPENDIX A
STATISTICAL TABLES

Table 1.--Malleable cast-iron pipe and tube fittings; U.S. production, shipments, imports for consumption, exports of domestic merchandise, and apparent consumption, 1972-76, January-April 1976, and January-April 1977.

Period	Production	Shipments	Imports	Exports	Apparent consumption	Ratio of imports to--	
						Production	Consumption
	<u>1,000</u> <u>pounds</u>	<u>1,000</u> <u>pounds</u>	<u>1,000</u> <u>pounds</u>	<u>1,000</u> <u>pounds</u>	<u>1,000</u> <u>pounds</u>	<u>Percent</u>	<u>Percent</u>
1972-----	157,924	160,938	27,554	4,564	183,928	17.4	15.0
1973-----	171,111	173,745	16,988	7,494	183,239	9.9	9.3
1974-----	162,947	160,698	13,286	8,209	165,775	8.2	8.0
1975-----	123,439	119,641	15,070	4,600	130,111	12.2	11.6
1976-----	129,124	130,715	22,272	7,704	145,283	17.2	15.3
January-April--							
1976-----	46,057	43,857	6,258	1,894	48,221	13.6	13.0
1977-----	52,595	47,726	7,363	4,810	50,279	14.0	14.6

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission and official statistics of the U.S. Department of Commerce.

Table 2.--Malleable cast-iron pipe and tube fittings, advanced in condition by operations or processes subsequent to the casting process (TSUS item 610.74); U.S. imports for consumption, by principal sources, 1972-76, January-April 1976, and January-April 1977.

Source	1972	1973	1974	1975	1976	January-April--	
						1976	1977
Quantity (1,000 pounds)							
Japan-----	22,828	10,698	7,941	13,325	17,620	5,317	5,174
Taiwan-----	2,629	2,174	992	455	1,551	525	817
Korea-----	71	310	1/	1/	1,367	115	259
United Kingdom-----	572	940	1,418	514	486	189	114
Canada-----	268	385	318	61	317	27	294
All other-----	706	1,702	1,384	324	189	63	234
Total-----	27,074	16,209	12,054	14,678	21,531	6,237	6,891
Value (1,000 dollars)							
Japan-----	6,216	3,765	3,684	5,843	7,722	2,300	2,412
Taiwan-----	594	559	359	202	606	196	318
Korea-----	28	111	2/	2/	533	53	139
United Kingdom-----	246	428	635	417	350	104	108
Canada-----	178	240	340	108	530	30	148
All other-----	234	663	568	246	102	37	118
Total-----	7,497	5,765	5,585	6,816	9,843	2,721	3,244
Unit value (per pound)							
Japan-----	\$0.27	\$0.35	\$0.46	\$0.44	\$0.44	\$0.43	\$0.47
Taiwan-----	.23	.26	.36	.44	.39	.37	.39
Korea-----	.39	.36	3/	3/	.39	.46	.54
United Kingdom-----	.43	.46	.45	.81	.72	.55	.95
Canada-----	.66	.62	1.07	1.78	1.67	1.12	.50
All other-----	.33	.39	.41	.76	.54	.59	.50
Total-----	.28	.36	.46	.46	.46	.44	.47
Percent of total quantity							
Japan-----	84.3	66.0	65.9	90.8	81.8	85.3	75.1
Taiwan-----	9.7	13.4	8.2	3.1	7.2	8.5	11.9
Korea-----	.3	1.9	4/	4/	6.3	1.8	3.7
United Kingdom-----	2.1	5.8	11.8	3.5	2.3	3.0	1.6
Canada-----	1.0	2.4	2.6	.4	1.5	.4	4.3
All other-----	2.7	10.6	11.4	2.2	1.0	1.0	3.4
Total-----	100.0	100.0	100.0	100.0	100.0	100.0	100.0

1/ Less than 500 pounds.

2/ Less than \$500.

3/ Less than \$0.005.

4/ Less than 0.05 percent.

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

Note.--Because of rounding, figures may not add to the totals shown. Unit values and percents are calculated from the unrounded figures.

Table 3.--Malleable cast-iron pipe and tube fittings, not advanced in condition by operations or processes subsequent to the casting process (alloyed and nonalloyed) (TSUS items 610.70 and 610.71): Total U.S. imports for consumption, 1/ 1972-76, January-April 1976, and January-April 1977.

Period	Quantity	Value	Unit value
	<u>1,000 pounds</u>	<u>1,000 dollars</u>	<u>Cents per pound</u>
1972-----	480	171	\$0.36
1973-----	779	253	.32
1974-----	1,232	180	.15
1975-----	392	125	.32
1976-----	741	250	.34
January-April--			
1976-----	21	<u>2/</u>	<u>2/</u>
1977-----	472	83	.18

1/ From Japan, India, Taiwan, Korea, Republic of South Africa, Canada, Brazil, United Kingdom, Mexico, Netherlands, and France.

2/ Incomplete data.

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

Note.--Because of rounding, figures may not add to the totals shown. Unit values are derived from the unrounded figures.

Table 4.--Malleable cast-iron pipe and tube fittings, not advanced in condition by operations or processes subsequent to the casting process (nonalloyed) (TSUS item 610.70): Total U.S. imports for consumption, 1/ 1972-76, January-April 1976, and January-April 1977.

Period	Quantity	Value	Unit value
	<u>1,000 pounds</u>	<u>1,000 dollars</u>	<u>Cents per pound</u>
1972-----	480	171	\$0.36
1973-----	726	239	.33
1974-----	554	97	.18
1975-----	391	124	.22
1976-----	710	227	.32
January-April--			
1976-----	21	<u>2/</u>	<u>2/</u>
1977-----	472	83	.18

1/ From Japan, India, Taiwan, Korea, Republic of South Africa, Canada, Brazil, United Kingdom, and Mexico.

2/ Incomplete data.

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

Note.--Because of rounding, figures may not add to the totals shown. Unit values are derived from the unrounded figures.

Table 5.--Malleable cast-iron pipe and tube fittings, not advanced in condition by operations or processes subsequent to the casting process (alloyed) (TSUS item 610.71): U.S. imports for consumption, 1/ 1972-76, January-April 1976, and January-April 1977. 2/

Period	Quantity	Value	Unit value
	<u>1,000 pounds</u>	<u>1,000 dollars</u>	<u>Cents per pound</u>
1973-----	53	14	\$0.27
1974-----	678	83	.12
1975-----	<u>3/</u>	<u>4/</u>	<u>6/</u>
1976-----	32	<u>5/</u>	<u>5/</u>

1/ From Korea, Japan, Netherlands, Taiwan, and France.

2/ There were no imports in 1972, January-April 1976, or January-April 1977.

3/ Less than 500 pounds.

4/ Less than \$500.

5/ Incomplete data.

6/ Less than \$0.005.

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

Note.--Because of rounding, figures may not add to the totals shown. Unit values derived from the unrounded figures.

Table 6.--Profit-and-loss experience of 8 U.S. producers on the overall operations of their establishments within which malleable cast-iron pipe and tube fittings are produced and their operations on malleable cast-iron pipe and tube fittings, 1972-76.

Item and year	Net sales	Cost of sales	Gross profit	General, administrative, and selling expenses	Net operating profit	Other income or (expense), net	Net profit before income taxes	Ratio of net operating profit to net sales	Ratio of net profit before income taxes to net sales
	<u>1,000</u> <u>dollars</u>	<u>1,000</u> <u>dollars</u>	<u>1,000</u> <u>dollars</u>	<u>1,000</u> <u>dollars</u>	<u>1,000</u> <u>dollars</u>	<u>1,000</u> <u>dollars</u>	<u>1,000</u> <u>dollars</u>	<u>Percent</u>	<u>Percent</u>
Total establishment operations:									
1972-----	114,048	86,271	27,777	11,857	15,920	(8)	15,912	14.0	14.0
1973-----	127,172	99,908	27,264	12,561	14,703	2	14,705	11.6	11.6
1974-----	144,175	116,627	27,548	14,561	12,987	68	13,055	9.0	9.1
1975-----	131,197	106,995	24,202	14,721	9,481	80	9,561	7.2	7.3
1976-----	137,475	107,904	29,571	15,595	13,976	461	14,437	10.2	10.5
Operations on malleable cast-iron pipe and tube fittings:									
1972-----	72,277	55,674	16,603	7,206	9,397	21	9,418	13.0	13.0
1973-----	81,454	64,575	16,879	7,825	9,054	16	9,070	11.1	11.1
1974-----	91,211	75,214	15,997	9,071	6,925	51	6,976	7.6	7.6
1975-----	80,874	67,890	12,984	9,473	3,511	36	3,547	4.3	4.4
1976-----	84,838	69,390	15,448	10,012	5,436	312	5,748	6.4	6.8

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

Note.--Table 7 has been deleted because it contains information received by the U.S. International Trade Commission in confidence, the disclosure of which would reveal certain operations of the individual firms.

nd tube fittings: Weighted average lowest net selling prices received by U.S. producers and importers
lack and galvanized 90° elbows, tees, and 45° elbows, by quarters, January 1972-March 1977

(Per piece)

k	90° elbow, galvanized		Tee, black		Tee, galvanized		45° elbow, black		45° elbow, galvanized	
	U.S.- produced	Imported	U.S.- produced	Imported	U.S.- produced	Imported	U.S.- produced	Imported	U.S.- produced	Imported
55	\$.081	\$.0695	\$.0905	\$.0888	\$.1041	\$.0972	\$.1323	\$.1074	\$.1604	\$.1221
55	.081	.0698	.0905	.0888	.1041	.1019	.1323	.1074	.1604	.1221
37	.081	.068	.0905	.0883	.1041	.0948	.1323	.0989	.1604	.1062
63	.081	.0707	.0905	.0903	.1041	.0981	.1323	.1024	.1604	.1091
12	.0816	.0621	.0901	.0837	.1054	.0803	.1327	.0981	.1644	.1004
99	.0829	.0733	.0911	.0989	.1085	.1078	.1369	.1329	.1691	.1422
82	.0829	.0718	.0911	.0984	.1085	.0851	.1369	.1334	.1691	.1428
43	.0871	.0778	.0956	.1017	.1112	.0992	.1442	.1334	.1766	.1428
6	.0924	.0825	.1008	.111	.1169	.1075	.1517	.139	.1843	.147
6	.0976	.0819	.1031	.111	.1202	.105	.1594	.139	.191	.147
5	.1084	.1403	.1157	.155	.1363	.1759	.1658	.184	.2004	.199
5	.1352	.1403	.1483	.155	.1741	.1759	.1794	.184	.2148	.199
33	.1349	.1338	.1473	.1505	.1745	.1707	.1809	.1814	.2171	.1919
31	.1387	.1338	.1523	.1509	.1779	.1707	.1848	.182	.2228	.1893
31	.1416	.1343	.153	.1561	.1807	.1719	.1879	.1814	.227	.1958
32	.1416	.1333	.153	.1511	.1807	.1724	.1879	.1819	.227	.2021
47	.1439	.138	.1554	.1547	.182	.174	.1891	.1838	.2277	.211
77	.1452	.1302	.1559	.1428	.1843	.1662	.1916	.182	.2314	.2169
77	.1402	.1303	.1503	.1428	.1769	.1662	.1818	.1818	.2159	.2173
77	.1464	.1303	.1562	.143	.1862	.1662	.1924	.182	.2322	.2192
2	.1516	.1454	.1618	.1567	.1924	.1805	.2001	.1927	.2416	.2318

ed in response to questionnaires of the U.S. International Trade Commission.

84-V

APPENDIX B

NOTICE OF INVESTIGATION AND HEARING

UNITED STATES INTERNATIONAL TRADE COMMISSION
Washington, D.C.

[TA-201-26]

MALLEABLE CAST-IRON PIPE AND TUBE FITTINGS

Notice of Investigation and Hearing

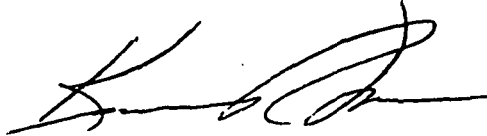
Investigation instituted. Following receipt of a petition on March 29, 1977, filed by the American Pipe Fittings Association, the United States International Trade Commission on April 13, 1977, instituted an investigation under section 201(b) of the Trade Act of 1974 to determine whether cast-iron pipe and tube fittings, malleable, provided for in items 610.70, 610.71 and 610.74 of the Tariff Schedules of the United States, are being imported into the United States in such increased quantities as to be a substantial cause of serious injury, or the threat thereof, to the domestic industry producing articles like or directly competitive with the imported articles.

Public hearing. A public hearing in connection with this investigation will be held June 21, 1977, in the hearing room of the United States International Trade Commission, 701 E Street NW., Washington, D.C. Requests for appearances at the hearing should be filed, in writing, with the Secretary of the Commission at his office in Washington not later than noon, Friday, June 17, 1977.

Inspection of petition. The petition filed in this case is available for public inspection at the Office of the Secretary, United States International Trade Commission, 701 E Street NW., Washington, D.C. 20436, and at

the New York City Office of the United States International Trade Commission
located at 6 World Trade Center.

By order of the Commission:

A handwritten signature in black ink, appearing to read 'Kenneth R. Mason', is written over a horizontal line.

KENNETH R. MASON
Secretary

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