BOLTS, NUTS, AND LARGE SCREWS OF IRON OR STEEL

Report to the President on
Investigation No. TA-203-11
Under Section 203 of the
Trade Act of 1974

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UNITED STATES INTERNATIONAL TRADE COMMISSION

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Bill Alberger, Chairman

Michael J. Calhoun, Vice Chairman

Catherine Bedell

Paula Stern

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Eugene J. Frank

Kenneth R. Mason, Secretary to the Commission

This report was prepared by:

David A. Coombs, Investigator
James M. Brandon, Office of Industries
Frank Mitko, Office of Economics
Clark Workman, Office of Economics
Debra Baker, Office of Investigations
Chand Mehta, Office of Investigations
Gerry Benedick, Office of Economics
Michael Mabile, Office of the General Counsel

Vera A. Libeau, Supervisory Investigator

Address all communications to

Office of the Secretary

United States International Trade Commission

Washington, D.C. 20436

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Note.--Information which would disclose confidential operations of individual concerns may not be published and therefore has been deleted from this report. Deletions are indicated by asterisks.

REPORT TO THE PRESIDENT
INVESTIGATION NO. TA-203-11
BOLTS, NUTS, AND LARGE SCREWS OF IRON OR STEEL

U.S. International Trade Commission
November 9, 1981

To the President:

In accordance with sections 203(i)(2) and 203(i)(3) of the Trade Act of 1974 (19 U.S.C. 2253(i)(2) and (i)(3)), the United States International Trade Commission herein reports the results of an investigation concerning bolts, nuts, and large screws of iron or steel.

Summary of advice of the Commission 1/

Commissioners Alberger, Calhoun, and Stern advise, on the basis of information obtained in the investigation, that termination of the import relief presently in effect will not have an adverse economic effect on the domestic industry producing bolts, nuts, and large screws of iron or steel and that such relief should not be extended.

Commissioners Bedell and Frank advise, on the basis of information obtained in the investigation, that the termination of the import relief presently in effect will have an adverse economic effect on the domestic industry producing bolts, nuts, and large screws of iron or steel and that such relief therefore should be extended at the level presently in effect for the full three-year period allowed.

Background

The Commission instituted this investigation on July 9, 1981, following receipt, on June 30, 1981, of a petition filed on behalf of the United States Fastener Manufacturing Group, the United Steel Workers of America, the International Association of Machinists and Aerospace Workers, the United

1/ Commissioner Eckes did not participate.

Automobile, Aerospace and Agricultural Implement Workers of America, and the Industrial Union Department of the AFL-CIO. Public notice of the investigation and hearing was given by posting copies of the notice at the office of the Secretary, U.S. International Trade Commission, Washington, D.C., and by publishing the notice in the Federal Register of July 15, 1981, (46 F.R. 36778). A public hearing was held in connection with this investigation on September 10, 1981, in Washington, D.C. All interested persons were afforded an opportunity to be present, to present evidence, and to be heard.

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

STATEMENT OF CHAIRMAN BILL ALBERGER, VICE CHAIRMAN MICHAEL J. CALHOUN, AND COMMISSIONER PAULA STERN

On the basis of the information before the Commission in this investigation, it is our judgment that termination of import relief with respect to bolts, nuts, and large screws of iron or steel would not have a significant adverse economic effect on the domestic industry. 1/ The purpose of this investigation--and of these views--is to provide advice upon which the President can base his decision regarding the future of the import relief program. Although the Commission is limited to an advisory role, 2/ the Commission's investigation provides the only public opportunity for interested parties to present their respective cases. Our advice is based on our assessment of several factors, including the present condition of the domestic industry, levels and trends of imports during the relief period, the effectiveness of further relief, efforts made by the industry to adjust to import competition, and the other factors set forth in section 202(c) of the

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1/ Presidential Proclamation No. 4632 of January 4, 1979 (44 F.R. 1699), sets forth the import relief with respect to lag screws or bolts, bolts (except mine-roof bolts) and bolts and their nuts imported in the same shipment, nuts, and screws having shanks or threads over 0.24 inch in diameter, all the foregoing of iron or steel, provided for in items 646.49, 646.54, 646.56, and 646.63 of the Tariff Schedules of the United States (TSUS). The relief, in the form of increased duties, is described in TSUS items 923.50 through 923.53, and is scheduled to terminate at the close of January 5, 1982, unless extended by the President.

2/ The Commission's authority to conduct this investigation is based on sections 203(i)(2) and 203(i)(3) of the Trade Act, which together provide that the Commission shall advise the President of its judgment as to the probable economic effect on the domestic industry concerned of the extension, reduction, or termination of import relief. For a complete discussion of the statutory framework of section 203, see Views of Vice Chairman Bill Alberger and Commissioners George M. Moore, Paula Stern, and Michael J. Calhoun, Color Television Receivers and Subassemblies Thereof, Inv. No. TA-203-6 (1980); Views of Commissioners Alberger and Stern, Stainless Steel and Alloy Tool Steel, Inv. No. TA-203-5 (1979), at pp. 4-6.

Trade Act of 1974. Based on these factors, we recommend that relief not be extended.

The information made available to us in the course of this investigation indicates that the failure of the domestic fastener industry to make significant improvements in its condition during the import relief period is attributable primarily to cyclical factors inherent in the nature of the industry. When the great reduction in demand for its products is taken into account, the industry's performance and particularly its profitability are remarkable. Furthermore, we believe that extension of the present relief will not facilitate significant adjustment by the industry to future import competition. Domestic producers and importers hold approximately the same market shares that they did when import relief was imposed, and imports have also been declining since the current economic downturn began. Because the recent declines in both domestic and imported shipments derive from general economic conditions, we fail to see how import relief will provide an effective remedy.

The products

Bolts, nuts, and large screws of iron or steel, commonly referred to as industrial or mechanical fasteners, are used to hold, join, or assemble the components of other products. They are used by most U.S. industries, either as original equipment parts or as replacement items. Although other metals are used, approximately 90 percent of these fasteners are of ferrous materials. 3/

3/ Report at A-2 to A-3.

The industry often categorizes fasteners as either "standard" or "special" fasteners. Although the terms "standard" and "special" have no single, commonly accepted meaning, a useful general definition of each can be formulated. "Standard" fasteners ordinarily have multiple applications and can be manufactured and held in inventory in anticipation of orders from different purchasers. These typically are high-volume items. Usually, these fasteners can be referenced from accepted specifications published by the Industrial Fasteners Institute (IFI). "Special" fasteners, on the other hand, are designed to satisfy the requirements of a particular purchaser and are frequently low volume items. They cannot be referenced from IFI standards, and cannot ordinarily be produced for inventory to meet anticipated orders. The definition of a fastener as either a "standard" or a "special" is subject to change. If an item falls out of usage, it may no longer be considered a standard. Similarly, if a special fastener gains common acceptance by a number of purchasers, it may become a standard. 4/

During the course of our investigation, an effort was made to determine whether and the extent to which there is a significant pattern of special fasteners, over time, becoming standards. The existence of such a pattern could suggest that the domestic industry is at a competitive disadvantage in that it expends its resources in the development and marketing of specials, only to lose an opportunity to recoup and generate further profit upon a special fastener becoming a standard.

While we found some limited evidence of this phenomenon, we could find nothing to suggest a meaningful pattern of such a process or any significant

4/ Report at A-4, A-67 to A-69.

impact from this process. Moreover, special fasteners are typically priced much higher than standards. This suggests that pricing strategies attempt to account for the fact that specials require particularized development and processing and tend, as well, to have comparatively short production runs. This pricing might also take into account the above-noted phenomenon of specials potentially becoming standards over time.

Condition of the domestic industry

The condition of the domestic industry has not improved significantly during the import relief period. Except for a period of improvement during the first year of relief, 1979, most indicators of the health of the industry have declined somewhat since 1978. This condition, however, is attributable to cyclical factors, particularly a downturn in demand, that have affected importers just as they have affected the domestic industry.

In 1979, the first year after imposition of import relief, the industry experienced an upturn in business, in part because of increasing demand. Apparent consumption increased from 1,707 million pounds in 1978 to 1,737 million pounds in 1979, approximately 2 percent. Domestic production increased approximately 10 percent from 834 million pounds in 1978 to 917 million pounds in 1979. 5/ Domestic shipments, sales, and net profits had similar results, posting increases of 13, 15 and 30 percent, respectively, from 1978 to 1979. 6/ Employment grew 3 percent from 1978 to 1979, 7/ while the total number of hours worked increased from 45.3 million hours to 48.1

5/ Report at A-19.
6/ Report at A-20, A-21.
7/ Report at A-21.

million hours, and wages rose from $450 million to $494 million. 8/ Total utilization of available capacity for production of fasteners also increased. 9/

In 1980 all of the indicators of the domestic industry's condition followed consumption, which declined 21 percent compared to 1978 and continued to decline during the first six months of 1981. Domestic production declined 26 percent, 10/ shipments declined 19 percent, 11/ sales showed a slight increase of .4 percent, 12/ net profits declined 21 percent, 13/ and employment declined 9 percent. 14/

During the first half of 1981, consumption declined 11 percent compared to the first half of 1980. 15/ During this same period, domestic production declined 5 percent, 16/ shipments 7 percent, 17/ and employment 5 percent. 18/ Sales and net profits increased 8 percent and 11 percent, respectively. 19/

The condition of the domestic industry is closely tied to cyclical fluctuations in the economy. The demand for industrial fasteners is derived

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8/ Report at A-21.
9/ Report at A-19. As noted in the Report, the specific figures for capacity utilization may be somewhat misleading, because the maximum practical capacity utilization for this industry has been stated to be about 75 percent, and practical capacity is even lower when manufacturing specials. Utilization data are therefore more significant insofar as they demonstrate trends rather than the actual levels of capacity utilization. Report at A-19.
10/ Report at A-19.
11/ Report at A-20.
12/ Report at A-22.
13/ Report at A-21.
14/ Report at A-21.
15/ Report at A-16.
16/ Report at A-19.
17/ Report at A-20.
18/ Report at A-21.
19/ Report at A-22.

chiefly from the demand for durable goods, particularly consumer durable goods. The automotive industry is an especially important consumer of industrial fasteners. It alone accounted for about 20 percent of the total domestic shipments of fasteners during the import relief period, and some producers rely on the automotive industry for over 50 percent of their business. 20/

The decline of total consumption in 1980 is primarily due to the recession in the automotive industry and other durable goods industries, such as the construction equipment industry. As stated previously, domestic production and shipments declined 26 and 28 percent respectively from 1978 to 1980. Imports during the same period declined 20 percent. However, import penetration increased slightly from 49.8 percent of total consumption to 50.6 percent. Although both imports and domestics were adversely affected by slumping demand of the automotive sectors, the impact was felt more heavily by the domestic industry, possibly because the automotive manufacturers use a greater proportion of specials than standards and the specials are obtained primarily from U.S. manufacturers. 21/

The data further show that during periods when production of durable goods increased, the domestic industry's fortunes also improved. Although production and domestic shipments are still below 1979 levels, both have stabilized. 22/ Employment as measured by total wages and number of hours worked has rebounded somewhat compared to the 1980 level. 23/

20/ Report at A-11. Other factors may be influencing the declining demand for fasteners, including the shift toward production of smaller cars, which use fewer fasteners and may utilize alternative joining techniques.
21/ Report at A-6, A-11.
22/ Report at A-19 to A-20.
23/ Report at A-21.

Additionally, although indicators are mixed, it is important to note that the financial performance of the domestic industry indicates its continuing viability despite sagging demand. Consistent with the decline in production, aggregate net sales declined from $821.5 million in 1979 to $717 million in 1980 as a result of decreased sales volume. In response to renewed demand, net sales then increased 8 percent in the first half of 1981 compared to the corresponding period in 1980. 24/ Net operating profits similarly fell in 1980, but began to recover in the first half of 1981. 25/ Nevertheless, despite decreases in demand, production, and profits, the domestic industry during the period of relief has maintained a profit margin that compares very favorably to the profit margins attained by all manufacturers and manufacturers of fabricated metal products in particular. 26/ The industry has achieved profit margins of 10.5 percent in 1978, 11.9 percent in 1979, and 8.3 percent in 1980. The margin for the first half of 1981 is 9.2 percent.

Our finding that cyclical factors inherent in the nature of the industry are responsible for the industry's performance is also supported by the quantitative analysis of the effects of the present relief and the potential elimination of the higher duties. 27/ The imposition of import relief in 1979 appears to have had at most a minor effect on import levels and domestic production. Increasing demand was a more significant factor in

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24/ Report at A-22.
25/ Report at A-22.
26/ Report at A-22 to A-24.
27/ Report at A-42.

raising the level of production and shipments in 1979. 28/ 29/ Moreover, it is apparent that changes in the relative prices of imported and domestic fasteners, such as was accomplished by the tariff increases in 1979, have had little impact on shipments of domestically produced items.

This apparent price insensitivity may be largely attributable to a lack of direct competition between imports and the bulk of the domestic goods. 30/ In recent years the industry has shifted increasingly away from production of standards and toward production of specials, where it competes more effectively. 31/ Based on quantitative analysis of the interrelationship of rates of future consumption, domestic shipments, and imports, we find no evidence to indicate that there will be a significant change in the relative positions of imports and domestic fasteners in the event of termination of relief. Thus, termination of import relief will not have a significant adverse effect on the industry.

Imports during the relief period

Imports have declined during the period of investigation. As discussed above, falling demand for industrial fasteners has adversely affected imports as well as domestic production. Aggregate imports decreased from 849.3 million pounds in 1978 to 793 million pounds in 1979 and 678.5 million pounds

28/ Report at A-42.
29/ Vice Chairman Calhoun is of the view that the quantitative analysis demonstrates that demand for fasteners is relatively price inelastic but that the data is not conclusive in supporting a finding that increasing demand was the most significant factor in raising the level of domestic production and shipments in 1979.
30/ Report at A-43.
31/ Report at A-33 to A-38, A-43.

in 1980. This represents a 20.1 percent decline in volume. Imports dropped further in the first half of 1981, decreasing 15.1 percent in quantity and 7.1 percent in value as compared to the same period in 1980. 32/

As a result of the drastic decline in imports, the decrease in domestic production and shipments did not bring about a significant change in the level of import penetration. Imports as a percentage of total apparent U.S. consumption declined from 49.8 percent in 1978 to 45.6 percent in 1979, increased to 50.6 percent in 1980, then fell off again in 1981. Import penetration dropped from 51 percent in the first half of 1980 to 48.6 percent in the corresponding period of 1981, a level slightly below that prior to the imposition of tariff relief. 33/

Industry efforts to adjust to import competition 34/

The efforts made by the domestic industry during the period of relief to adjust to import competition have not been sufficient. Total expenditures by U.S. producers for both capital expenditures and research and development have lagged in the period following imposition of relief. Capital expenditures fell from $23.4 million in 1978 to $22.3 million in 1979 and increased only to $23.2 million in 1980, a figure still below the 1978 expenditures. Although capital expenditures increased in 1980 in nominal terms, when adjusted for inflation real capital expenditures declined approximately 25 percent. Capital expenditures in the first half of 1981 were far below levels for the same period in the previous year. While the ratios of capital expenditures to

32/ Report at A-12.
33/ Report at A-16.
34/ 19 U.S.C. § 2252(c)(3).

both net sales and cash flow increased, these increases are attributable chiefly to decreases in net sales and net profits. 35/

Aggregate spending on research and development followed the same trends, rising in 1979, then falling in 1980 to roughly the 1978 level. Research and development expenditures increased 20 percent in January-June 1981 over January-June 1980. 36/ Most of the capital expenditures and research and development expenses were incurred by producers of special fasteners. 37/ Available information indicates that the industry, on the whole, has not acted quickly to modernize its equipment with new, high-speed machinery. We recognize that the failure to revamp production processes can be explained in part by the facts that the new equipment may not be especially suitable for producing special fasteners and that the purchase costs are in some instances so high as to offset the benefits attained by higher productivity. 38/ Other efforts to improve competitiveness reported by the domestic industry, including adjustments in marketing and management strategies, do not appear to have been significant.

We believe that import relief has not been particularly effective in promoting adjustment by the industry to import competition. Sales of imported fasteners in the United States and the level of penetration by imports have not been significantly altered by the relief now in effect and there is no reason to believe that extending relief even further will significantly enhance the competitive posture of the industry.

35/ Report at A-27, A-107.
36/ Report at A-28, A-107.
37/ Report at A-27.
38/ Report at A-26.

Section 202(c) considerations

In giving our advice, we have reviewed all the various considerations set forth in section 202(c) of the Trade Act and would like to comment specifically on the impact on the consumers of industrial fasteners. 39/ We do not believe that termination of relief will have a significant impact on consumers of industrial fasteners or purchasers of finished goods using those fasteners. The imposition of controls was followed by price rises that were little different from inflationary increases registered in the prices of comparable goods, so it can be expected that elimination of relief will have a similarly insignificant impact. Even if substantial increases occurred in the prices for fasteners, those items represent only a small fraction of the cost of finished durable goods, so the ultimate consumer of the latter would experience little effect.

Conclusion

Based on the information before us, we believe that relief should not be extended. The domestic fastener industry is viable, but is presently suffering from cyclical economic forces that are unrelated to the presence or absence of import relief. The imposition of relief has had little effect on the ratio of imports to total U.S. consumption. For these reasons, import relief should be terminated. 40/

39/ The Report at A-46 to A-51 provides a further discussion of the section 202(c) considerations.

40/ Should import relief be extended, we would recommend that aerospace fasteners be excluded from the scope of the relief. This matter is discussed in detail at pp. A-44 to A-46 of the Report.

STATEMENT OF COMMISSIONERS CATHERINE BEDELL AND EUGENE J. FRANK

On the basis of the information obtained in this investigation, it is our judgment that termination of the import relief currently in effect with respect to bolts, nuts, and large screws of iron or steel will have an adverse impact on the domestic industry producing such articles. We therefore advise that relief should be extended for the full three-year period allowed. 41/

Our advice is based upon information indicating that the health of the industry has not improved during the period of import relief, imports remain at a very high level, and the efforts of the industry to adjust to import competition have been hindered by developments beyond the industry's control. Additional time is needed for the industry to complete the adjustment process.

Condition of the industry

The condition of the domestic fastener industry is less favorable than it was prior to the imposition of relief. U.S. production of fasteners has declined from 833.9 million pounds in 1978, the year preceding the imposition of relief, to 616.9 million pounds in 1980, a 26 percent decrease. Production continued to fall in the first half of 1981. 42/ Over the 1978-80 period domestic shipments declined 18.7 percent in quantity and 7.9 percent in value, and U.S. exports declined 45 percent in quantity. The downturn in domestic shipments continued in the first half of 1981, although the value of these shipments registered a small gain over the corresponding period in 1980. 43/

41/ 19 U.S.C. § 2253(h)(3).
42/ Report at A-19.
43/ Report at A-20.

Both industry capacity and utilization of capacity are down significantly from 1978 levels. 44/ Consistent with the declines in production, capacity, and capacity utilization, employment levels are lower then in 1978, as are the aggregate number of hours worked. 45/

The industry's financial performance has suffered as well. Aggregate net operating profit declined from $75 million in 1978 to $59.4 million in 1980. 46/ The ratio of net operating profit to net sales stood at 8.3 percent in 1980 compared to 10.5 percent in 1978. 47/ Net losses were reported by 11 companies in 1980 and 10 in the first half of 1981, or 48/ about 38 percent of the firms reporting. One of the largest domestic fastener producers, the Lamson & Sessions Co., terminated its fastener operations in 1981 as a result of continued operating losses. 49/ In all, four plant closings were reported during the relief period. 50/

In addition, penetration of the U.S. market by imports has not dropped. Although the absolute number of imports has decreased, import levels as a

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44/ Report at A-19. As noted in the Report, capacity utilization statistics for this industry are probably overstated. Using 80 percent of reported capacity as equivalent to 100 percent of practical capacity, it appears that utilization rates have declined markedly from 63.1 percent in 1978 to 49.6 percent in 1980. Report at A-19. Utilization of capacity for the production of lag screws and bolts has fallen even more sharply, from 74.9 percent in the first half of 1980 to 32.2 percent in the first half of 1981.

45/ Report at A-21. Although the aggregate wages paid were higher in the first half of 1981 than they were in 1978, this is clearly due to wage increases, since employment and the number of hours worked both decreased.

46/ Report at A-22.

47/ Report at A-23.

48/ Report at A-23, A-104.

49/ Report at A-18.

50/ Report at A-25.

percentage of total U.S. consumption are as high now as in 1978. 51/ Import penetration peaked in 1980 at 50.6 percent, then declined somewhat in the first half of 1981, but only to a level almost exactly that in 1978. 52/ Imports have maintained their share of the market because the relative margins by which they undersell domestic products have remained roughly constant. 53/

The above data, however, do not indicate that import relief has been wholly ineffective in assisting the domestic industry to adjust to import relief. On the contrary, the experience of the industry in 1979, the first year of relief, testifies to the potential efficacy of relief. Import penetration dropped significantly in 1979 from 54.5 percent to 49.7 percent, even though demand for industrial fasteners remained high, with apparent domestic consumption increasing 1.8 percent over the 1978 level. 54/ In light of the growth in domestic consumption, the decline in imports is explainable only as a result of the imposition of tariff relief at the beginning of 1979.

The benefits to the domestic industry of the imposition of relief in 1979 are apparent. Total U.S. production of fasteners increased from 833.9 million pounds in 1978 to 916.6 million pounds in 1979. 55/ Similar increases were made in U.S. shipments and exports. 56/ Total employment, hours worked, and wages all exhibited a similar trend. Significantly, profitability increased

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51/ The extent of U.S. consumption of imported fasteners may actually be much greater than indicated by the data in the Report, since a considerable number of fasteners enter the United States affixed to imported durable goods (i.e., indirect shipments) and are thus not counted in import statistics on fasteners.
52/ Report at A-17.
53/ Report at A-33 to 38.
54/ Report at A-16.
55/ Report at A-19.
56/ Report at A-20.

dramatically in 1979. Aggregate net operating profit grew 30 percent, while the ratio of net operating profit to net sales increased from 10.5 percent to 11.9 percent. 57/

The improvement in the condition of the industry was reversed after 1979 by economic developments that interfered with the ability of the industry to take full advantage of import relief. The most significant of these intervening developments has been the drop in demand for fasteners brought about primarily by the serious recession in the automobile industry. The fastener industry is acutely dependent upon demand from producers of durable goods, especially automobile manufacturers. The automotive industry provided an estimated 20 percent of the overall demand for fasteners during the period of relief, 58/and it can reasonably be expected that a healthy automobile industry would have accounted for an even greater percentage of the overall demand. Some fastener manufacturers relied on the automotive industry for over half of their business. 59/ As a result of the slump in the market for U.S. automobiles, the fastener industry has been deprived of an opportunity to improve its competitive position.

The recession in the industry's primary demand sector precipitated a swift decline in the industry's condition in 1980. Total U.S. fastener production dropped sharply in 1980 to 616.9 million pounds from 916.6 million pounds in 1979. 60/ Domestic shipments dropped from 803.1 million pounds to 577.3 million pounds. 61/ Employment, total hours and wages all declined

57/ Report at A-22, A-23.
58/ Report at A-11.
59/ Report at A-11.
60/ Report at A-19.
61/ Report at A-20.

dramatically. 62/ The sharp downturn in 1980 also negatively affected the industry's profitability. Aggregate net operating profit declined from $97.6 million to $59.4 million, and the profit margin fell from 11.9 percent to 8.3 percent. 63/

When the rapid decline in the industry's condition is taken into consideration, it comes as no surprise that the industry was unable to increase its capital expenditures and research and development greatly in order to further its adjustment to import competition. The industry has been compelled to postpone investment because of the uncertainty of demand for its products. In addition, it is reasonable to conclude that the industry has faced significant difficulty in obtaining financing for capital investment. Current high interest rates are a disincentive to borrowing, and lenders may be reluctant to extend credit in light of the weakened condition of many firms and the consequent inability to assure an adequate return on investment.

The industry's commitment to meeting import competition, however, is demonstrated by the increased proportion of its dwindling resources that it has devoted to this task during the period of relief. Between 1978 and 1980 the ratio of capital expenditures to net sales increased 10 percent and the ratio of capital expenditures to cash flow more than doubled. 64/ These capital expenditures were used for investment in new machinery and equipment, expansion of plant facilities, and introduction of new technology or

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62/ Report at A- 21.
63/ Report at A- 22, A-23.
64/ Report at A- 27.

production processes. 65/ As would be expected, those firms that reported relatively high levels of profit in 1980 were most likely to undertake adjustment efforts requiring a significant investment of capital. 66/

Moreover, it appears that some of the most effective efforts that the industry has undertaken to improve its competitive position do not require extensive investment in machinery and equipment. The use of new, high-speed production machinery often is not cost-effective, especially in the production of special fasteners. 67/ The steps that the industry has taken with relative success include changes in management and marketing techniques, improved quality control and inventory control, and development of new products. 68/ Commission staff analysis reveals that industry efforts to adjust have been most effective when directed toward introduction of new products, changes in the mix of products, and marketing efforts. 69/ The changes in product mix have to a large extent been compelled by increased imports of high-volume standard fasteners, which have caused domestic producers to turn increasingly toward production of special fasteners, diversification into non-fastener products, and supplementation of their product lines with foreign-made standard fasteners. 70/

Extension of relief

Import relief for the domestic industry producing bolts, nuts and large screws of iron or steel should be continued. Despite the current downturn, we

65/ Report at A-35.
66/ Report at A-30 to A-31.
67/ Report at A-26.
68/ Report at A-32.
69/ Report at A-31 to A-32.
70/ Report at A-18, A-29 to A-32.

believe the industry is viable and capable of successfully adjusting to competition from imports. Although foreign competitors have captured a large portion of the U.S. market for standard fasteners, the domestic industry remains highly competitive as a source of special fasteners and a significant number of standard fasteners. The industry has the advantage of geographical proximity to its customers, which allows it to be more responsive to its customers' needs. 71/

The industry clearly has not been afforded an adequate opportunity to adjust to import competition because of the rapid short term deterioration of demand for its products. The industry was able to experience the benefits of relief for at best a year, as imports declined and the industry's condition began to rebound in 1979. These improvements were erased by the drop in domestic consumption of fasteners that began in 1980. The fastener industry is highly capital-intensive and requires an extensive period of relief in order to complete the adjustment process. Extension for the full three-year period allowable will permit the industry to continue its adjustment efforts as the effects of the immediate slump in demand lessen. 72/

Moreover, termination of the relief can be expected to increase the competitive pressures on the domestic industry. Termination would generally cause U.S. tariffs on fasteners to fall below duty levels set by other

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71/ Report at A-25.

72/ Commissioner Frank notes that if import penetration were to continue to increase with corresponding continued loss of domestic capacity, a critical economic dislocation would follow and could have a negative impact on the national defense procurement program. In this respect, Commissioner Frank believes the relationship between the domestic industrial fasteners industry and national defense procurement needs of the United States is a relevant economic factor which should be considered.

important consuming countries, and diversion of exports from those countries to the United States could occur, resulting in increased import penetration of the U.S. market. 73/ Additionally, the Commission staff analysis of the probable effects of elimination of relief, while generally inconclusive, indicates that a moderate amount of substitution of imports for domestic shipments can be expected. 74/

Two parties have requested that certain types of fasteners be excluded from our recommendation that import relief be extended. A Canadian importer of ferrous aerospace fasteners has requested exclusion of those items on the ground that they do not compete with the products manufactured by the domestic industry concerned in this investigation. The petitioners agree with this contention, and the available data do not indicate that termination of relief as to these imports would adversely affect U.S. producers of aerospace fasteners. Accordingly, we believe these items should no longer be subject to import relief. It is unclear, however, how this exclusion could be effectively administered. The potential difficulties of administering the exclusion and possible ways in which the exclusion could be effected are discussed in the Report at pp. A-44 to A-46.

However, we cannot similarly recommend the exclusion of anchor bolts, as requested by the Government of India. These items are not provided for separately in the Tariff Schedules of the United States, and the Commission is wholly lacking information from which to ascertain the effect on domestic producers of terminating relief with regard to them.

73/ Report at A-50 to A-51.
74/ Report at A-42 to A-44.

INFORMATION OBTAINED IN THE INVESTIGATION

Introduction

On July 9, 1981, the United States International Trade Commission instituted an investigation under sections 203(i)(2) and 203(i)(3) of the Trade Act of 1974 (19 U.S.C. 2253(i)(2) and (i)(3)) for the purpose of gathering information in order that it might advise the President of its judgment as to the probable economic effect on the industry concerned of the extension, reduction, or termination of import relief presently in effect with respect to bolts, nuts, and large screws of iron or steel, provided for in items 646.49, 646.54, 646.56, and 646.63 of the Tariff Schedules of the United States (TSUS). Import relief presently in effect with respect to such articles is scheduled to terminate at the close of January 5, 1982, unless extended by the President. The relief, in the form of increased duties described in TSUS items 923.50 through 923.53, is provided against imports from all countries in Presidential Proclamation No. 4632 of January 4, 1979 (44 F.R. 1699). 1/

This relief was obtained following an investigation completed by the Commission in November 1978 (No. TA-201-37) under section 201 of the Trade Act of 1974. 2/ In that investigation, the Commission determined (Commissioner Alberger dissenting, Commissioners Parker and Stern not participating) that "lag screws or bolts, bolts (except mine-roof bolts) and bolts and their nuts imported in the same shipment, nuts, and screws having shanks or threads over 0.24 inch in diameter, all the foregoing of iron or steel, provided for in items 646.49, 646.54, 646.56, and 646.63 of the TSUS, are being imported into the United States in such increased quantities as to be a substantial cause of serious injury, 3/ or the threat thereof, 4/ to the domestic industry producing articles like or directly competitive with the imported articles" 5/. The Commission made no determination with respect to imports of the subject articles from Canada admitted free of duty as original equipment for motor vehicles under item 646.79 of the TSUS. 6/

The Commission instituted the present investigation upon its own motion and after receipt of a petition on June 30, 1981, filed by the United States Fastener Manufacturing Group, the United Steel Workers of America, the

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1/ A copy of Proclamation No. 4632 is presented in app. A.

2/ A discussion of previous Commission investigations involving bolts, nuts, and large screws of iron or steel is presented in app. B.

3/ Commissioner Bedell found serious injury with respect to imports of such articles.

4/ Commissioner Moore found threat of serious injury with respect to imports of such articles.

5/ Bolts, Nuts, and Large Screws of Iron or Steel: Report to the President on Investigation No. TA-201-37 . . ., USITC Publication 924, 1978.

6/ Commissioner Alberger's negative determination was with respect to all the imported articles under investigation, including these articles from Canada.

International Association of Machinists & Aerospace Workers, the United Automobile, Aerospace, & Agricultural Implement Workers of America, and the Industrial Union Department of the AFL-CIO. 1/ Public notice of the investigation and hearing was given by posting copies of the notice in the Office of the Secretary, U.S. International Trade Commission, Washington, D.C., and by publishing the notice in the Federal Register of July 15, 1981 (46 F.R. 36778). 2/

A public hearing in connection with the investigation was held on September 10, 1981, in the Commission's Hearing Room in Washington, D.C. 3/ The Commission made its determination in the investigation on October 29, 1981, and reported its advice to the President on November 9, 1981.

The information contained in this report was obtained from field work, questionnaires sent to domestic manufacturers and importers, responses to Commission questionnaires sent in connection with the annual and quarterly bolts, nuts, and large screws of iron or steel reports (investigation No. 332-103), the Commission's files, other Government agencies, information received at the hearing, briefs filed by the interested parties, and other sources.

Description and Uses

Bolts, nuts, and large screws of iron or steel, commonly called industrial or mechanical fasteners, are designed specifically to hold, join, or assemble multiple components. Nearly all U.S. industries require them, either as parts for original equipment or for maintenance purposes. Approximately 90 percent of these fasteners are ferrous products; the remainder are made principally of copper, aluminum, nickel, and titanium.

Bolts, nuts, and large screws have historically been classified as separate product categories for purposes of customs treatment, standardization, and convenience. The one feature common to all these fasteners is the presence of external threads on the bolts and screws, and internal threads in the nuts. Within each category, subgroupings are made according to head style, thread form, application, and other characteristics.

Bolts are generally headed at one end and threaded at the other. They are usually tightened or released by turning a nut. The most common bolt subgroupings are mine-roof bolts, hex and square bolts, round head bolts, high-strength structural bolts, and bent bolts.

1/ The industry filed its petition under sec. 203(i)(3), which calls for the Commission to advise the President of its judgment as to the probable economic effect on such industry of the termination of the import relief. The Commission, upon its own motion, also instituted the investigation under sec. 203(i)(2), which allows the Commission to advise the President of its judgment as to the probable economic effect on the industry concerned of the extension, reduction, or termination of the import relief.

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

3/ A list of witnesses appearing at the public hearing is presented in app. D.

Nuts are perforated metal blocks with internal or female threads; they are used with bolts and some screws. The most common nut subgroupings are hex and square nuts, and locknuts.

Screws are usually subdivided by the trade into two size groups--large screws (1/4 inch and more in diameter) and small screws (less than 1/4 inch in diameter). This distinction has arisen because different engineering techniques and machinery are required to produce screws in the two size groups, the two types are usually manufactured by different producers, and each group has different applications. The most common large screw subgroupings (only large screws are covered by this investigation) are lag screws (or lag bolts), and cap (including socket) screws. Large screws, like bolts, are often tightened or released by turning a nut. Lag screws are an exception in that they are tightened or released by torquing their heads. The most common small screw subgroupings are wood screws, machine screws, and tapping screws. Small screws are usually tightened or released by torquing (turning) their heads.

Manufacturing processes

Nearly all bolts and large screws under 1 inch in diameter are cold forged, a process that conserves energy. Hot forging is usually required in the manufacture of bolts and large screws 1 inch and over in diameter. Today, nearly all large screw threads are rolled by squeezing a bolt or screw between reciprocating or rotating dies.

Nut blanks are produced in one of the following ways: cold forming, hot forming, and cold punching. The most common method is cold forming, where the machinery cuts round wire to the proper length, shapes the wire into a hexagon nut, and punches the hole. The hot-forming method is similar to cold forming except that the raw material is heated to forging temperature before being fed into the machine. In cold punching, rectangular bar stock is fed into the machine, and in successive steps a hole is punched and countersunk, the bar is sheared, and the nut is beveled and trimmed.

Regardless of the method employed to produce the nut blank, the tapping operation to produce the thread is generally the same. Nuts 3/4 inch in diameter and smaller are tapped in automatic machines, and large nuts are tapped in hand-fed machines. 1/

Other joining techniques

Many joining techniques compete with bolts, nuts, and large screws in the product-design marketplace. Among these are other mechanical fasteners, such as rivets, cotter pins, plastic fasteners, spring clips, retaining rings, and machine screws; 2/ fusion joining techniques such as welding, brazing, and soldering; and adhesives.

1/ A more detailed discussion of the machinery used by the industry is contained in the "Producers' Efforts to Compete" section of this report.

2/ The Industrial Fasteners Institute (IFI) estimates that there are 500,000 standard and 3,000,000 special sizes, kinds, and shapes of mechanical fasteners including those covered by this investigation.

Despite this competition, no major changes appear to have occurred during the last decade in the relative importance of the fasteners under investigation vis-a-vis all other fasteners. This static condition suggests that most joining applications have one "least cost" solution and that the relative number of varying joining applications has remained about the same.

Bolts, nuts, and large screws are produced from nonferrous metals when specified functional requirements for the fasteners are beyond the capabilities of the low-cost ferrous product. Nonferrous fasteners are generally priced three to four times higher than ferrous bolts, nuts, and large screws, 1/ and are commonly made of copper alloy, nickel alloy, aluminum alloy, and titanium alloy. These fasteners usually exhibit characteristics of strength, resistance to corrosion, and light weight.

"Standard" and "special" fasteners

The terms "standard" and "special" are sometimes used by the trade when referring to the fasteners covered by this investigation. The definition of each may vary according to the user, and the distinction between a "standard" and a "special" is sometimes controversial.

However, generally speaking, "standard" fasteners have multiple applications, can usually be referenced from accepted and published industry standards, and can be produced and held in inventory in anticipation of an order from multiple purchasers. "Special" fasteners are designed and produced to fit a particular purchaser's requirements, cannot usually be referenced from accepted and published standards, and cannot be produced and held in inventory with the reasonable anticipation of a future order from any purchaser other than the original purchaser. Due to the nature of the demand for each type, "standards" are usually high-volume items, and "specials" are usually lower volume items. 2/ There are, however, some notable exceptions to this generalization.

U.S. Tariff Treatment

The imported bolts, nuts, and large screws covered by this investigation are classified under items 646.49, 646.54, 646.56, and 646.63 of the TSUS. 3/ On January 6, 1979, the President increased duties on each of the above items to 15 percent ad valorem as part of the import relief granted to the domestic industry. In addition to this increase, the President imposed incremental duties of 0.2 cents per pound and 0.1 cent per pound, respectively, on imports

1/ A witness at the hearing testified that although some ferrous fastener producers pay $472 a metric ton for raw material, his aerospace fastener firm pays up to $33 a pound (which is equivalent to approximately $72,765 a metric ton). Transcript of the hearing, pp. 267-268.

2/ A more detailed discussion of "standards" and "specials" is presented in app. E.

3/ Schedule 6, items 646.4920, 646.54, 646.56, and 646.63, is presented in app. F.

under items 646.54 (bolts) and 646.56 (nuts) 1/ and removed GSP eligibility for both. 2/ These temporary duties are scheduled to remain in effect until January 5, 1982, unless they are extended pursuant to the provisions of section 203 of the Trade Act of 1974.

Prior to the relief being granted, the column 1 rates of duty for these items ranged from 0.2 percent ad valorem for nuts to 12.5 percent ad valorem for lag screws and bolts. With the imposition of the relief, the duties in 1980 ranged from 15 percent ad valorem for screws and lag screws and bolts, to ad valorem equivalents of 15.4 percent and 15.2 percent, respectively, for bolts and nuts.

In addition to the increased duties imposed on these items, there are outstanding countervailing duty orders affecting imports of certain industrial fasteners from Italy, Japan, and India.

Acting on a petition filed on August 7, 1975, by Russell, Burdsall & Ward, Inc., the U.S. Treasury Department instituted an investigation to determine whether subsidies were granted by the Government of Italy on the exportation of cap screws. On August 13, 1976, Treasury announced that subsidies were being granted and imposed a countervailing duty of 15 lire per kilogram on cap screws of iron or steel (TSUS item 646.6320). On August 7, 1981, the Department of Commerce announced the final results of its annual adminstrative review of this order, and determined the current countervailing duty to be 15 lire per kilogram (46 F.R. 40242). On March 28, 1980, Italy requested the Commission to conduct an investigation of this outstanding countervailing duty order under section 104 of the Trade Agreements Act of 1979. On July 23, 1981, the petitioner informed the Commission that it was withdrawing its petition in this countervailing duty proceeding. The Commission invited public comment on the petitioner's request for a withdrawal in a notice published in the Federal Register of August 12, 1981 (46 F.R. 40838). No adverse comments were received, and accordingly, the Commission published a notice of termination in the Federal Register of October 7, 1981 (46 F.R. 49677).

In response to a petition filed on April 19, 1976, by the IFI, Treasury imposed countervailing duties of 0.2 percent ad valorem on imports of bolts of iron or steel (TSUS item 646.54) from Japan. These additional duties became effective May 6, 1977. On February 13, 1979, the IFI filed another countervailing duty petition covering a wide variety of industrial fasteners imported from Japan, including bolts and nuts. Treasury responded to the petition by imposing additional duties of 4.2 percent ad valorem on bolts and nuts of iron or steel from Japan (TSUS items 646.54 and 646.56). On March 31,

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1/ Schedule 9, part 2, items 923.50-923.53, is presented in app. F.

2/ Title V of the Trade Act of 1974 authorizes the establishment of a Generalized System of Preferences (GSP) for eligible articles imported from beneficiary developing countries. Effective Jan. 1, 1976, imports of the products being considered in this investigation, with the exception of screws and lag screws and bolts, from all designated beneficiary developing countries became eligible for duty-free treatment under the provisions of the GSP.

1981, Commerce announced the preliminary results of its annual administrative review of this order, and determined the current countervailing duty to be 0.27 percent ad valorem on bolts and nuts (46 F.R. 19511). Until January 1, 1983, Japan is entitled to request the Commission to conduct a 104 investigation on this outstanding countervailing duty order; to date, the Commission has not received such a request.

On January 30, 1980, a petition was filed with Commerce, on behalf of domestic manufacturers of certain industrial fasteners, alleging that subsidies were being provided on the manufacture, production, or exportation of certain industrial fasteners from India. On July 21, 1980, Commerce determined that the Government of India provided subsidies within the meaning of section 303 of the Tariff Act of 1930, and imposed a countervailing duty of 18 percent of the f.o.b. value of the merchandise imported from India under TSUS items 646.49, 646.54, 646.56, 646.58, 646.60 and 646.63. 1/ On July 31, 1981, Commerce announced the preliminary results of its annual administrative review of this order, and determined the current amount of the subsidy to be 18 percent (46 F.R. 39194). Although India became "a country under the Agreement" 2/ on September 25, 1981, this outstanding countervailing duty order is not subject to an injury test by the Commission under section 104 of the Trade Agreements Act of 1979 because it was issued after the effective date of the act.

U.S. Market

Demand factors

The demand for industrial fasteners is derived primarily from the demand for durable goods, such as industrial equipment, machinery, tools, and other capital-type goods, and is particularly influenced by demand for consumer durable goods such as automobiles, refrigerators, lawnmowers, and so forth. Cyclical fluctuations in durable goods production are usually wider than fluctuations in nondurable goods production because consumers may use discretion in timing purchases of durable goods. Accordingly, the demand for bolts, nuts, and large screws is also cyclical.

Since these fasteners are not consumed as final products, but rather as raw materials in the manufacture of final products, a decline in the demand for finished durable goods results in a more exaggerated decline in the demand for these fasteners. A fastener-consuming manufacturer, facing declining demand for his own finished products, could sharply reduce his fastener inventory based on current and anticipated trends. Since fasteners are usually purchased by end users only in anticipation of need on the production line, decreases in price will not appreciably increase demand, unless the need

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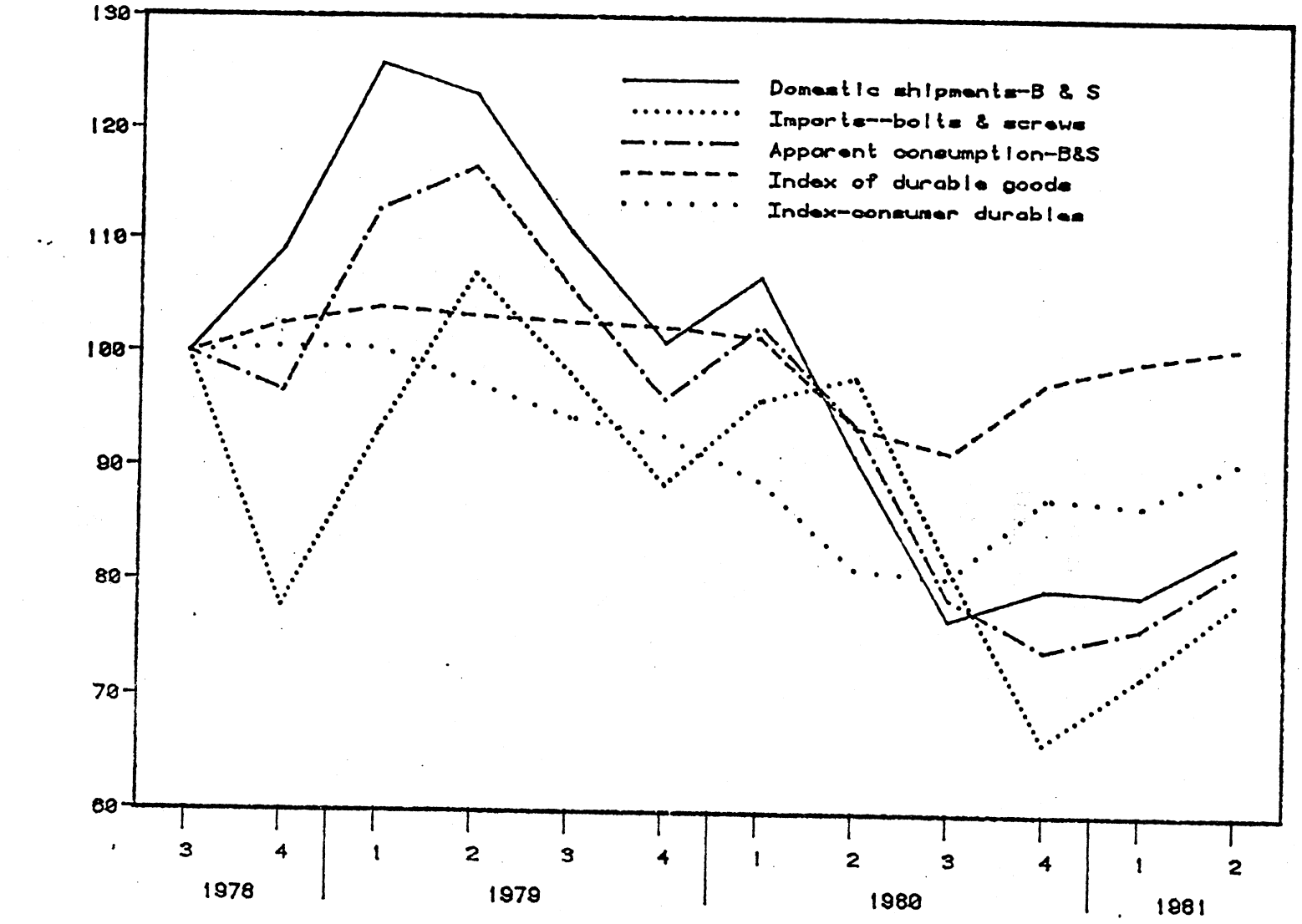
1/ Items 646.58 (machine screws 0.375 inch or more in length and 0.125 inch or more in diameter, not including cap screws) and 646.60 (other screws having shanks or threads not over 0.24 inch in diameter) are not included in this investigation.

2/ The agreement referred to is the Agreement on Subsidies and Countervailing Measures.

Figure 1.--Indexes of durable goods and consumer durables, and domestic shipments, U.S. imports, and apparent consumption of bolts and screws, by quarters, July 1978-June 1981.



Source: Data compiled by the staff of the U.S. International Trade Commission.

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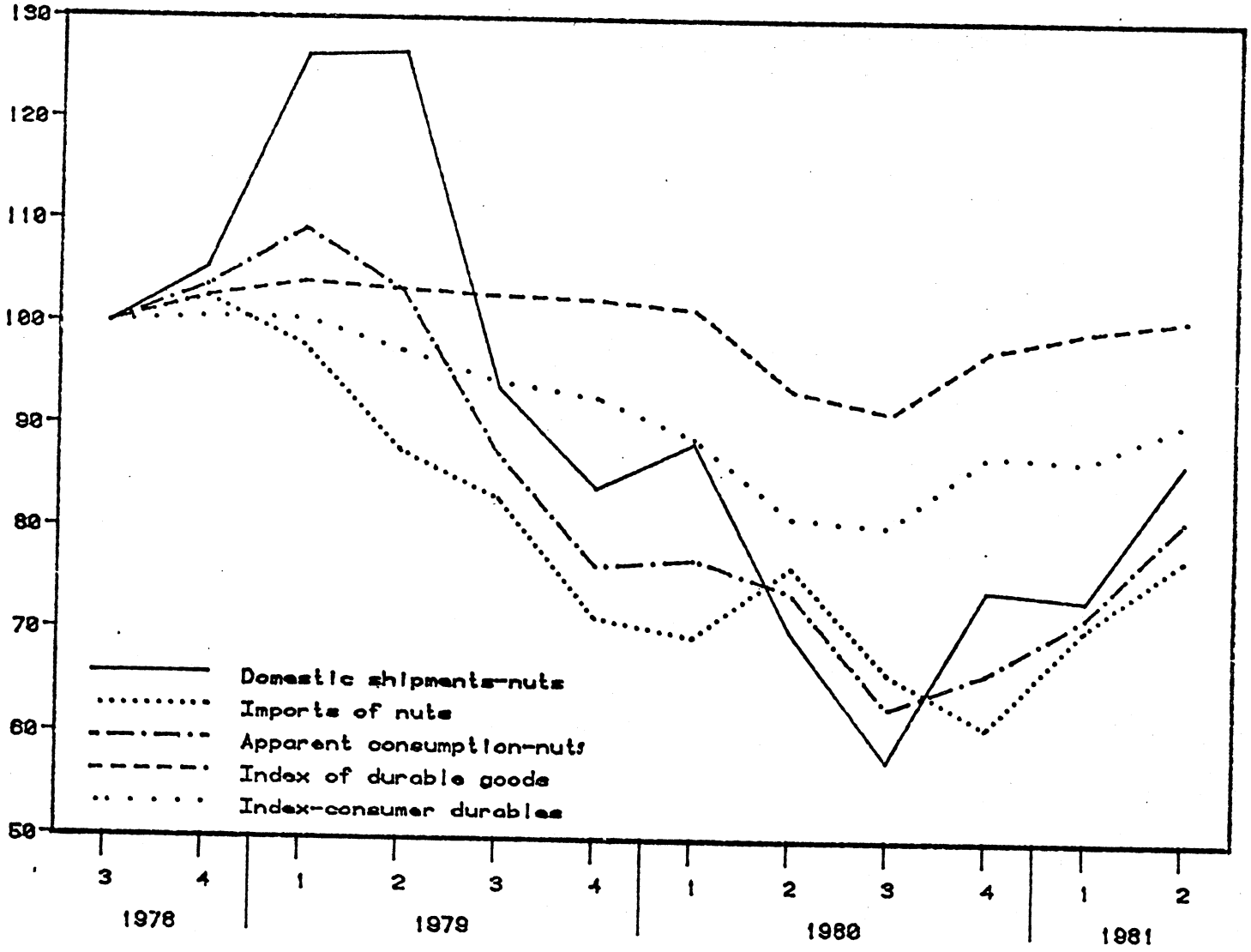
Figure 2.--Indexes of durable goods and consumer durables, and domestic shipments, U.S. imports, and apparent consumption of nuts, by quarters, July 1978-June 1981.



Source: Data compiled by the staff of the U.S. International Trade Commission.

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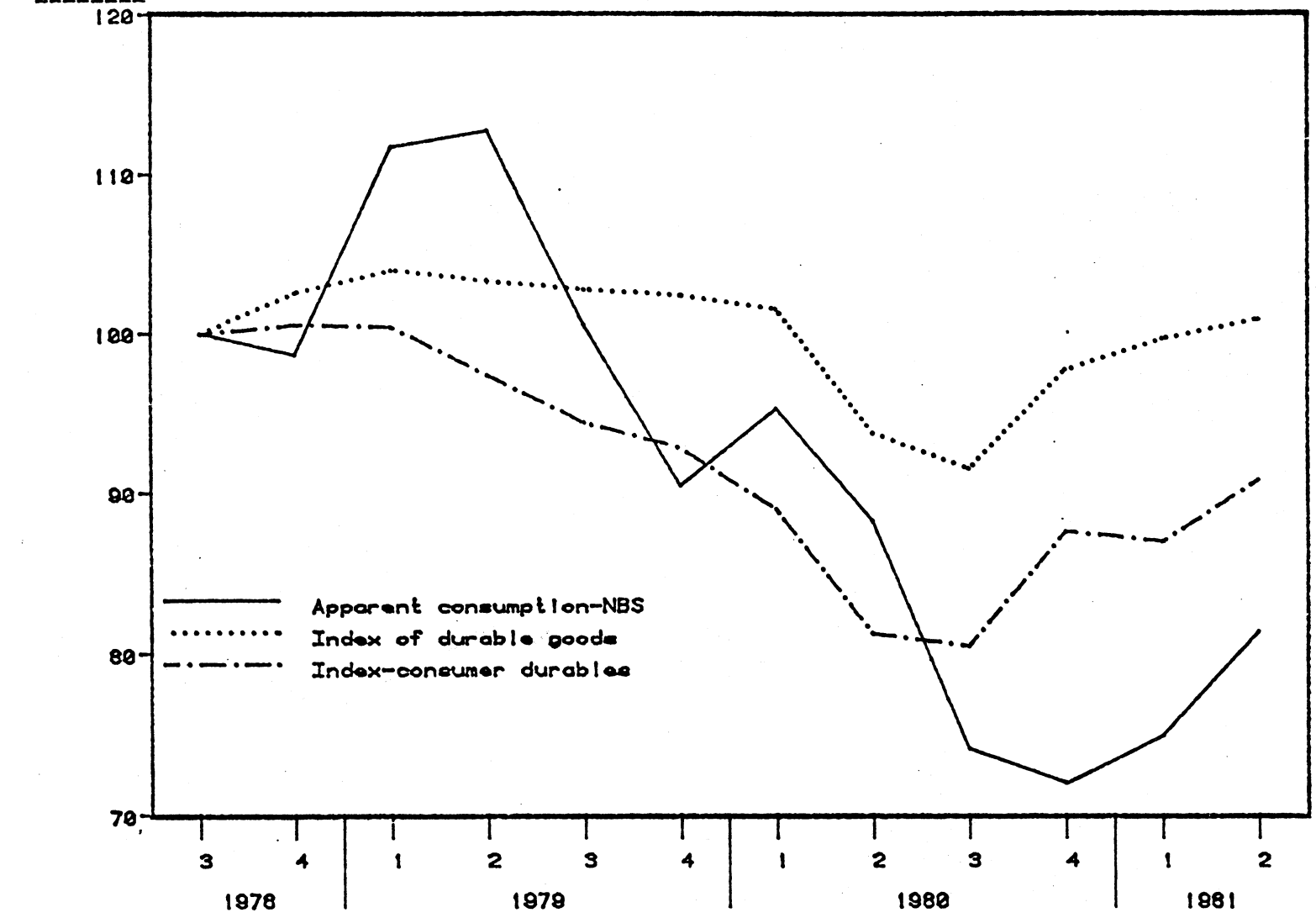
Figure 3.--Indexes of durable goods and consumer durables, and apparent consumption of nuts, bolts, and screws, by quarters, July 1978-June 1981.



Source: Data compiled by the staff of the U.S. International Trade Commission.

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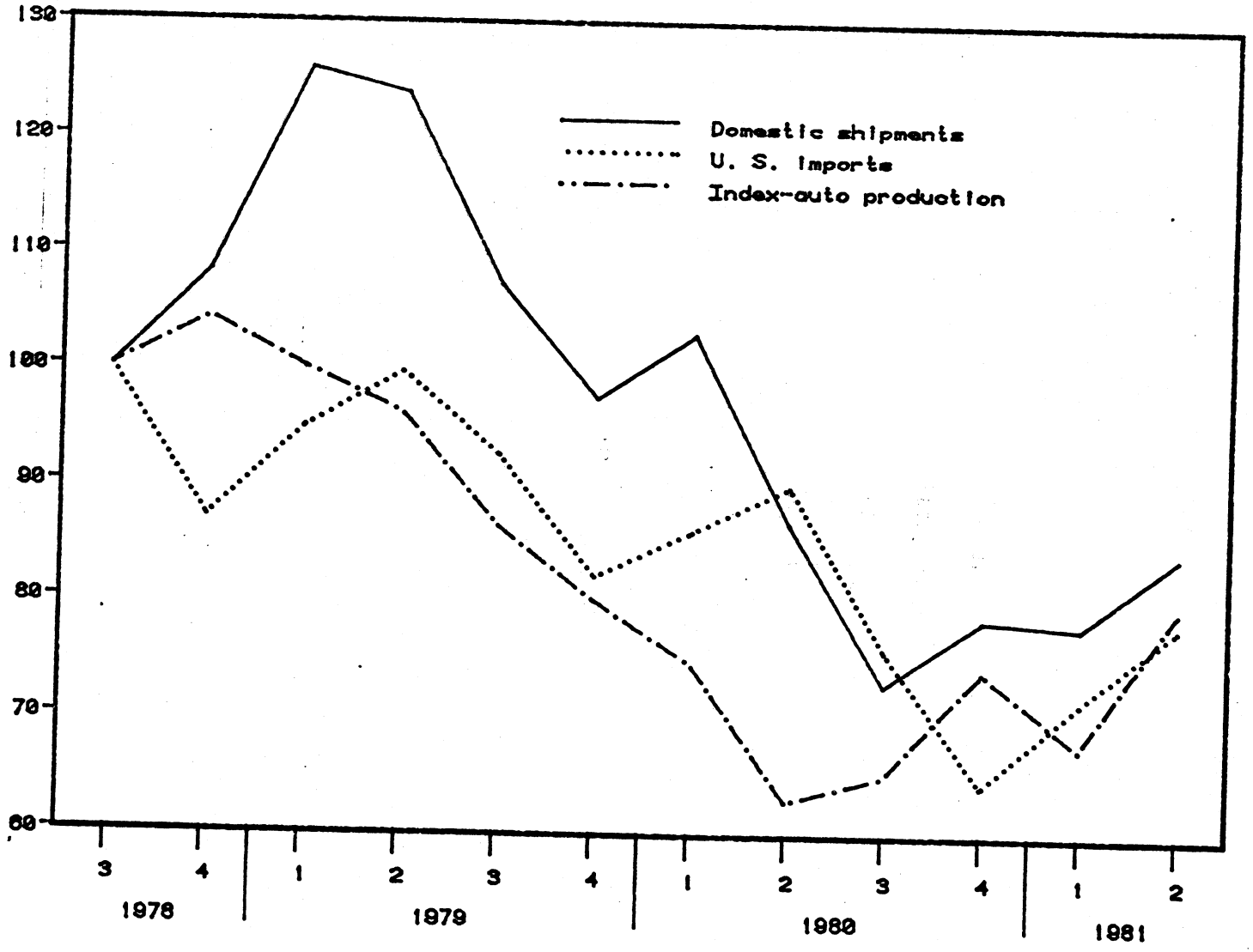
Figure 4.--Index of Automobile Production, Domestic Shipments, and U.S. Imports of Nuts, Bolts, and Screws, by quarters, July 1978-June 1980.



Source: Data compiled by the staff of the U.S. International Trade Commission.

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is present in the near or reasonably near future. The relationship between the demand for durable and consumer durable goods and the products under investigation are presented in figures 1, 2, and 3. Figures 1 and 2 show the relationships of bolts and large screws, and nuts, respectively, to the above demand considerations, and figure 3 combines the three items. In all three figures, it is apparent that consumption of fasteners follows the demand for durable and consumer durable goods.

The automotive industry is a large consumer of industrial fasteners, accounting for an estimated 20 percent of the total domestic shipments reported since the imposition of the relief. Some fastener producers rely on the automotive industry for over 50 percent of their total business. 1/ The downturn in the automotive industry has apparently affected both imports and domestic shipments, although domestic shipments show a closer correlation to automotive production than imports (fig. 4). 2/ This relationship may be attributed to the fact that automotive producers use more "specials" than "standards" (approximately a 60-to-40 ratio 3/), and stock the specials primarily from U.S. producers. The overall decline in demand for both domestic and imported fasteners may also be influenced by the trend towards smaller, more fuel-efficient automobiles, which use fewer fasteners and also may substitute other joining techniques. Additionally, as the automotive industry acquires an increasing share of its engines and other components from foreign sources, its demand for fasteners in the U.S. decreases.

Recent trends

U.S. importers.--There are approximately 80 firms currently importing bolts, nuts, and large screws into the United States. These importers are located throughout the country and primarily import high-volume standard fasteners. 4/ Of the total number of importers, the five largest account for approximately 40 percent of total U.S. imports. Importers generally fall into one of the following five categories.

Importer-warehousers supply U.S. fastener producers, large distributors, and smaller jobbers, such as industrial and automotive supply companies. As a general rule this type of importer does not sell directly to original equipment manufacturers (OEM's). Because these firms stock merchandise, in contrast to the importer-trading companies, they provide faster delivery and fill smaller orders. The largest importer-warehousers are Heads & Threads Co., Chicago, Ill., and Reynolds Fasteners, Greenvale, N.Y.

1/ * * *.

2/ In fig. 4, the correlation coefficient of domestic shipments to automotive production is .80, as compared to .65 for imports to automotive production.

3/ * * *.

4/ Based on information obtained from importers, producers, U.S. Customs officials, and trade sources, it is estimated that standard fasteners account for approximately 85-to-90 percent of fastener imports.

Importer-distributors differ only slightly from other fastener distributors that obtain merchandise from either U.S. fastener producers, importer-trading companies, and importer-warehousers. The importer-distributor, like any fastener distributor, is a localized, sales-oriented middleman, usually serving a large number of accounts.

Importer-trading companies sell mainly to U.S. fastener producers and large distributors. This type of importer rarely sells directly to OEM's. The typical importer-trading company has no warehouse facilities, deals only in high-volume transactions that require long lead times, and normally offers the lowest price available on imported fasteners. Many importer-trading companies are U.S. branches of the large Japanese trading companies, such as Mitsui & Co., Inc.; C. Itoh & Co., Inc.; and Nissho-Iwai. A U.S.-owned importer-trading company is Allied International, Rye, N.Y.

Importer-end users usually import for cost considerations, although other factors such as supply and quality may be involved. The largest importer-end users are the auto makers which import a substantial quantity of bolts, nuts, and large screws from Canada. These imports are entered duty free under TSUS item 646.79 pursuant to the provisions of the Automotive Products Trade Act of 1965.

Importer-producers generally import to supplement their product line, or to provide lower prices for their customers. Many U.S. fastener producers in this category also purchase foreign-made fasteners from other import sources.

U.S. imports.--U.S. imports declined from 849.3 million pounds in 1978, the year prior to the imposition of increased duties on January 6, 1979, to 793.0 million pounds in 1979, and then dropped to 678.5 million pounds in 1980, or by 20.1 percent over the period (table 1, app. G). 1/ The value of these imports increased from $353.9 million in 1978 to $375.0 million in 1979, and then fell to $330.2 million in 1980, representing a 6.7 percent decrease over the period. Imports continued to decline in January-June 1981, decreasing 15.1 percent in quantity and 7.1 percent in value from January-June 1980 levels.

Throughout the 3-year period, Japan was the leading foreign supplier of bolts, nuts, and large screws of iron or steel to the United States, accounting for approximately 60 percent of the total quantity and value. Taiwan was the second largest foreign supplier based on quantity, and Canada was the second largest supplier in terms of value. These three countries together have accounted for approximately 85 percent of total imports since 1978. India was the fourth largest exporter to the United States over the period, followed by Poland; U.S. imports came from approximately 50 other countries as well.

Of the five leading supplying countries, only Poland and Taiwan increased exports to the United States from 1978 to 1980--Poland by 84.9 percent in quantity and 112.2 percent in value, and Taiwan by 11.4 percent in quantity and 25.9 percent in value. Taiwan increased its import share from 10.1 percent of total imports by quantity to 14.1 percent, while Poland increased its import share from 1.2 percent to 2.8 percent (table 2).

1/ These data do not include imports from Canada under TSUS item 646.79 (duty-free imports under the Automotive Products Trade Act of 1965), which are not covered by the relief in effect.

The quantity shares of imports in 1978 and 1980, by types, is shown in the following tabulation:

Item	Percent of total	
	1978	1980
Bolts	28.1	22.1
Nuts	35.1	32.6
Large screws	34.9	42.9
Lag screws and bolts	1.9	2.5

Bolts.--Imports of bolts declined from 238.3 million pounds in 1978 to 150.0 million pounds in 1980, or by 37.2 percent (table 3). The value of these imports declined by 18.5 percent, from $87.4 million in 1978 to $71.5 million in 1980. However, although imports decreased from 83.1 million pounds during January-June 1980 to 72.4 million pounds during January-June 1981, the value of these imports remained relatively constant, declining only from $37.6 million to $37.5 million. During 1978-80, Japan was the largest exporter of bolts to the United States, followed by Canada, India, Taiwan, and Italy.

The import shares of the five leading supplying countries remained relatively stable from 1978 to 1980 (table 4). However, imports of bolts from India fell from 14.8 percent of total imports in January-June 1980 to 4.5 percent in January-June 1981, following imposition of an 18-percent countervailing duty. Canada's import share subsequently increased from 14.6 percent to 18.1 percent, and Taiwan's share increased from 3.9 percent to 10.8 percent during the period.

Nuts.--Imports of nuts decreased from 298.0 million pounds, valued at $153.3 million in 1978, to 221.1 million pounds, valued at $128.2 million, in 1980, or by 25.8 percent by quantity and 16.4 percent by value (table 5). Imports of nuts increased slightly from 118.1 million pounds, valued at $66.4 million, during January-June 1980 to 119.8 million pounds, valued at $69.7 million, during January-June 1981. The leading exporters of nuts to the United States were Japan, Taiwan, Canada, the Netherlands, and China. China was the only leading exporter to show an increase over the period, from 68,000 pounds in 1978 to 5.4 million pounds in 1980. Despite this dramatic increase, imports of nuts from China accounted for only 2.4 percent of total imports in 1980.

Although the import shares of most sources declined slightly during 1978-80, Taiwan increased its share of total imports of nuts by 5.9 percentage points (table 6). This increase was even more pronounced during January-June 1981, when imports from Taiwan increased their share of total imports by 14.2 percentage points, apparently at the expense of Japan.

Large screws.--Imports of large screws declined by 1.9 percent in quantity from 1978 to 1980, from 296.6 million pounds to 291.0 million pounds, but increased 15.8 percent in value, from $107.1 million to $124.0 million (table 7). However, both the quantity and value of imports of large screws fell during January-June 1981 compared with January-June 1980 figures, by 28.9 percent and 23.2 percent, respectively. Japan and Canada were the leading exporters, followed by Taiwan, Poland, and Yugoslavia. The latter three countries increased exports to the United States between 1978 and 1980.

The sources of large screws remained relatively stable from 1978 to 1980, with imports from Japan and Canada declining slightly and the others increasing (table 8). However, the import share from Japan fell by 22.4 percentage points from January-June 1980 to January-June 1981, and Canada and Taiwan increased their respective shares by 7.5 percentage points; as a group, other sources increased their share by 8.7 percentage points.

Lag screws and bolts.--Lag screw and bolt imports increased from 16.4 million pounds, valued at $6.0 million, in 1978 to 16.8 million pounds, valued at $6.6 million, in 1980, representing an increase of 2.2 percent by quantity and 10 percent by value (table 9). Imports of lag screws and bolts increased from 9.5 million pounds, valued at $3.7 million, during January-June 1980, to 9.7 million pounds, valued at $4.1 million, during January-June 1981, representing an increase of 2 percent by quantity and 10.8 percent by value. Japan, Taiwan, Canada, France, and Korea accounted for approximately 99 percent of all lag screw and bolt imports in 1980.

Although Japan was the dominant supplier of imports of lag screws and bolts during 1978-80, its share of total imports fell by 5.3 percentage points over the period, and Taiwan increased its imports by 3.9 percentage points (table 10). This trend continued during January-June 1981, when the Japanese share declined 18.9 percentage points from January-June 1980 levels, and Taiwan increased its share by 16.6 percentage points, the greatest increase exhibited by any country in any category over the period under investigation.

Imports from Canada under TSUS item 646.79. 1/--Imports from Canada under TSUS item 646.79 (duty-free imports under the Automotive Products Trade Act of 1965) decreased from 69.5 million pounds, valued at $37.8 million, in 1978 to 44.1 million pounds, valued at $32.3 million, in 1980, or by 36.5 percent in quantity and 14.6 percent in value. However, such imports increased from January-June 1980 to January-June 1981 by 32.3 percent in quantity and 37.2 percent in value, as shown in the following tabulation:

Period	Quantity (1,000 pounds)	Value (1,000 dollars)
1978	69,521	37,750
1979	65,575	42,750
1980	44,096	32,274
January-June--		
1980	21,650	15,617
1981	28,711	21,409

The quantity of imports from Canada in 1980, by types, is shown in the following tabulation:

Item	Percentage distribution
Bolts	29.3
Nuts	27.1
Large screws	43.6
Total	100.0

1/ These imports are not covered by the relief, and are not included in the other import statistics presented in this report unless noted.

Table 11 presents imports from Canada, including imports entered under TSUS item 646.79. The inclusion of these imports increases Canada's share of total U.S. imports in 1980 to 16.2 percent by quantity and 19.8 percent by value, surpassing Taiwan as the second largest source of imports on a quantity basis.

Shipments of domestically produced products

The Commission sent questionnaires to 78 domestic producers of bolts, nuts, and large screws of iron or steel, and received 34 usable responses from producers representing an estimated 70 percent of domestic shipments in 1980. All domestic industry data presented hereafter are those received from these producers, unless otherwise indicated.

Total shipments, including intercompany transfers, of domestically produced fasteners increased from 857.6 million pounds in 1978 to 944.3 million pounds in 1979, but then fell to 662.0 million pounds in 1980, or by 22.8 percent over the period. Total shipments also declined from January-June 1980 to January-June 1981, from 363.7 million pounds to 339.1 million pounds, or by 6.8 percent.

Intercompany transfers for captive consumption declined as a share of total shipments of domestically produced fasteners throughout the period, from 17.2 percent in 1978 to 12.8 percent in 1980, and from 13.5 percent during January-June 1980 to 13.2 percent during January-June 1981. The decline may be attributable to the fact that captive consumers are generally producers of durable goods which have been affected by the economic downturn; in addition, there may be a trend by captive producers towards ending such operations in favor of obtaining their fastener requirements in the open market. 1/

Bolts, nuts, and large screws of iron or steel: Shipments of domestic products, by markets, 1978-80, January-June 1980, and January-June 1981

Period	Shipments of domestic products		
	Commercial market	Intercompany transfers	Total
	1,000 pounds		
1978 1/	710,247	147,358	857,605
1979	803,065	141,187	944,252
1980	577,269	84,682	661,951
January-June--			
1980	314,654	49,056	363,710
1981	294,526	44,604	339,130

1/ Shipment data are slightly understated.

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

1/ * * *.

Apparent consumption

Apparent consumption of these fasteners, as shown in the following table, increased by 1.8 percent from 1978 to 1979, from 1,706.9 million pounds to 1,737.2 million pounds, but then fell in 1980 to 1,340.5 million pounds, representing an overall decline of 21.5 percent. Total apparent consumption also fell from 741.6 million pounds in January-June 1980 to 660.1 million pounds in January-June 1981, or by 11 percent.

Import penetration in the total market declined from 49.8 percent in 1978 to 45.6 percent in 1979, but then increased to 50.6 percent in 1980. However, import penetration declined from 51.0 percent in January-June 1980 to 48.6 percent in January-June 1981. Imports as a share of the commercial market declined from 54.5 percent to 49.7 percent between 1978 and 1979, but then returned to 54 percent in 1980. Import penetration fell from 54.6 percent in January-June 1980 to 52.1 percent in January-June 1981.

The value of apparent consumption in the commercial market increased from $1,067.1 million in 1978 to $1,274.5 million in 1979, but then decreased to $1,099.6 million in 1980, or by 3.0 percent over the period. The value of apparent consumption increased by 0.2 percent from January-June 1980 to January-June 1981, from $578.5 million to $579.7 million.

The sizable differences in the ratio of imports to apparent consumption in the commercial market by quantity and value (54.0 percent as compared to 30.0 percent in 1980,) show that imported fasteners are generally less expensive than domestic fasteners. The differences in the ratio may also be partially explained by the "standard-special" argument that the majority of the "specials" are produced domestically, and are higher priced than "standards", which account for the sizable majority of the imports.

Consumption and import penetration data for the individual categories of bolts, nuts, large screws, and lag screws and bolts are presented in tables 12-15. While the ratio of imports of bolts to total apparent consumption by quantity remained below 30 percent from January 1978-June 1981, the ratio of imports to consumption in the other categories ranged from about 64 percent in the category of nuts, to about 68 percent in the category of large screws, and to about 92 percent in the category of lag screws and bolts.

U.S. producers.--Whereas some of the large producers of fastener products in the U.S. are diversified and produce non-fastener products as well as industrial fasteners, most tend to specialize in the production of one of the following product categories: (1) mine-roof bolts, (2) aerospace fasteners, (3) small screws, (4) bolts, nuts, and large screws, (5) rivets, (6) studs and pins, and (7) washers. The production of these products require different labor skills, productive facilities, and technology.

Bolts, nuts, and large screws of iron or steel: Domestic shipments, imports, apparent consumption, and ratio of imports to apparent consumption by market, 1978-80, January-June 1980, and January-June 1981

Period	Shipments	Imports	Apparent consumption	Ratio of imports to apparent consumption
	(1,000 pounds)			
Commercial market: 1/				
1978 2/	710,247	849,313	1,559,560	54.5
1979	803,065	792,984	1,596,049	49.7
1980	577,269	678,530	1,255,799	54.0
January-June--				
1980	314,654	377,898	692,552	54.6
1981	294,526	320,972	615,498	52.1
Total market: 3/				
1978 2/	857,605	849,313	1,706,918	49.8
1979	944,252	792,984	1,737,236	45.6
1980	661,951	678,530	1,340,481	50.6
January-June--				
1980	363,710	377,898	741,608	51.0
1981	339,130	320,972	660,102	48.6
	(1,000 dollars)			
Commercial market: 4/				
1978 2/	713,201	353,881	1,067,082	33.2
1979	899,536	374,957	1,274,493	29.4
1980	769,425	330,213	1,099,638	30.0
January-June--				
1980	401,473	177,056	578,529	30.6
1981	415,030	164,634	579,666	28.4

1/ Excludes captive consumption.
2/ Shipment data and apparent consumption are slightly understated for 1978, making the ratio of imports to apparent consumption slightly overstated.
3/ Includes captive consumption.
4/ Excludes captive consumption, for which value data are not available.

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.

Approximately 100 companies account for virtually all the domestic production of the types of ferrous industrial fasteners covered by this investigation. These establishments produce a wide variety of fastener products, ranging from high-volume standard fasteners, such as hex and square nuts, round head bolts, and cap screws, to low-volume special fasteners such as locknuts with nylon inserts. Because of increased import penetration in high-volume, standard fasteners during the last 5 years, some domestic producers have either curtailed production of such products, changed their product mix to include more low-volume special fasteners, or diversified into nonfastener products. 1/ As a result of the general shift in the product mix that is taking place throughout the industry, an increasing number of domestic producers are supplementing their production with foreign-made, high-volume standard fasteners.

U.S. producers located in the east north central region account for the majority of shipments of bolts, nuts, and large screws. The approximate percentage distribution in 1980 of the value of shipments of these articles, by geographic region, is shown in the following tabulation:

Region	Shipments percent
East north central 1/	58.1
Middle Atlantic 2/	16.9
New England 3/	10.9
East south central	4.1
Pacific	4.0
South Atlantic	3.5
West south central	1.2
West north central	1.0
Mountain	.3
Total	100.0

1/ Illinois, Ohio, Michigan.
2/ New York, New Jersey, Pennsylvania, Delaware.
3/ Maine, New Hampshire, Massachusetts, Connecticut, Rhode Island.

On April 8, 1981, the Lamson & Sessions Co. (Lamson), Cleveland, Ohio, one of the largest fastener manufacturers in the United States, terminated its fastener manufacturing operations because of continued operating losses. At the same time, Russell, Burdsall, & Ward of Cleveland, Ohio, another of the largest fastener manufacturers in the United States, purchased most of Lamson's manufacturing equipment, and simultaneously, sold $20 million of 5-percent convertible preferred stock to Automotive Hardware, Ltd., a fastener manufacturer located in Toronto, Ontario. Upon conversion, the preferred stock will give the Canadian company 50.1 percent of Russell, Burdsall, & Ward's common stock. Russell, Burdsall, & Ward also acquired some of Lamson's managerial and production personnel.

1/ This shift is discussed further in the Efforts to Compete section of this report.

A smaller number of fastener producers, estimated to total approximately 35 and located primarily in California, produce aerospace fasteners. Most of these fasteners are made from nonferrous metals; ferrous aerospace fasteners account for no more than 1 percent of the quantity of total domestic shipments of all ferrous fasteners.

Capacity and capacity utilization.--Total U.S. capacity of reporting firms to produce bolts, nuts, and large screws of iron or steel declined from 1,586.5 million pounds in 1978 to 1,567.3 million pounds in 1979, and then fell to 1,493.9 million pounds in 1980, representing a net decrease of 5.8 percent over the period. However, capacity increased from 639.4 million pounds during January-June 1980 to 669.5 million pounds during January-June 1981, or by 4.7 percent (table 16).

As shown in tables 17, 18, 19, and 20, capacity to produce, by categories, bolts, nuts, large screws, and lag screws and bolts declined between 1978 and 1980, by 0.3 percent, 4.4 percent, 19.3 percent, and 15.5 percent, respectively. However, capacity increased in each of the categories from January-June 1980 to January-June 1981.

Capacity utilization for the combined categories of the ferrous fastener industry covered by this investigation increased from 52.6 percent in 1978 to 58.5 percent in 1979, but then decreased to 41.3 percent in 1980. Capacity utilization for the period January-June 1981 was 48.8 percent, a decrease from 53.7 percent for the corresponding period of 1980.

Capacity utilization for the individual product lines of bolts, nuts, and large screws all fell from 1978 to 1980; capacity utilization for lag screws and bolts increased slightly. However, capacity utilization in the lag screws and bolts category fell sharply from 74.9 percent in January-June 1980 to 32.2 percent in January-June 1981.

Capacity utilization statistics must be viewed with caution when assessing the health of the industry. In fastener investigation No. TA-201-37, it was stated that the upper practical limit for capacity utilization for this industry is approximately 75 percent. 1/ If, for analytical purposes, a reported ratio of 80 percent is viewed as 100 percent of practical capacity, then reported utilization rates for 1978, 1979, and 1980 would represent 63.1 percent, 70.2 percent, and 49.6 percent use of practical capacity, respectively. During the course of this investigation, several industry sources have stated that practical capacity declines even further than this when producing specials, due to the inherent problems of machine setup time and downtime between orders. Thus, the stated rates of capacity utilization discussed here are principally important for the trends they show rather than for determining the actual level of capacity utilization.

U.S. production.--Total production of the reporting firms increased slightly from 833.9 million pounds in 1978 to 916.6 million pounds in 1979, but dropped sharply to 616.9 million pounds in 1980, representing a 26-percent decrease over the period (table 21). Production during January-June 1981 was 326.7 million pounds, representing a 4.8-percent decrease from production of 343.1 million pounds in January-June 1980.

1/ Bolts, Nuts, and Large Screws of Iron or Steel: Report to the President on Investigation No. TA-201-37. . ., USITC Publication 924, pp. A-17 and A-18.

Production in each of the categories of bolts, nuts, and large screws decreased between 1978 and 1980, by 29.1 percent, 21.5 percent, and 20.6 percent, respectively, and production of lag screws and bolts declined by 5.9 percent.

Domestic shipments.--Domestic shipments of the reporting firms increased from 710.2 million pounds valued at $713.2 million in 1978 to 803.1 million pounds valued at $899.6 million in 1979, or by 13.1 percent by quantity and 26.1 percent by value (table 22). Shipments then declined to 577.3 million pounds valued at $769.4 million in 1980, a net decline over the period of 18.7 percent in quantity and a net increase of 7.9 percent in value. Shipments for the period January-June 1981 were 294.5 million pounds, valued at $415.0 million, a 6.4-percent decline in quantity from shipments in the period January-June 1980, but a 3.4-percent increase in value.

U.S. exports.--U.S. exports of bolts, nuts, and large screws of iron or steel decreased in quantity, from 217.3 million pounds in 1978 to 199.0 million pounds in 1979, and then dropped sharply to 119.9 million pounds in 1980, or by 45 percent over the period. (See the following table.) However, the value of these exports increased by 8 percent, from $122.7 million in 1978 to $139.1 million in 1980. Exports increased from 57.6 million pounds, valued at $68.4 million during January-June 1980 to 75.5 million pounds, valued at $78.2 million during January-June 1981, or 31.1 percent by quantity and 14.3 percent by value. Although the leading export market is Canada, bolts, nuts, and large screws are shipped to over 30 countries. The majority of exports are specialized fasteners, and many are used in high-technology applications.

U.S. producers' inventories.--The yearend inventories of the reporting producers increased from 174.7 million pounds as of December 30, 1978, to 187.2 million pounds as of December 30, 1980, or by 7.1 percent (table 23).

U.S. exports of bolts, nuts, and large screws of iron or steel, by type, 1978-80, January-June 1980, and January-June 1981

Quantity (1,000 pounds); value (1,000 dollars)

Item	1978		1979		1980		January-June--			
							1980		1981	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
	1,000 pounds	1,000 dollars	1,000 pounds	1,000 dollars	1,000 pounds	1,000 dollars	1,000 pounds	1,000 dollars	1,000 pounds	1,000 dollars
Bolts	145,485	76,614	132,486	79,973	86,576	91,505	40,052	45,008	55,756	47,927
Nuts	58,156	30,659	57,706	33,713	25,685	31,724	13,796	15,657	15,444	20,776
Large screws	13,611	15,453	8,823	16,701	7,662	15,907	3,737	7,757	4,332	9,535
Total	217,252	122,726	199,015	130,387	119,923	139,136	57,585	68,422	75,532	78,238

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

Inventories decreased by 11.6 percent between June 30, 1980, and June 30, 1981. The share of producers' inventories accounted for by imports of these producers remained below 2 percent throughout the period.

U.S. importers' inventories.--Inventories of eight U.S. importers which accounted for an estimated 43 percent of total imports in 1980 rose 7.6 percent during 1978-1980, from 118.9 million pounds as of December 30, 1978, to 127.9 million pounds as of December 30, 1980 (table 24). However, importers' inventories fell from 131.5 million pounds on June 30, 1980, to 107.9 million pounds on June 30, 1981, or by 17.9 percent.

U.S. producers' unfilled orders.--Unfilled orders held by U.S. producers declined by 34.7 percent, from 158.5 million pounds as of December 31, 1978, to 103.5 million pounds as of December 31, 1980 (table 25). However, unfilled orders on June 30, 1981, were 104.9 million pounds, 10.0 percent greater than the 95.4 million pounds reported on June 30, 1980.

U.S. importers' unfilled orders.--Unfilled orders held by U.S. importers decreased 41.0 percent between December 31, 1978, and December 31, 1980, from 23.4 million pounds to 13.8 million pounds. Unfilled orders also decreased from June 30, 1980, to June 30, 1981, by 1.6 million pounds, or 9.1 percent (table 26).

Employment and wages

As shown in table 27, the average number of production and related workers manufacturing bolts, nuts, and large screws of iron or steel increased from 22,193 in 1978 to 22,749 in 1979, but then dropped to 20,118 in 1980. In January-June 1980, the average number of such workers was 20,617, compared with 19,587 during January-June 1981.

The hours worked increased from 45.3 million hours in 1978 to 48.1 million hours in 1979, and then declined to 39.2 million hours in 1980. However, hours worked during January-June 1981 totaled 21.4 million hours, compared with 31.1 million hours for the corresponding period of 1980.

The wages paid to these workers increased from $450.0 million in 1978 to $494.0 million in 1979, and then decreased to $442.7 million in 1980. However, the wages paid during January-June 1981 were $236.8 million, representing an increase from $221.5 million during January-June 1980.

Financial performance of U.S. producers

Operations on bolts, nuts, and large screws.--Usable financial data were received from 29 domestic producers representing about 87 percent of total reported U.S. shipments of bolts, nuts, large screws or lag screws and bolts of iron or steel in 1980.

Throughout this section, these data are presented in both aggregate form and by type of major production 1/ in order to evaluate the merits of the importers' argument that some types of fasteners are more profitable than others.

1/ The Commission's questionnaire requested producers to estimate the proportion of their total production accounted for by standard fasteners, special fasteners, aerospace fasteners, and nonfasteners. For the purpose of this section, a company was placed in one of the above categories if its production mix was 60 percent or more of one of the types. If the production mix was divided between standards and specials with no type accounting for more than 59 percent, it was placed in the standard-special category. Data for companies in the nonfastener category (producing mostly nonfastener products) represent their fastener operations only.

Aggregated net sales of the U.S. manufacturers increased by 15 percent from $713.9 million in 1978 to $821.5 million in 1979, but then fell back to $717.0 million in 1980, primarily as a result of a decline in sales volume. In the partial year up to June 1981, 1/ aggregated net sales increased by 8 percent compared with the net sales in the corresponding period of 1980 (table 28).

The special and standard/special fastener producers' net sales showed a declining trend as a share of aggregated net sales during 1978-80, and increased slightly during the partial year 1981. The standard fastener *** share of total net sales increased during 1978-80. ***.

Aggregate net operating profit increased by 30 percent from $75.0 million in 1978 to $97.6 million in 1979, but then declined precipitously to $59.4 million in 1980. The ratio of net operating profit to net sales increased from 10.5 percent in 1978 to 11.9 percent in 1979, but then declined to 8.3 percent in 1980. The sharp decline in profitability in 1980 is the result of lower unit sales volume, which is partially attributable to the recession in the motor-vehicle and construction equipment industries. Furthermore, the selling price did not keep pace with the increasing costs of producing fasteners. In the partial year up to June 1981, net operating profits improved, increasing by 11 percent compared with the net operating profits in the corresponding period of 1980 ($31.7 million to $35.3 million). In the same period, the ratio of net operating profit to net sales increased from 8.9 to 9.2 percent.

Most of the domestic producers did not provide detailed information on other income (expenses) as requested in the questionnaire. Hence, the impact of high interest rates on the industry's profitability is not measurable. Further, out of the 29 reporting firms, several firms reported other net income in 1978 (9), 1979 (10), and 1980 (11). During 1978-80, nine firms reported a large amount of "other income" which included royalty income, gains on sale of assets or steel (raw material), rental income, interest income, and sales of scraps. Only two firms offset their interest expense against other income. However, the aggregate net profit margins before income taxes are almost the same as aggregate net operating profit margins throughout the period for which data were collected.

The trends in net operating margins differed by type of fasteners; special fasteners declined between 1978 and 1980; standard/special fasteners declined in 1979, but improved slightly in 1980; ***. The net operating margins for standard fasteners *** and aggregated data followed the same trend, rising in 1979 and declining in 1980. A comparison of data in the partial year 1981 with those for the corresponding period of 1980 showed that all categories had increasing net operating margins ***.

1/ Represents the period from the end of each company's 1980 accounting year to June 1981.

Four firms which accounted for 14 percent of total sales of reporting firms registered net losses during 1978-1979 (table 29). The firms reporting losses increased to 11 firms in 1980 and 10 firms in the partial year of 1981, both representing about 38 percent of the reporting firms. The majority of these firms reporting losses were in the category of special fasteners during 1980 and the partial year 1981. ***. The firms reporting losses in the standard/special and standard groups fluctuated during the period under investigation.

A comparison of fastener profit margins with those reported for other broad categories of products are shown in the following tabulation:

(In percent)

Item	1978	1979	1980	Partial year through June 1981 1/
Bolts, nuts, large screws, or lag screws and bolts of iron or steel:				
Operating profit margin	10.5	11.9	8.3	9.2
Pretax profit margin	10.5	12.0	8.2	9.2
Fabricated metal products:				
Operating profit margin	8.0	7.7	6.7	7.2
Pretax profit margin	7.4	7.2	6.1	6.5
All manufacturing:				
Operating profit margin	8.1	7.8	6.8	6.6
Pretax profit margin	7.8	7.6	6.4	6.4

1/ For fabricated metal products and all manufacturing, percentage represents first quarter of 1981.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission and from Federal Trade Commission Quarterly Financial Report.

The profit margins of fasteners were higher than those of fabricated metal products and all manufacturing in each of the years 1978-80 and for partial year 1981. The profit margins for fabricated metal products and all manufacturing show a declining trend from 1978 to 1980, with a stabilization or improvement occurring in the first quarter of 1981, while the trend in the profit margins for the ferrous industrial fasteners under investigation increased in 1979, decreased in 1980, and rose at a slower rate in the partial year through June 1981.

To provide an additional measure of profitability, the ratio of net profit (loss) before income taxes to original cost and book value of fixed assets employed in the production of bolts, nuts, and large screws are

presented in table 30. In general, these ratios followed the same trend for all categories as did the ratios of net profit (loss) before income tax to net sales; ***.

Overall operations of the establishments.--The aggregate net operating profit of the overall establishments within which bolts, nuts, or large screws of iron or steel are produced increased slightly from $169.2 million in 1978 to $178.5 million in 1979, but then fell sharply to $97.4 million in 1980 (table 31). In the same period, however, the ratio of net operating profit to net sales showed a declining trend, from 10.0 percent in 1978 to 6.2 percent in 1980. In the partial year through June 1981, net operating profit increased by 35 percent to $73.4 million from $54.3 million for the corresponding period of 1980. In the same period, the ratio of net operating profit to net sales increased from 6.7 to 8.3 percent. The ratio of net profit before income taxes to net sales increased slightly in 1979, declined in 1980, and rose again in partial year of 1981. The profit margins for overall establishment operations followed the same trend as operations on bolts, nuts, and large screws in all categories. However, aggregate operating profit margins showed a declining trend during 1978-80, and for standard fasteners, both profit margins also indicated a declining trend in the partial year of 1981 compared with the profit margins in the corresponding period of 1980.

Producers' Efforts to Compete

The following summarizes both the information provided by the petitioner on this subject as well as a discussion of the responses the Commission received to its questionnaires. Due to the nature of the questionnaire responses and the effect of factors other than imports on this industry, it is very difficult to separate those efforts to compete made by the domestic industry in response to the relief granted from efforts which would have been made even if relief had not been granted.

The questionnaire responses indicate that capital expenditures were static during 1978-80, totaling $23.4 million in 1978 and $23.2 million in 1980. Over the same period, capital equipment prices increased by 25 percent. 1/ Assuming that the majority of these expenditures were for capital equipment-type items, real capital expenditures fell by almost 25 percent from 1978 to 1980. The extent to which this is influenced by economic considerations other than imports is not known.

Responses to the Commission's questionnaires indicate that marketing and product development efforts, rather than significant capital investment, are associated with the ability of a firm to compete more effectively. The majority of the efforts reported by firms that experienced a comparative increase in their profitability from 1978 to 1980 were related to the development and management of a firm's product line.

1/ Department of Commerce Survey of Current Business.

Information provided by the petitioner

In its prehearing brief, the petitioner presented information on the efforts that the industry had made to adjust to import competition. According to the brief, "import relief has stimulated increased capital investment and other initiatives to promote production, marketing and management efficiency." The data in the brief were obtained from a survey conducted by the petitioner that covered 16 domestic manufacturers which accounted for over 35 percent of the total reported domestic shipments of nuts, bolts, and large screws in 1980. A summary of the efforts described in the brief is as follows: 1/

Increased investment.--The firms surveyed by the petitioner reported a substantial increase in their capital expenditures since the beginning of 1979. Investment in new machinery, equipment, and technology accounted for a large portion of the capital expenditures. Other capital expenditures included: (a) expansion of plant facilities to reduce reliance on outside vendors or to permit increased research and development activity; (b) alteration of production processes in order to introduce new products and tool design changes; and (c) acquisition of proprietary fastener rights and related technology. The petition indicated that without import relief, one-third of this investment would not have been made. Moreover, it is projected that if the import relief is terminated, future capital expenditures would be reduced or eliminated.

Management and marketing efforts.--The petitioner stated that management and marketing efforts were as significant as new machinery, equipment, and technology in assisting the firms to become more competitive. The management efforts reported by the firms included: (a) personnel changes and other actions to improve upper management and reduce staff costs; (b) improvement of cash-flow management; and (c) use of training programs that included incentives to increase productivity and management effectiveness. The marketing efforts, according to the petitioner, focused on (1) improving the capability of the sales force and (2) upgrading customer services. The first category of marketing efforts included: (a) improving the engineering skills of the sales representatives; (b) adding new sales engineers; (c) increasing advertising and promotion activities; and (d) adopting incentive plans. The latter category of marketing efforts focused on: (a) additional quality control services; (b) installation of computer inventory control and ordering systems; (c) increased engineering services and testing laboratory facilities; and (d) reorganization of customer service departments. One advantage that domestic producers have over foreign manufacturers is geographical proximity to their customers. This can be especially important to buyers of fasteners where many orders must be made to detailed customer specifications. By increasing the engineering skills and services they make available to their customers, the domestic producers seem to be making an effort to capitalize on their geographical advantage.

Restriction and rationalization of individual production facilities.--Two firms reported that they had acquired an industrial fastener division from another company. Another firm conducted a major reorganization of its fastener-manufacturing division. These changes were made to reduce administrative and selling costs, increase production efficiency, and promote improved marketing. Four plant shutdowns were also reported.

1/ Prehearing brief of the domestic industry, pp. 20-29.

Machinery used by the industry

A variety of machines are used in the production of bolts, nuts, and screws. Headers are used to convert wire rod to screw blanks which are then trimmed and threaded to make a finished screw. Nut formers convert wire rod into nut blanks, and tappers put threads into the blank. Boltmakers convert wire rod into a finished bolt through a series of steps which include heading, trimming, and threading.

In general, smaller, standard fasteners can be produced more rapidly than larger, more specialized items. However, operating speeds in the production of all types of fasteners have been steadily increasing over the years with the introduction of new machinery. According to the National Machinery Co., the only U.S. manufacturer of fastener production equipment, their new high-speed double-stroke header which was introduced in September 1980 can produce up to 470 screw blanks per minute, a rate that is nearly eight times as fast as some of the older equipment that is still being used in the industry. Moreover, they claim that their high-speed nut former, which was introduced at the same time, is able to turn out more than 300 nut blanks per minute, a rate that is more than three times as fast as the rate that can be achieved using the oldest equipment in the industry. They have also stated that their high-speed boltmakers are significantly faster than earlier models.

According to the National Machinery Co., * * *. Although available information was not sufficient for performing an independent estimate of the average age of the equipment that is presently in use in the industry, conversations with fastener producers and a review of questionnaire responses indicate that much of the industry has been slow to acquire new fastener production equipment. Of the 37 producers who responded to the questionnaires, 9 had purchased new double-stroke headers, 4 had purchased new nut formers, and 3 had bought new boltmakers during 1978-80.

Several factors may account for the limited purchases of these new machines. Some manufacturers that produce mostly special nuts, bolts, and screws have stated that the new equipment cannot be easily adapted to producing a variety of these items. They argue that high-speed nut-makers and high-speed boltmakers, in particular, can only be used effectively in producing standard bolts and nuts. In addition to this problem, some have stated that the costs of new double-stroke headers and nut formers, which range between $100,000 and $400,000, are so high that they offset the advantages gained from the higher speed of operation. Therefore, they claim that it is more economical to simply rebuild existing equipment as it wears out. Finally, some producers have argued that speed is not important with special fasteners since only short production runs are required.

Federal programs assisting the fastener industry

The Department of Commerce initiated a study in FY 1979 to determine whether it is possible to provide technical assistance to make the fastener industry more competitive with imports. Funding was approved for $500,000; the primary grant for the research was given to the New England Research Application Center at the University of Connecticut.

The principal conclusion of the study, which was completed in early 1981, was that the best way to assist the fastener industry is to improve its machinery utilization rate. To obtain additional information, a project was begun to install equipment on existing machines to monitor their operation and shut the machines off when the monitor (which is called a controller) detects signs that a catastrophic failure of the machine may occur. The results of this research were presented at a workshop for fastener industry representatives held in New Haven, Conn. in May 1981. Data were presented that indicate an overall savings of 30 percent can result from installing this equipment. With the cutoff system, the machine can run unattended, and less scrap metal is produced. To date, five of these controllers (which are made by Precision Engineering Co.) have been ordered by fastener manufacturers. Each machine costs about $10,000; the payback time is estimated to be between 1/2 year and 1-1/2 years. Commerce plans to conduct a survey of participants at the workshop to determine how extensively the new equipment is being used and to measure its effectiveness in reducing costs.

Capital expenditures and research and development expenses

Historical data.--U.S. producers' capital expenditures and research and development expenses for the period from January 1978 to June 1981 are presented in table 32.

The total capital expenditures of the domestic producers declined from $23.4 million in 1978 to $22.3 million in 1979, and then increased to $23.2 million in 1980. In January-June 1981, the aggregate capital expenditures declined by 52.8 percent to $6.9 million from $14.6 million in the corresponding period of 1980. The majority of the aggregate capital expenditures were made for machinery, equipment, and fixtures.

In contrast to the slight decrease in total capital expenditures from 1978 to 1980, there was an increase in both the ratio of capital expenditures to net sales and the ratio of capital expenditures to cash flow during the same period. The ratio of capital expenditures to net sales increased by 10 percent from 1978 to 1980 and the ratio of capital expenditures to cash flow more than doubled, as shown in the following tabulation (in percent):

Item	1978	1980
Ratios of--		
Capital expenditures to net sales	4.39	4.83
Capital expenditures to cash flow	37.9	89.1

It should be noted, however, that the increase in the ratios during this period can be largely attributed to a slight decrease in the net sales and a large decrease in the net profit before taxes (and cash flow) of the firms that reported making capital expenditures.

From January 1978 to June 1981, about 70 to 80 percent of the total capital expenditures were incurred by producers of special fasteners. The proportion of the total capital expenditures that were allocated to the production of standard and specialty fasteners for each type of firm are shown in the following tabulation (in percent):

Firms whose major product line is--	Allocation of capital expenditures during 1978-80 for--	
	Standard fasteners	Special fasteners
Special fasteners	7.7	92.3
Standard fasteners	36.4	63.6
Standard/special fasteners	49.2	50.8
Aerospace fasteners	* * *	* * *
Nonfasteners	* * *	* * *
Average, all categories	17.3	82.7

As shown in table 32, aggregated research and development expenses for fasteners increased by 11 percent from $1.8 million in 1978 to $2.0 million in 1979 but then declined to about the 1978 level in 1980. Those expenditures increased by 20 percent, from $956,000 in January-June 1980 to $1,145 thousand in January-June 1981. The majority of research and development expenses were incurred by the producers of special fasteners.

Future investment.--Of the 29 firms that provided information, 69 percent reported they have specific plans for further investment in plants, machinery, and equipment over the next 3 years. The following tablulation shows, by profitability of the firm, the expenditures that would be made by the domestic producers if import relief is extended and the expenditures that would be made if import relief is terminated (in thousands of dollars):

Firms that described the sales and profits of their fastener operations as--	Total investment in fastener opertions over the next 3 years if--	
	Import relief is extended	Import relief is terminated
Satisfactory or excellent 1/	27,260	23,710
Unsatisfactory 2/	41,700	7,510
Total	68,960	31,220

1/ 12 firms.
2/ 17 firms.

According to the estimates provided by the domestic producers, the termination of import relief would result in a reduction in investment of $38 million, or 55 percent, during 1982-84. The data demonstrate that the termination of import relief would have a greater impact on the plans of "unprofitable" firms than on those of "profitable" ones. 1/ These firms with

1/ The firms were asked in the Commission's questionnaire to categorize their sales and profits.

unsatisfactory sales and profits reported an 82-percent decrease in expenditures if relief is not extended. In contrast, firms with "acceptable or excellent" sales and profits show a decrease of only 13 percent. The majority of the firms stated that continued pressure from imports is the reason they would decrease or eliminate future investment if the import relief is not extended.

Specific efforts of domestic manufacturers to compete against imports

In order to obtain additional information on the actions the domestic industry has taken to adjust to import competition during January-June 1978-81, the Commission provided the firms with a list of specific efforts which could be significant and asked them to indicate which of the efforts they had made in order to become more competitive. Information was obtained from 28 firms accounting for 84 percent of reported domestic shipments in 1980. The specific effforts reported by the firms in response to the Commission's request are ranked in the table in order of the frequency with which they were cited.

When trying to become more competitive, the domestic producers focused both on (1) reducing the cost of producing and selling bolts, nuts, and large screws and (2) improving the marketing of fasteners. As shown in column 2 of the following table, each of the efforts that were reported by at least 64 percent of the firms--improved quality control, inventory control and sales force operations, and adoption of labor-saving equipment and/or processes--can be categorized as primarily a cost reduction or marketing effort. Increased investment in new plants and machinery were reported by 57 percent of the respondents. Efforts that required a major change in the organization, structure, or operation of the firm (i.e., "change in upper management personnel," "divestiture of unprofitable fastener operations," "vertical expansion," and "change in company organization") were reported by comparatively few firms.

In a separate section of the questionnaire, the Commission also requested that the firms indicate if they have attempted to diversify into nonfastener areas in order to become more competitive. Seven firms responded that they had done so; the lines into which they expanded range from the production of hot upset forgings other than bolts, the manufacture of tools and electronics, and retailing ladies' apparel. With one exception, firms that reported such horizontal expansion were not the same firms that reported vertical expansion.

Statistical analysis of specific efforts of domestic manufacturers to compete against imports

In evaluating the efforts that an industry has undertaken to become more competitive, one of the questions that arises is whether many of the firms have sufficient cash flow or capital reserves to effectively utilize the period of the import relief. This question is of special concern for an industry as capital intensive as the fastener industry. In order to examine the relationship between profitability and efforts to compete, 26 of the firms

Bolts, nuts, and large screws of iron or steel: Specific efforts of domestic firms to compete more effectively against imports, by number, percent of total, and average rank of firms reporting use of specific effort

Effort type	Firms reporting use of specific effort to compete 1/ (1)	Percent of total firms reporting use of specific effort to compete 1/ (2)	Average rank of those firms reporting use of specific effort to compete for--2/ 3/	
			Profitability 4/ (3)	Change in profitability 5/ (4)
	Units			
Improved quality control	21	75.0	13.3	13.6
Improved inventory control	21	75.0	13.1	14.0
Improved sales force operation	19	67.9	12.3	12.6
Adoption of labor-saving equipment and/or processes	19	67.9	13.7	12.8
Shift in product mix	18	64.3	12.6	14.1
Better cash-flow management	17	60.7	11.9	12.1
Improvements in energy efficiency	17	60.7	14.9	13.0
Improved and/or expanded service to customers	16	57.1	13.8	12.4
Increased investment in new plants and machinery	16	57.1	14.3	11.7
Improved management techniques	15	53.6	13.4	13.8
Change in pricing policies	14	50.0	10.2	12.2
Improvements in material usage	13	46.4	11.5	12.3
Improved training for workers	12	42.9	13.1	13.3
New product development	12	42.9	11.8	13.8
Changes in upper management personnel	11	39.3	8.9	13.1
Development of new marketing strategy	10	35.7	13.4	14.1
Increased purchases of certain fastener lines from outside sources	9	32.1	12.3	15.6
Divestiture of unprofitable fastener operations	8	28.6	10.0	11.4
Vertical expansion of company operations	7	25.0	17.0	11.3
Changes in company organization	3	10.7	6.3	12.0
Relocation of plants	2	7.1	14.5	9.5
Increased exports of products	2	7.1	23.5	16.5

1/ Data for 28 firms, which account for 84 percent of domestic shipments and approximately 31 percent of the total number of firms in the domestic industry, that responded to the section of the Commission's questionnaire on efforts to compete and adjust.

2/ See p. A-31 for a description of the method used to calculate the average rank.

3/ Rankings based upon responses of 26 firms which account for 83 percent of domestic shipments in 1980 and approximately 29 percent of the total number of firms in the domestic industry.

4/ Profitability was measured by calculating the ratio of the net operating profit to total net sales in 1980 for bolts, nuts, and large screws of iron or steel operations.

5/ Change in profitability was measured by calculating the change in the ratios of net operating profit to total net sales from 1978 to 1980 for operations concerning bolts, nuts, and large screws of iron or steel.

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

that provided data on specific efforts to compete were ranked according to their ratio of net operating profit to total net sales of nuts, bolts and large screws of iron and steel in 1980. 1/ A number from 26 to 1 was then assigned to each firm according to the firm's relative rank and, for each effort, the average rank of those firms that reported having made that effort was calculated. Average ranks above 13.5 indicate that, on the average, those firms that were more profitable in 1980 (or less unprofitable) reported having taken that action in order to become more competitive.

The average rankings provided in column 3 of the preceding table show which efforts to compete have been made by profitable firms and which have been made by comparatively unprofitable firms.

Those efforts which require a significant investment of capital were cited by firms that reported relatively high profits in 1980. 2/ Firms that reported "adoption of labor-saving equipment and/or processes," "increase in investment in new plant and machinery," "vertical expansion of operations," or "relocation of plants" had "average profitability rankings" of 13.7, 14.3, 17.0 and 14.5, respectively. This suggests that comparatively unprofitable firms may not have sufficient cash flow to take advantage of the advanced machinery and production processes described above. In contrast to investment-related efforts, efforts that require major changes in the organization, structure, or management of the firm are generally reported only by those firms that are comparatively unprofitable. The "profitability ranks" of firms which report "changes in company organization," "changes in upper management personnel" and "divestiture of unprofitable fastener operations" range from 6.3 to 10.0--far below the median rank of 13.5.

In order to examine which efforts are associated with an increase in profitability, the Commission also ranked the firms according to their change in profitability from 1978 to 1980. (The change in profitability was measured by calculating the change in the ratios of net operating profit to total net sales of bolts, nuts, and large screws of iron or steel for that time period.) The average rankings for each effort are presented in column 4 of the preceding table. An average rank above 13.5 shows firms that experienced comparatively high increases (or lower decreases) in profitability reported making that effort to compete.

1/ A preliminary analysis of the data was also conducted to examine the relationships between the number and types of competitive efforts made and the size of the firm. The firms were divided into those which reported net sales in 1980 below $15,000,000 and those which reported $15,000,000 or more in net sales. The firms in both groups indicated that they made an average of 10 specific efforts to compete. Efforts to compete which required increased investment were reported by a higher percentage of large producers than small producers.

2/ The Commission compared the dollar amounts made for capital expenditures for those firms that reported they increased their investment in new plants and machinery to the capital expenditures for those firms that did not report increased investment in new plants and machinery. The capital expenditures for the firms who reported such investment increased 36 percent from 1978 to 1980; the capital expenditures for those firms that did not cite increased investment decreased 40 percent during the same period.

As shown by comparing columns 2 with 4, some of the efforts that were reported by firms that increased their profitability have been undertaken by a large number of the firms in the industry; other "profitable" efforts were reported by only a few firms. The efforts which were reported by firms that experienced a comparative increase in their profitability from 1978 to 1980 are listed below:

Improved quality control
Improved inventory control
Shift in product mix
Improved management techniques
New product development
Development of new marketing strategy
Increased purchases of certain fasteners from outside sources
Increased exports of products

The majority of the items listed above are not unrelated efforts but center upon a common area--the development and management of a firm's product line. This suggests that such marketing efforts are associated with the ability of a firm to compete more effectively.

The association between a high change in profitability and such marketing efforts was not, however, shown for sales-related marketing efforts. Both of the sales-related marketing items on the Commission's list has a lower than average change in profitability: the average rank for firms that reported "improved sales force operation" was 12.6; the average rank for "improved and/or expanded service to customers" was 12.4.

The data reported by the domestic industry also suggest that efforts which require a significant capital investment may not assist a firm in competing more effectively. Each of such capital-intensive items as "adoption of labor-saving equipment and/or processes," "increase in investment in new plants and machinery," "vertical expansion of operations" and "relocation of plants" were reported by firms with average "change in profitability" ranks less than 13.5.

It should be emphasized that these "relationships" are simply that--observed associations between two variables that do not demonstrate cause-and-effect. Any change in the profitability of a firm is obviously due to a multiplicity of factors which cannot easily be reduced to a simple numerical relationship. The associations noted above best serve as a framework which can aid in interpreting the sales and financial data and other information that have been provided by the domestic fastener industry. When using this data the following points must be considered: (1) The items that were provided to the domestic producers were not mutually exclusive or exhaustive; (2) the statistical significance of each average rank varies from effort to effort; (3) the time period over which the efforts were made and their impact assessed is the same; and (4) the exact relationships among the firms is not depicted since a scale was used to compare the profitability of the different firms.

Prices

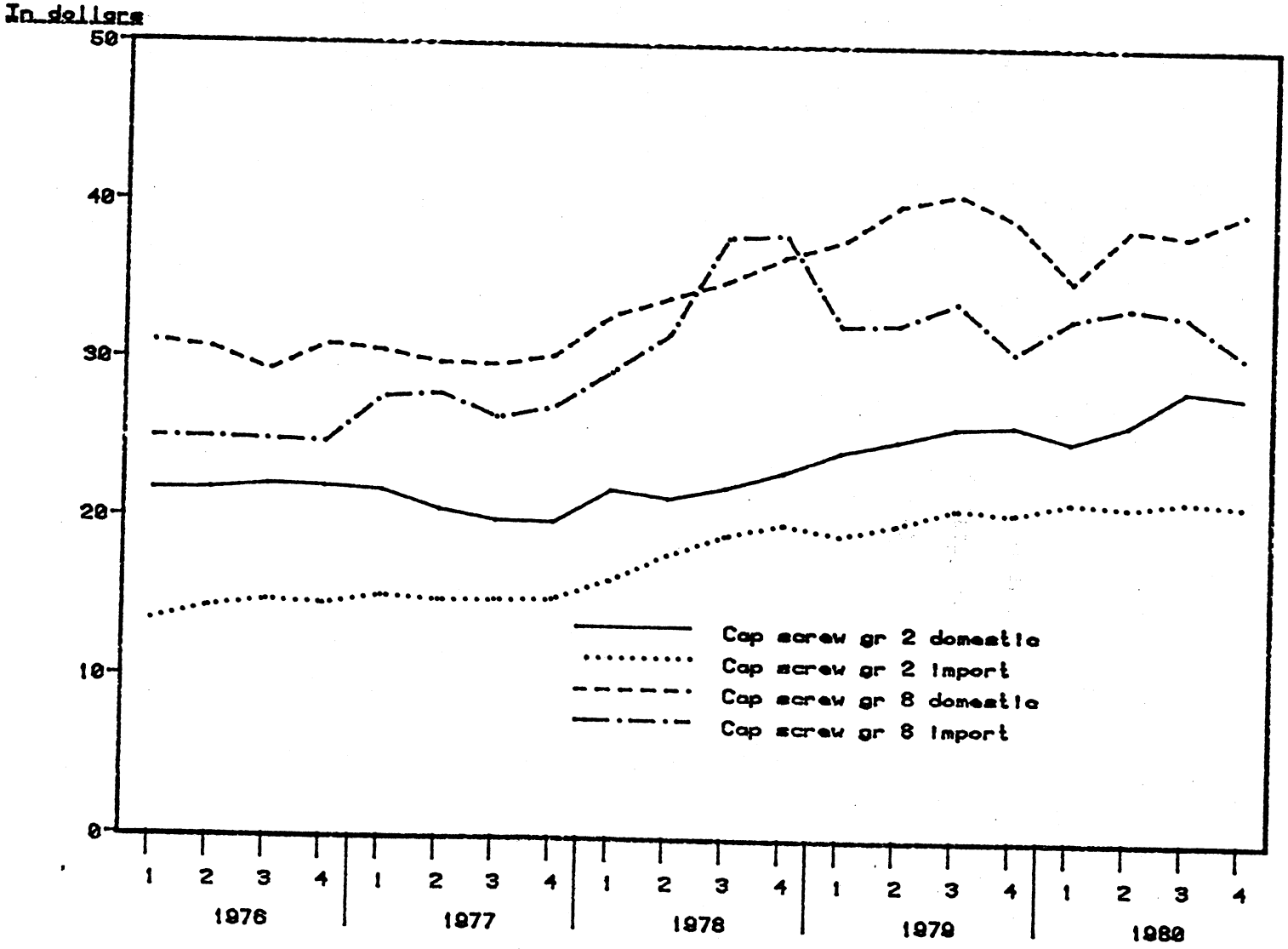
As a result of the prior investigations and quarterly monitoring reports, 5 years of pricing data are available on selected fasteners (tables 33-35 and the following figures). The data show that imports generally undersold standard domestic fasteners. This section of the report discusses the importance of relative prices and trends and comparisons of domestic and imported fastener prices.

Since industrial fasteners usually add only a small amount to the cost of a finished product, the total demand for bolts, nuts, and large screws is relatively insensitive to changes in price. If prices were reduced for both imported and domestic fasteners, total consumption of fasteners would probably not increase appreciably in the short run. However, witnesses at past hearings and the most recent hearing have agreed that price differences between imported and domestic fasteners can have a major influence on distributors' purchasing decisions, and that it is vital to compare relative prices of the same items. The effects of relative price differences should be more apparent in the market for standard fasteners on which importers have tended to concentrate, than in the market for special fasteners, which has received more emphasis by domestic producers.

Tables 33-35 present price ranges and simple averages for six standard fasteners which were developed from Commission monitoring reports from 1976 through 1980. The items included are 1/4" and 1/2" hexagonal nuts, grade 2 and grade 8 cap screws, high-strength bolts, and carriage bolts. Because these are clearly defined items that have been established as standards for some time, the domestic and imported products can be considered identical. Average prices of the imported products are below the average prices of the domestic products in almost all instances. The prices of both imported and domestic fasteners increased from 1976 to 1980, with import prices growing more rapidly over the period. Import prices for all items, except grade 8 cap screws, were higher by 50 percent or more in 1980 than in 1976. Of domestic fasteners, only the 1/4" hexagon nut showed a price rise in excess of 50 percent over the period. The largest price increase for imports occurred in 1978; for domestic fasteners, the greatest price gains generally occurred in 1979, the year relief became effective. Thus, for domestic and imported fasteners, except structural bolts, the price spread decreased in 1978 and then widened again in 1979.

In 1976, prices of all of the imported fasteners examined were significantly less than the prices of domestic fasteners. Margins ranged from $5.57 per thousand pieces, or 18 percent less than the domestic price for imported grade 8 cap screws in 1976, to $3.50, or 61 percent less for imported 1/4" hex nuts. Imported fastener prices grew more rapidly than domestic prices from 1976 through 1980. Prices of imported high-strength bolts increased by 51 percent from 1976 to 1980 compared with 22 percent for domestic bolts. In 1980, the price difference was reversed, as imported high-strength bolts were priced higher than domestic bolts in three of the four quarters, and averaged $357.40 per thousand compared with $353.61 for domestic bolts in that year. Prices of imported hex nuts increased by 75 percent for 1/4" nuts and 63 percent for 1/2" nuts during 1976-80, while prices of domestic hex nuts increased 60 percent and 40 percent, respectively,

Figure 5.---Cap screws, grade 2 and grade 8, 3/8"-16x1", by quarters, January 1976-December 1980.



Source: Data compiled by the staff of the U.S. International Trade Commission.

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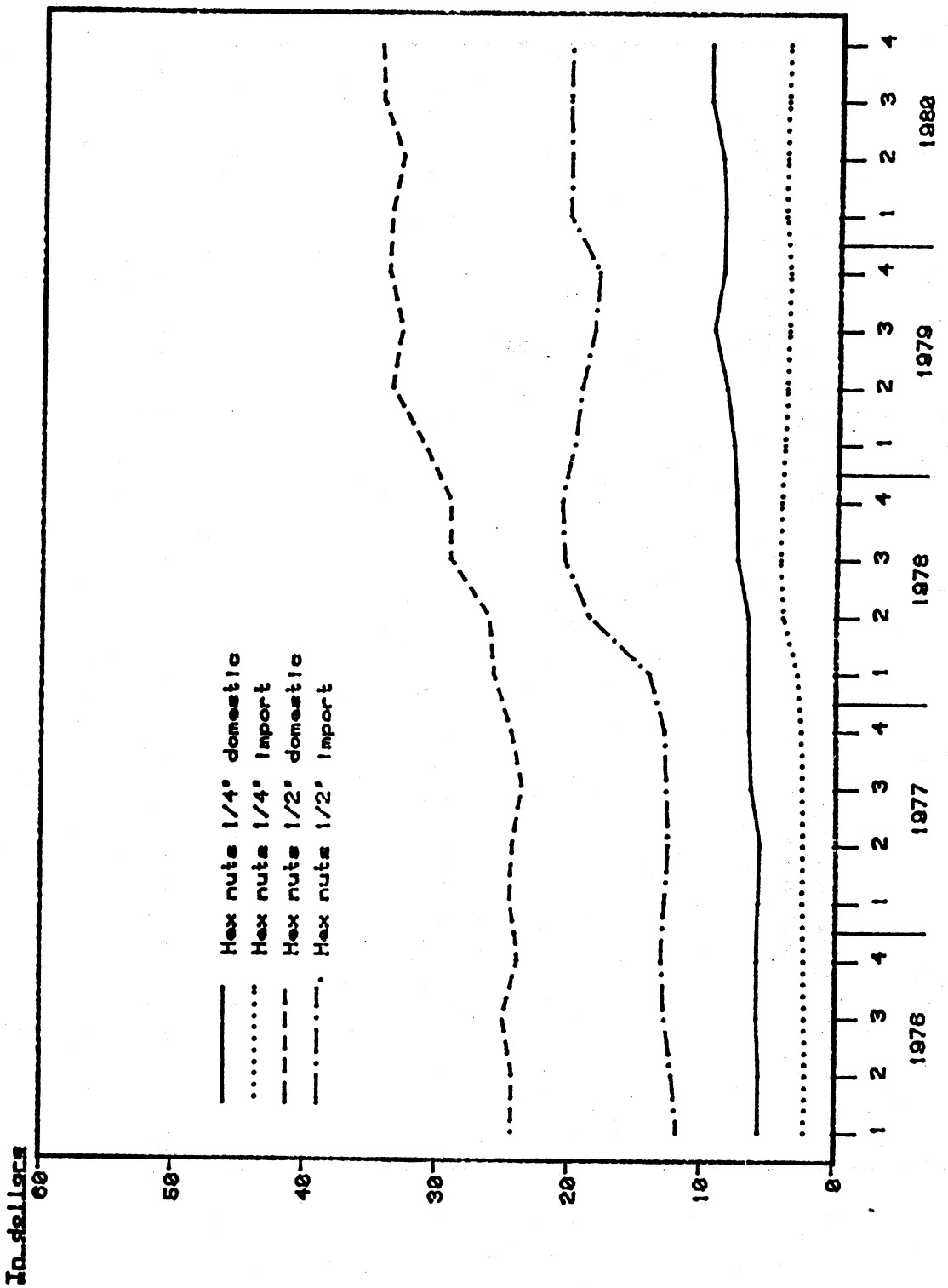
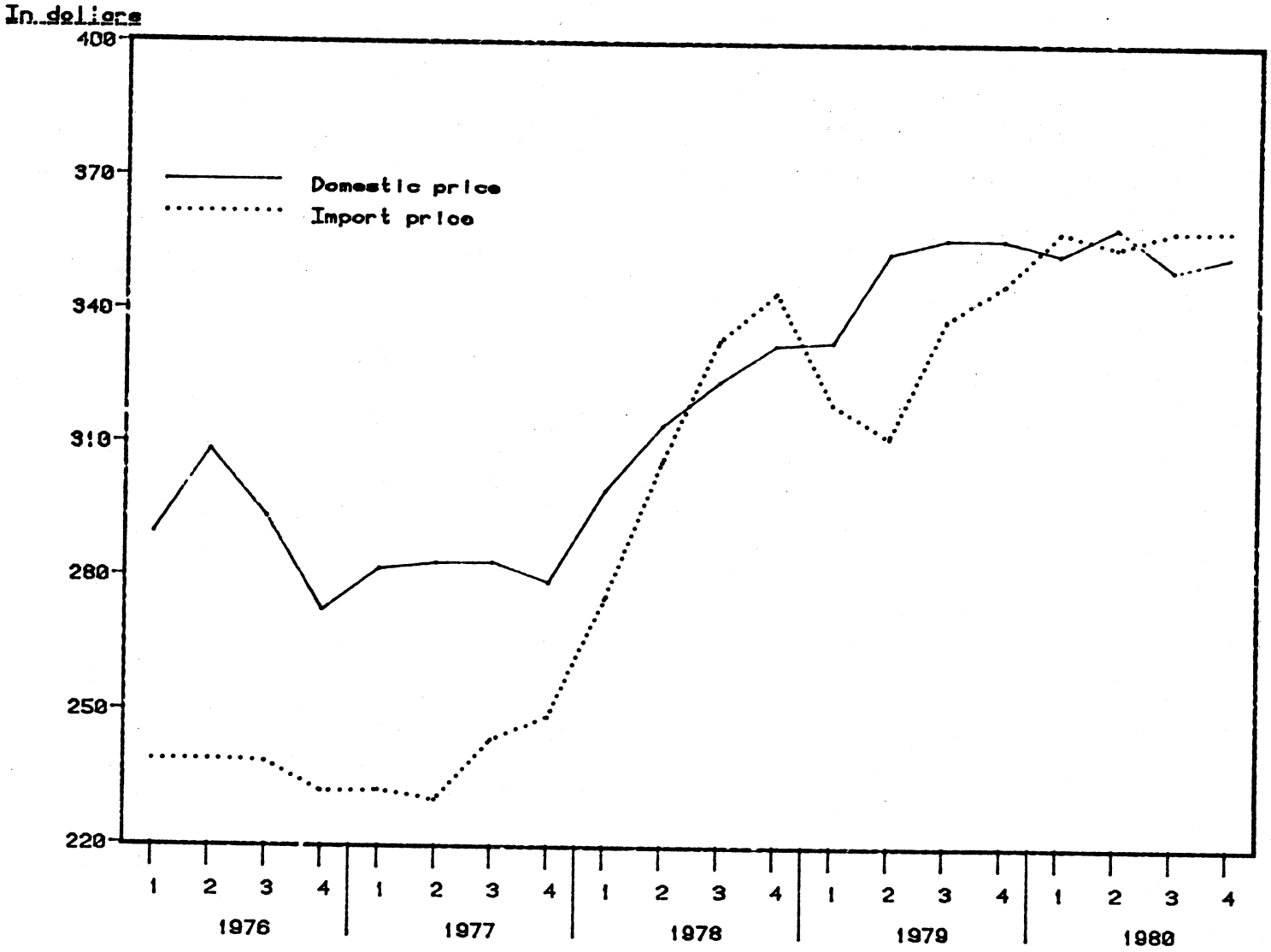
Figure 6.--Hexagon nuts, 1/4"-20 and 1/2"-13, by quarters, January 1976-December 1980.



Source: Data compiled by the staff of the U.S. International Trade Commission.

Figure 7.--Structural bolts, A325 with nut, 3/4" x 2", by quarters, January 1976--December 1980.



Source: Data compiled by the staff of the U.S. International Trade Commission.

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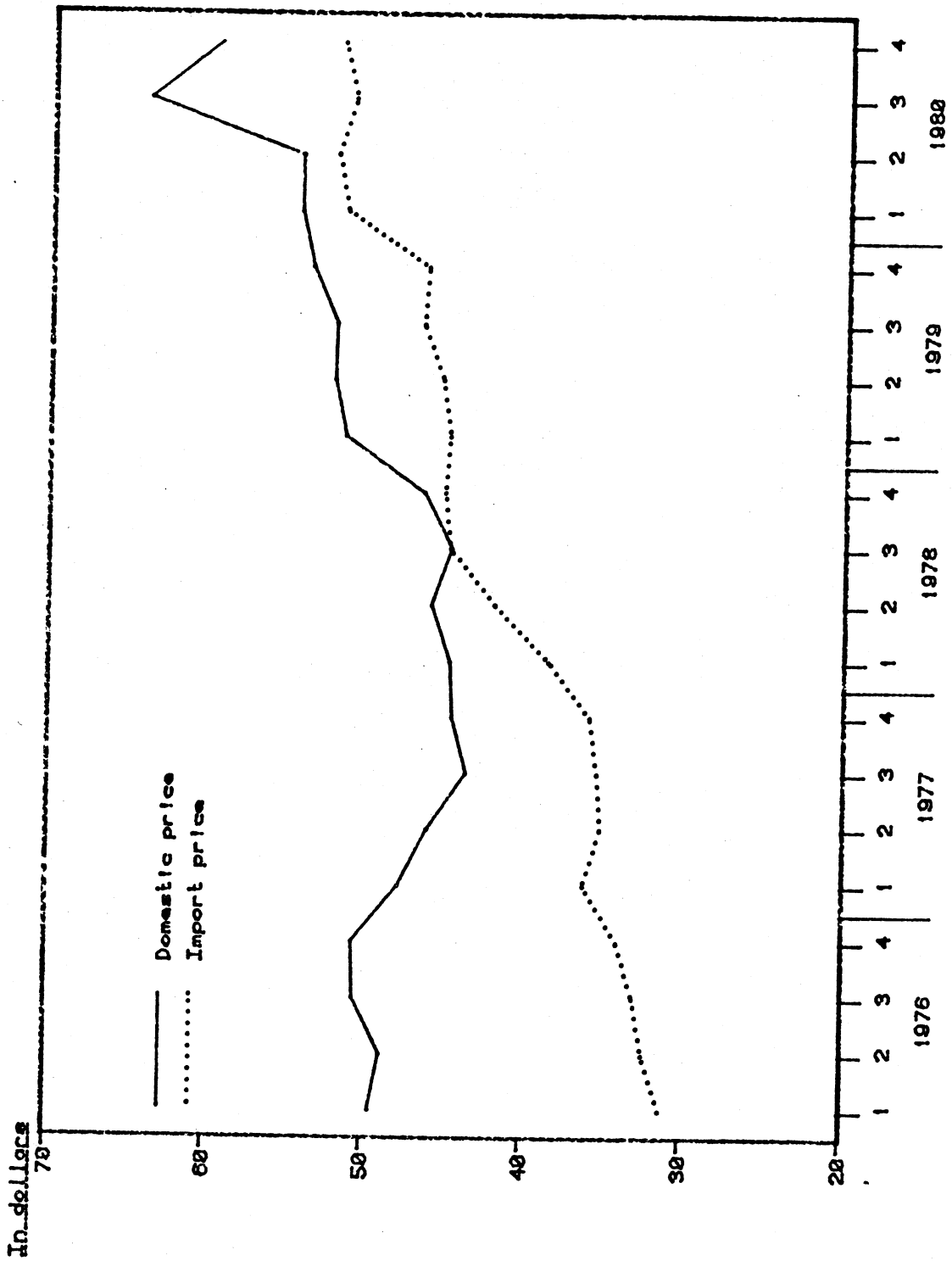
Figure 8.--Carriage bolts, 3/8" x 3", by quarters, January 1976--December 1980.



Source: Data compiled by the staff of the U.S. International Trade Commission.

Increases in prices of imported fasteners occurred in earlier periods than price increases for domestic fasteners. Import prices showed their greatest gains in 1978, the year before relief, with gains of 54 percent for the 1/4" nuts, 46 percent for 1/2" nuts, 22 percent for grade 2 cap screws, 26 percent for grade 8 cap screws, 32 percent for high-strength bolts, and 20 percent for carriage bolts. The period of greatest growth in prices for domestic fasteners in most cases was 1979, the year relief went into effect. Domestic price gains in 1979 were 22 percent for 1/4" nuts, 19 percent for 1/2" nuts, 10 percent for grade 2 cap screws, 13 percent for grade 8 cap screws (15 percent in 1978); 10 percent for high-strength bolts (13 percent in 1978) and 16 percent for carriage bolts. By 1980 the absolute margins of underselling had increased for three of the six items, but the margins of underselling on a percent basis had decreased in every case.

Supplemental questionnaires were sent to selected producers and importers requesting prices and quantities for the largest shipments per quarter for nine fasteners, including the six in tables 33-35. This data would allow weighted average prices to be calculated for the items. The additional items are two special fasteners (a nylon hexagon nut and a wheel bolt) and a standard hex lag screw. Data on specials were requested because of the importance of these products to the domestic industry. The lag screw was included because it appears separately in the relief provisions.

The price data received in response to the supplemental questionnaire are presented in table 36. From July 1978 through December 1980, domestic fastener prices increased more rapidly than import prices, except for domestic high-strength structural bolts. Of the new items, responses on wheel bolt prices were given for domestic producers only, so a comparison with import prices is not possible. ***. The domestically produced and imported nylon-insert hexagon nuts for which prices were obtained are not comparable products. ***. Thus, the prices shown in the table for this item reflect differences in product mix within this product.

Foreign Potential to Supply

Japan. 1/--Japan is the second largest supplier of bolts, nuts, and large screws in the world, following the United States. In 1978, based on information obtained from a survey conducted by the Ministry of International Trade and Industry (MITI), there were 2,933 manufacturers of bolts and nuts in Japan, and 879 producers of both large and small screws. Of the total number of companies, approximately 85 percent are small and employ 20 workers or less. Although data are not available for 1979 or 1980, * * *.

1/ Based on information received in Department of State telegram from American Embassy, Tokyo, dated Sept. 24, 1981.

less. Although data are not available for 1979 or 1980, * * *.

Current employment data are not available; however, in 1975, the Japanese fastener industry employed about 50,000 to 60,000 workers. Since the number of fastener manufacturers has increased dramatically since 1975, it is believed that the number of workers has followed a similar increasing trend.

The MITI survey further revealed that the production of bolts and nuts by companies with 50 or more employees and the production of large screws by companies with 30 or more employees increased by 17 percent during 1978-80, as shown in the following table:

Bolts, nuts, and large screws: Japan's production, by types, in metric tons, 1978-80, and January-June 1981

(In metric tons)

Item	1978	1979	1980	January-June 1981
Bolts	506,916	550,788	597,902	270,578
Nuts	117,448	123,232	130,297	59,964
Large screws	40,934	45,060	47,954	23,012
Total	665,298	719,080	776,153	353,554

Source: Compiled from a survey conducted by the Ministry of International Trade and Industry.

The statistical information provided by the Ministry of Finance regarding Japan's exports of fasteners does not separate small screws from large screws. However, Japan's exports of bolts, nuts, and both large and small screws to the United States, as a share of total Japanese fastener exports, increased from 73 percent in 1978 to 81 percent in 1979, and declined to 74 percent in 1980. During January-June 1981, these exports to the United States accounted for 73 percent of Japan's total fastener exports. Although the majority of exports from Japan to the United States are believed to be standard fasteners, importers have indicated that a slight shift in the product mix towards specials may be occurring, 1/ due to increasing competition in the standard area from Taiwan, India, and Korea, and increasing labor and freight costs. 2/

1/ Statement of counsel for the Fasteners Institute of Japan, Transcript of the hearing, p. 182.

2/ * * *.

Canada 1/

According to the Canadian Fastener Institute (CFI) and Statistics Canada, data showing production, capacity, and capacity utilization for the Canadian fastener industry are not collected. The CFI did report that there are approximately 100 firms in Canada producing bolts, nuts, and screws.

The export data that are published in Statistics Canada include exports of bolts, nuts, screws, and washers. The volume of Canada's exports of those products to the United States is provided in the following table.

Bolts, nuts, screws and washers: Canada's exports, by principal markets, 1978-80

Market	1978	1979	1980
	Quantity (cwt)		
United States 1/	1,812,922	1,719,167	1,234,911
Australia	6,662	8,999	14,866
Mexico	8,078	11,723	10,130
All other	665,298	68,289	89,239
Total	1,925,454	1,808,178	1,349,145
	Value (1,000 dollars) 2/		
United States 1/	95,331	99,518	77,659
Australia	436	602	1,036
Mexico	429	737	691
All other	5,173	4,838	6,491
Total	101,375	105,695	85,878

1/ Includes exports to the United States under TSUS item 646.79, (duty-free imports under the Automotive Products Trade Act of 1965).
2/ Canadian dollars.

Source: Compiled from Statistics Canada.

During 1978-80, Canada shipped approximately 95 percent of its total exports of bolts, nuts, screws, and washers to the United States. A significant part of these exports are consumed in the automotive industry.

Taiwan 2/

During the last 5 years, Taiwan's fastener industry has developed into one of the most advanced in the world, and is currently the United States' second largest supplier of nuts and certain large screws.

1/ Based on information received in telegram from U.S. Embassy, Ottawa, dated Sept. 1, 1981.
2/ Based on information received in telegram from American Institute in Taiwan, dated Sept. 25, 1981.

According to information received by telegram from the American Institute in Taiwan, there are 96 firms producing bolts, nuts, and screws in that country. During 1978-80, based on quantity, Taiwan's production of bolts, nuts, and large screws increased 25 percent. The following table provided an illustration of Taiwan's production of these products.

Bolts, nuts, and large screws: Taiwan production, 1978-80, and January-June 1981

Period	Quantity	Value
	1,000 metric tons	1,000 dollars 1/
1978	100	90,000
1979	110	104,500
1980	125	137,500
1981 (January-June)	62	68,200

1/ U.S. dollars.

Source: Compiled from American Institute in Taiwan telegram, Sept. 25, 1981.

Taiwan's capacity to produce bolts, nuts, and screws increased 17 percent from 1978 to 1980. During the same period, the estimated capacity utilization rate of the Taiwan industry ranged from 75 to 80 percent.

Based on quantity, Taiwan's total exports of bolts, nuts, and screws (including small screws) increased 41 percent during 1978-80. However, Taiwan's exports of these products to the United States moved within a narrow range and were only marginally larger in 1980 than the quantities exported in 1978. As a share of Taiwan's total exports, bolts, nuts, and screws exported to the United States declined from 66 percent in 1978 to 48 percent in 1980. During January-June 1981, exports to the United States accounted for 66 percent of Taiwan's total exports. These export trends are shown in the following table.

India 1/

The information provided by the Government of India's Ministry of Industry indicate that there are 30 manufacturers of bolts, nuts, and screws in India with a combined production capacity of an estimated 142,000 metric tons. In 1980, these manufacturers produced an estimated 82,000 metric tons of fasteners, valued at $58 million, thereby utilizing 57 percent of their capacity to produce these articles. During 1980, India's fastener exports to the United States totaled $3.6 million. This represented 43 percent of India's total exports of fasteners to all countries.

1/ Based on information received in the Department of State telegram from U.S. Embassy, New Delhi, dated Oct. 5, 1981.

Bolts, nuts, and screws of iron or steel: Total Taiwan exports, and exports to the United States, 1978-80, and January-June 1981

Period	Total exports	Exports to the United States
	Quantity (1,000 metric tons)	
1978	74.5	49.0
1979	93.8	53.3
1980	105.4	51.1
1981 (January-June)	60.4	40.0
	Value (1,000 dollars 1/)	
1978	61,724	31,066
1979	86,873	45,765
1980	94,965	40,665
1981 (January-June)	51,933	31,006

1/ U.S. dollars.

Source: Compiled from Department of State telegram, Sept. 25, 1981.

Probable Economic Effects

When assessing the probable effect of extension, reduction, or termination of import relief for the domestic fastener industry, a key issue is the extent to which imports would be substituted for domestic shipments if the higher duties were eliminated. An examination of the levels of shipments and imports during 1978 and 1979 and the results of a regression analysis performed by the staff, which is presented in appendix H, both suggest that only a moderate amount of substitution would occur.

The increased duties which boosted the ad valorem equivalent (AVE) of the tariff on nuts, bolts, and screws by an average of more than 10 percentage points in January 1979 does not appear to have had a major effect on either the volume of imports or on domestic shipments. Despite the increase in duties, imports during 1979 declined by only 7 percent from their 1978 level. Although domestic shipments rose by 10 percent between 1978 and 1979, it is likely that this increase was partly the result of an overall rise in demand which is evident from the increase in apparent consumption during 1979.

The regression results also raise questions as to whether the effects of the tariff were significant. These regressions, which relied on data from July 1978 through June 1981, examined the influence of durable goods output and the relative price of domestic and imported fasteners on the demand for domestic fasteners. Although the analysis provided evidence of a strong direct relationship between domestic shipments of fasteners and durable goods output, tests of the relationship between shipments and relative prices were generally inconclusive. In view of the many separate types of products and the statistical problems that are inherent in these kinds of studies, this is

not surprising. However, although results for bolts and screws were indeterminate, the analysis did indicate that domestic shipments of nuts are fairly insensitive to changes in domestic and imported relative prices. The results suggested that a 10-percent increase in the price of imported nuts would result in an increase of only about 3.5 percent in domestic shipments if all other factors are held constant.

This seeming lack of price sensitivity may be due to the fact that a large percentage of the domestic fasteners that were included under shipments in the analysis are special items which do not compete directly with imports. According to questionnaire responses, special fasteners accounted for well over half of the total U.S. output during the import relief period.

Commission projections of consumption, domestic shipments, and imports during 1982-84 are presented in the following tabulation under the assumption that higher tariffs are continued and also under the assumption that they are terminated (in millions of pounds):

Item	1982	1983	1984
	No extension of import relief		
Imports	735.6	757.7	780.4
Domestic shipments	671.9	692.0	712.8
Domestic consumption	1,407.5	1,449.7	1,493.2
	Import relief is extended		
Imports	712.5	733.8	755.8
Domestic shipments	695.0	715.9	737.4
Domestic consumption	1,407.5	1,449.7	1,493.2
	5 percentage point reduction in import relief		
Imports	724.0	745.7	768.1
Domestic shipments	683.5	704.0	725.1
Domestic consumption	1,407.5	1,449.7	1,493.2

Consumption in 1981 is assumed to reach 1,340.5 million pounds, the same level recorded during 1980. Consumption projections for 1982 assume an increase of 5 percent, a number that is consistent with recent administration forecasts of overall growth in the U.S. economy. 1/ Consumption is then assumed to rise at a less rapid rate of 3 percent during each of the next 2 years, attaining a level of 1,493.2 million pounds in 1984.

The assumptions which were made in projecting domestic shipments and imports are more involved. If import relief is continued, domestic shipments and imports are both projected to increase by 5 percent from their 1980 level in 1982 and by 3 percent during each of the next 2 years, or by the same rates of increase as apparent consumption. Under these assumptions, domestic

1/ Washington Post, Sept. 20, 1981.

shipments and imports would reach 737.4 million pounds and 755.8 million pounds, respectively, by 1984. However, if the higher tariffs are terminated in January 1982, and the tariff reduction is fully passed forward, import prices would decline by about 10 percent in relation to domestic prices. Based on the assumption that the elasticity estimates for nuts are applicable for other types of fasteners, domestic shipments would be approximately 3.5 percent lower in 1982 than they would be if import relief were continued. Thus, adjusting for the effects of termination of import relief would result in U.S. shipments increasing to a level in 1982 only 1.5 percent greater than that in 1980. It is then projected that these shipments would increase by 3 percent during each of the next 2 years, reaching a level of 712.8 million pounds in 1984.

A scenario is also presented with projections of domestic shipments and imports, if the AVE tariff for all categories of fasteners is reduced by 5 percentage points from its current level, an amount equal to about half of the reduction that would occur if relief were terminated. Under this assumption domestic shipments would increase by 3.3 percent from their 1980 level in 1982, and would then rise by 3 percent during each of the next 2 years, attaining a level of 725.1 million pounds in 1984.

Although data are not sufficient for projecting shipments and imports of fasteners by individual categories, it is likely that the adverse effects of terminating relief would be greatest for those categories which would experience the greatest reductions in tariffs. Under this assumption, domestic production of nuts and bolts would be most affected by increased import competition. In the case of bolts, the tariff would decline from 19.2 percent AVE to a level of only 0.7 percent, but in the case of nuts, it would decline from 16.7 percent to only 0.2 percent. The effect on domestic lag bolts and screws would probably be minimal, since the duty would decline by less than 3 percentage points, from 15 percent to 12.2 percent. For the large screws, the duty would drop from 15 percent to 9.5 percent.

Although the effects of terminating import relief cannot be readily estimated for the separate categories, evidence does indicate that during the first year of import relief, the decline in the ratio of imports to consumption for lag screws and bolts was smaller than for the other categories in which the tariff increases were larger. As shown in table 15, the ratio for lag screws and bolts declined by less than 1 percentage point from 93 percent to 92.3 percent between 1978 and 1979 while for all other categories the ratio declined by five percentage points or more between 1978 and 1979 as shown in tables 12-14.

During the hearing it was requested that aerospace fasteners be excluded from an extension of import relief, since imports of these fasteners do not compete with domestic items. The petitioners stated that they had no objection to such an exclusion, 1/ and an examination of available data offers no evidence that domestic producers of aerospace fasteners are being injured by import competition. Questionnaire returns indicate that U.S. producers of aerospace fasteners enjoyed an average net operating profit rate of *** percent during 1980. However, since an aerospace fastener is not easily defined, the Customs Service could have serious problems in administering such an exclusion.

1/ Transcript of the hearing, p. 119.

An example of a category of fasteners currently exempted from the relief is imports entered under TSUS item No. 646.79 (duty-free imports under the Automotive Products Trade Act). An importer desiring to import fasteners under TSUS item No. 646.79 must first be placed on a list of eligible firms that is compiled by the U.S. Department of Commerce. Only firms appearing on this list, which is provided to the Customs Service, are eligible to import under this tariff number. The importer must then sign a contract or other legal agreement with the Canadian producer in which the importer states that the fasteners are for OEM use in the automotive industry. If the purchaser uses the fasteners for any purpose other than the OEM application, he is required by law to notify Customs of the diversion and pay the proper duty. The enforcement of imports under this number is conducted by the Customs audit division, which periodically checks on transactions to determine if purchasers of fasteners under item 646.79 are adhering to the stated use guideline.

The staff contacted import specialists at the principal ports where aerospace fasteners are believed to be entered * * * and asked their opinion as to whether or not such fasteners could be distinguished from other nuts, bolts, and screws. None of the specialists contacted could specifically identify aerospace shipments through their port because such fasteners do not enter under separate TSUS numbers.

Thus, the issue becomes whether Customs can identify such fasteners by their usual methods. In his statement to the Commission, Edward D. Clark, President, TFI Fastener Corp., Ontario, Canada, stated that all aerospace fasteners are made to one of five types of specifications, and that all aerospace bolts and screws have markings that relate to one of these five types. 1/ He further stated that in the case of bolts and screws that are not so marked a differentiation may be made by physical differences such as the configuration of the recess in the head and different head angles. 2/ Further, he stated that aerospace nuts, although not normally stamped, have different configurations than commercial nuts. 3/ Finally, Mr. Clark summarized the differences by stating "In summary, all aerospace fasteners can be distinguished from commercial fasteners in several ways--by raw material, by part number relating to an aerospace specification, by configuration." 4/ The import specialists contacted felt that identifying aerospace fasteners by the above methods could be "very demanding." Such an exclusion may be accomplished by amending the language currently contained in TSUS item nos. 923.51 through 923.53. 5/

However, there are two possible workable alternatives. One specialist suggested that such a "carve-out" may be enforceable through some arrangement such as that governing automotive fastener imports under TSUS item No. 646.79. This method would require the addition of new headnotes to the TSUS, defining what criteria are necessary for such imports. Secondly, it may be possible to enter such merchandise under an actual use provision whereby the importer would enter the merchandise under bond, certify that it was to be used in an aerospace application, and prove within three years that it was used in such a way.

1/ Statement of Edward D. Clark, p. 2
2/ Ibid., p. 3
3/ Ibid., p. 3.
4/ Ibid., p. 4.
5/ See app. I for the language proposed by the Commission's Office of Tariff Affairs.

Either of these methods could possibly reduce the burden of administering such an exemption on the Customs officials at the point of entry, while limiting the possibility of circumvention.

A similar problems arises with respect to anchor bolts. Although the Indian Government has requested that these items be excluded from an extension of import relief, anchor bolts are not provided for separately in the TSUS, and there are no data available on imports, domestic production, or apparent consumption of this product.

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

Section 202(c)(1) and (2)

Section 202(c)(1) and (2) direct that consideration be given to--

> Information and advice from the Secretary of Labor on the extent to which workers in the industry have applied for, are receiving, or are likely to receive adjustment assistance under chapter 2 or benefits from other manpower programs;
>
> Information and advice from the Secretary of Commerce on the extent to which firms in the industry have applied for, are receiving, or are likely to receive adjustment assistance under chapters 3 and 4. . . .

The U.S. Department of Labor has granted trade adjustment assistance to approximately 1,599 workers since 1978, with payments totaling $4,260,388. The following tabulation presents data on the petitions filed during this period:

Period	Petitions	Petitions certified	Workers covered	Petitions denied	Workers covered
1978	7	4	1,271	3	43
1979	0	0	0	0	0
1980	31	4	328	27	1,522
1981 (September)	0	0	0	0	0

Source: Based on official statistics of the U.S. Department of Labor.

According to Department of Labor sources many of the denials occurred because injury could not be directly tied to imports, but rather was directly related to the decline in the automotive industry. Additionally, it should be noted that to be certified for trade adjustment assistance, imports must be increasing, but imports actually declined in 1980 and the period January-June 1981.

The Department of Commerce received eight petitions from fastener firms for firm certification between 1978-81. One was withdrawn, and the other seven were certified. Only two of the certified firms could be confirmed as producers of the fasteners covered by this investigation.

Section 202(c)(3)

Section 202(c)(3) directs that consideration be given to--

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

The petitioner has stated that the additional tariffs have aided the industry in adjusting to strong import competition, but that an extension of the tariff remedy is necessary to allow the adjustment to be completed. The information available suggests that the industry has tried in various ways to adjust, including, among others, efforts to reduce costs, new marketing approaches, investment, and changes in organizational structure. These actions are discussed further in the "Producers' Efforts to Compete" section of the report.

Cost reduction efforts mentioned in the questionnaires involved better inventory control, improved energy efficiency, better cash-flow management, and divestiture of unprofitable operations. Marketing approaches mentioned in the questionnaires included changes in sales strategy, the development of new products, changes in product mix, and an increased emphasis on exports.

Investment in new plants and machinery, labor-saving equipment, and vertical expansions and relocation of plants were discussed in the questionnaires. Responses indicated that capital expenditures declined from $23.5 million to $23.2 million per year between 1978 and 1980. Capital expenditures fell in January-June 1981 when compared with those in January-June 1980. The bulk of capital expenditure was for machinery and equipment, with buildings a distant second, and land an even more distant third category of expense. Responses received indicated that research and development expenditures were roughly $1.7 to $2.0 million per year between 1978 and 1980. These outlays, which generally have amounted to about 6 percent of gross sales were 20 percent higher during January-June 1981 than they were during January-June 1980.

The questionnaire asked for the level of investment expenditure planned for 1982 through 1984 with and without an extension of relief. The plans for those companies responding are for $31.2 million without an extension and $69.0 million with an extension.

The overall effectiveness of the tariffs in helping producers adjust to import competition is difficult to assess. The investment efforts taken were not directly rewarded with increased profitability over the period, though improved profits could result in the future.

Section 202(c)(4)

Section 202(c)(4) directs that consideration be given to--

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

There is no indication that higher tariffs on fasteners imposed in January 1979 reduced the availability of these articles. Throughout the import relief period there were large amounts of excess domestic capacity available. During 1980, capacity utilization amounted to only 40 percent.

It is likely that increased duties which raised the AVE rate by more than 10 points to a 15-percent AVE duty level contributed to the sharp rise in prices that occurred in 1979. As discussed earlier in the report, domestic prices for several categories of fasteners including 1/4" nuts, grade 2 cap screws, and carriage bolts, increased by more than 20 percent during that year, and domestic prices for grade 8 cap screws and 1/2" nuts increased by 17 and 14 percent respectively. However, the effects of the tariff on fastener prices cannot easily be separated from the effects of the high rates of inflation during this period. Between the period from January-March 1979 and January-March 1980, the BLS indexes for prices of similar goods, including metals and metal products and intermediate materials, rose by nearly 20 percent.

Although increased costs, as a result of these higher tariffs, to final consumers on individual products were small, the aggregate additional outlays by auto producers and other large industrial consumers may have been substantial. If the higher duties were fully passed forward by importers, and if domestic producers had raised their prices proportionately, costs incurred by industrial consumers for purchases of these items could have been over $100 million more in 1979 and 1980 than they would have been without import relief. But it is doubtful that the costs were this large. The weakness in demand for imported fasteners during 1979 and 1980, which is evident from the decline in volume during each of those years, makes it likely that foreign producers were forced to absorb much of the tariff increase. Accordingly, it is doubtful that increased prices for imports which consist mostly of standard products would have exerted a significant upward pressure on prices of domestic special fasteners.

Section 202(c)(5) and (6)

Section 202(c)(5) and (6) direct that consideration be given to--

> the effect of import relief on the international economic interest of the United States, and
>
> the impact on United States industries and firms as a consequence of any possible modification of duties or other import restrictions which may result from international obligations with respect to compensation.

If import relief for the industrial fastener industry is continued, Japan, Canada, and India, the first, second, and fourth leading suppliers, could, as contracting parties to the GATT, request compensation from the United States in the form of lower duties on other imported items. Taiwan, the third largest supplier is not a GATT member, but it is still possible that Taiwan would seek some form of compensation outside of the GATT.

Thus far, only Canada has even expressed an interest in compensation, and therefore, it is far from certain whether any of the four countries would seek formal negotiations for compensation if relief were extended. Since fastener exports to the United States amount to only a small share of the gross domestic product of each of these countries, as shown in the following tabulation, the economic impact of a continuation of import relief on their domestic economies would be small:

Country	Balanced trade with the United States 1/	Total imports by the United States 1/	Gross domestic product	Industrial fastener imports by the United States 1/	Industrial fastener imports by the United States as a share of GDP
	(Million dollars)	(Million dollars)	(Billion dollars)	(Million dollars)	Percent
Taiwan	+ 2,660	6,842.2	2/ 32.1	35.0	0.1
Japan	+ 10,229	30,698.3	2/ 999.6	196.5	.2
Canada	+ 6,909	40,877.1	2/ 253.5	39.6	.2
India	- 574	1,099.4	3/ 107.6	6.1	4/

1/ 1980 data.
2/ 1979 data.
3/ 1978 data.
4/ Less than 0.05 percent.

However, if compensation were requested, many different classes of items could be affected, since three of these countries, Canada, Japan, and Taiwan, rank as major U.S. trading partners. As shown in the tabulation, U.S. imports from Canada, Japan, and Taiwan amounted to $41 billion, $31 billion and $7 billion, respectively, in 1980. Principal dutiable imports from these countries are as follows:

Source	Principal dutiable U.S. imports
Taiwan	Footwear, apparel, T.V. apparatus, handbags.
Japan	Motor vehicles and parts, tape recorders, steel, T.V. apparatus.
India	Apparel, leather, floor coverings.
Canada	Petroleum; books and printing, motor vehicles, aircraft and speedcraft, whiskey, pneumatic tires.

If efforts to negotiate a compensation arrangement were to turn out unsuccessful, any of the four countries could retaliate by imposing restrictions on a wide range of U.S. exports. The principal U.S. goods imported by these countries include the following items:

Market	Principal U.S. exports
Japan	Corn, coal, soybeans, softwood logs.
Canada	Automobiles and parts, gold, general merchandise.
Taiwan	Corn, soybeans, nuclear fuel rod assemblies.
India	Soybean oil, fertilizer, aircraft and parts.

Section 202(c)(7)

Section (202)(c)(7) directs that consideration be given to--

> the geographic concentration of imported products marketed in the United States.

Imports of industrial fasteners enter the United States through all of the major coastal ports and are then shipped to U.S. wholesale distributors that market these fasteners throughout the United States. Manufacturers of mining, construction, and farm equipment, and other classes of producer and consumer durables buy large quantities of these imported fasteners.

Section 202(c)(8)

Section 202(c)(8) directs that consideration be given to--

> the extent to which the U.S. market is the focal point for exports of such articles by reason of restraints on exports of such articles to, or on imports of such articles into third country markets.

The 15 percent AVE tariff on industrial fasteners which is currently in effect in the United States is higher than existing levels in most of the other major consuming nations. Among these countries, only Canada has a higher rate of duty of 17.5 percent on all fasteners. The duty in Japan is 5.6 percent for all classes of fasteners; tariffs on fasteners in the European Community range from 7.3 percent to 9.9 percent for imports from all sources other than Taiwan.

According to testimony presented at the hearing, the European Community imposes a special 15-percent duty on fastener imports from Taiwan. However, evidence suggests that in general the European Community and Japan are both

more liberal than the United States in granting GSP treatment on fastener imports from developing countries. Therefore, it seems unlikely that trade restrictions in other industrial countries are presently diverting large quantities of fastener exports to the United States. But if relief were terminated, U.S. tariffs on fasteners would generally fall below duty levels in these other important consuming nations, and some diversion of exports from these countries could occur.

Since consumption of industrial fasteners in developing nations is small in relation to consumption in the industrial countries, it seems unlikely that trade restrictions in these countries are currently diverting significant quantities of fastener exports to the United States. However, duty levels in these countries are often high. In the case of Taiwan, for example, tariffs range from 10 to 15 percent, yet Korea and India impose duties of 30 percent and 60 percent, respectively, on all bolts, nuts, and screws made of iron or steel.

Section 202(c)(9)

Section 202(c)(9) directs that consideration be given to--

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

The number of persons employed in the domestic fastener industry is relatively small. Throughout the import relief period, average employment in production of fasteners was generally less than 23,000 workers, but adjustment assistance payments to workers laid off amounted to only $4.3 million between 1978 and 1980. Although employment may have been higher and adjustment assistance payments lower than they would have been without import relief, from the standpoint of the aggregrate U.S. economy, the total savings of taxes and jobs which resulted from the relief was small.

However, since the industry consists of many plants located in small cities and towns in the east north central region of the country, some of these communities have benefited from the job protection afforded by the import relief.

APPENDIX A

PRESIDENTIAL PROCLAMATION NO. 4632

presidential documents

[3195-01-M]

Title 3—The President

Proclamation 4632 • **January 4, 1979**

Temporary Duty Increase on the Importation into the United States of Certain Bolts, Nuts and Screws of Iron or Steel

By the President of the United States of America

A Proclamation

1. Pursuant to section 201(d)(1) of the Trade Act of 1974 (the Trade Act) (19 U.S.C. 2251(d)(1)), the United States International Trade Commission, hereinafter referred to as the USITC, on November 3, 1978, reported to the President (USITC Report 201-37) the results of its investigation under section 201(b) of the Trade Act (19 U.S.C. 2251(b)). The USITC determined that certain bolts, nuts and screws of iron or steel provided for in items 646.49, 646.54, 646.56, and 646.63 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 USITC recommended the imposition of additional duties on imports of the above specified articles.

2. On December 22, 1978, pursuant to section 202(b)(1) of the Trade Act (19 U.S.C. 2252(b)(1)), and after taking into account the considerations specified in section 202(c) of the Trade Act (19 U.S.C. 2252(c)), I determined to prevent or remedy the injury or threat thereof found to exist by the USITC through the proclamation of a temporary duty increase different from that recommended by the USITC. On December 22, 1978, in accordance with section 203(b)(1) of the Trade Act (19 U.S.C. 2253(b)(1)), I transmitted a report to the Congress setting forth my determination and intention to proclaim a temporary duty increase and stating the reasons why my decision differed from the action recommended by the USITC.

3. The bolts and nuts provided for in items 646.54 and 646.56 of the TSUS are currently eligible for duty-free treatment under the Generalized System of Preferences (GSP), and section 503(c)(2) of the Trade Act (19 U.S.C. 2463(c)(2)) provides that no article shall be eligible for purposes of the GSP for any period during which such article is the subject of any action proclaimed pursuant to section 203 of the Trade Act (19 U.S.C. 2253).

4. Section 203(e)(1) of the Trade Act (19 U.S.C. 2253(e)(1)) requires that import relief be proclaimed and take effect within 15 days after the import relief determination date.

5. Pursuant to sections 203(a)(1), 203(e)(1), and 503(c)(2) of the Trade Act (19 U.S.C. 2253(a)(1), 2253(e)(1), and 2463(c)(2)), I am providing import relief, as hereinafter proclaimed, through the temporary increase of import duty on, and, where applicable, the removal from eligibility for duty-free entry under the GSP, of the bolts, nuts and screws of iron or steel covered by the affirmative finding of the USITC.

A-54

NOW, THEREFORE, I, JIMMY CARTER, President of the United States of America, acting under the authority vested in me by the Constitution and the statutes of the United States, including General Headnote 4 of the TSUS (19 U.S.C. 1202), sections 203, 503 and 604 of the Trade Act (19 U.S.C. 2253, 2463, and 2483), and in accordance with Articles I and XIX of the General Agreement on Tariffs and Trade (GATT) (61 Stat. (pt. 5) A12 and 61 Stat. (pt. 5) A58; 8 UST (pt. 2) 1786), do proclaim that—

(1) Part I of Schedule XX to the GATT is modified to conform to the action taken in the Annex to this proclamation.

(2) Subpart A, part 2 of the Appendix to the TSUS is modified as set forth in the Annex to this proclamation.

(3) GSP eligibility is removed for the bolts and nuts covered by items 923.51 and 923.52 of the Annex to this proclamation.

(4) This proclamation shall be effective as to articles entered, or withdrawn from warehouse, for consumption on or after January 6, 1979, and before the close of January 5, 1982, unless the period of its effectiveness is earlier expressly modified or terminated.

IN WITNESS WHEREOF, I have hereunto set my hand this fourth day of January, in the year of our Lord nineteen hundred and seventy-nine, and of the Independence of the United States of America the two hundred and third.

Jimmy Carter

ANNEX

Subpart A, part 2 of the Appendix to the Tariff Schedules of the United States (19 U.S.C. 1202) is modified—

(a) by adding the following new headnote 4:

"4. *United States International Trade Commission (USITC) surveys on certain bolts, nuts and screws of iron or steel.*—The USITC shall conduct surveys with respect to products of the types subject to temporary duty increases under items 923.50 to 923.53, inclusive, as follows:

(a) *Quarterly.*—Surveys by calendar quarter to obtain monthly data on U.S. production, U.S. producers' shipments, imports for consumption, U.S. exports, apparent U.S. consumption, employment, man-hours and prices. The initial survey shall cover the third and fourth quarters of 1978 and the first quarter of 1979; the last such survey shall cover the quarter which ends not less than 60 days prior to the termination of the import relief. The results of these surveys shall be published within 60 days of the end of the quarter.

(b) *Annually.*—Annual surveys to obtain from domestic producers data by calendar quarter on profits, unfilled orders, and inventories, and annual data on capital expenditures and capacity; and to obtain from importers data by calendar quarter on prices, unfilled orders and inventories. The initial survey shall cover calendar year 1978, and the results of this and subsequent surveys shall be published by the end of the first quarter of each year thereafter so long as the import relief is in effect."

(b) by inserting in numerical sequence the following new provisions:

"Item	Articles	Rates of duty 1	2	Effective Period
923.50	Lag screws or bolts, of iron or steel, provided for in item 646.49	15% ad val.	No change	On or before 1/5/82
923.51	Bolts (except mine-roof bolts) and such bolts and their nuts imported in the same shipment, of iron or steel, provided for in item 646.54	0.2¢ per lb. + 15% ad val.	0.2¢ per lb. + 15% ad val.	On or before 1/5/82
923.52	Nuts, of iron or steel, provided for in item 646.56	0.1¢ per lb. + 15% ad val.	0.1¢ per lb + 15% ad val.	On or before 1/5/82
923.53	Screws, of iron or steel, having shanks or threads over 0.24 inch in diameter, provided for in item 646.63	15% ad val.	No change	On or before 1/5/82"

[FR Doc. 79-712 Filed 1-4-79; 12:56 pm]

APPENDIX B

PREVIOUS COMMISSION INVESTIGATIONS

In 1975, the Commission conducted investigation No. TA-201-2 on bolts, nuts, and screws of iron or steel. This investigation covered small screws and mine-roof bolts in addition to the bolts, nuts, and large screws that are the subject of the current investigation (inv. No. TA-203-11).

As a result of the 1975 investigation, the Commission determined (Commissioners Minchew and Bedell dissenting in part, Commissioner Parker not participating) that wood screws and bolts, nuts, and screws (including bolts and their nuts imported in the same shipment), all the foregoing of iron or steel, provided for in items 646.49, 646.54, 646.56, 646.58, 646.60, 646.63, and 646.79 of the TSUS, were not being imported into the United States in such increased quantities as to be a substantial cause of serious injury, or threat thereof, to the domestic industry producing articles like or directly competitive with the imported articles. Commissioners Minchew and Bedell determined that the bolts, nuts, and large screws classified under TSUSA item 646.4920 and TSUS items 646.54, 646.56, and 646.63 (except mine-roof bolts, classified under item 646.54) were being imported into the United States in such increased quantities as to be a substantial cause of serious injury to the domestic industry producing articles like or directly competitive with the imported articles.

In 1977, the Commission conducted investigation No. TA-201-27 on bolts, nuts, and large screws of iron or steel. In this investigation, the Commission determined (Commissioner Ablondi dissenting, Vice Chairman Parker and Commissioner Alberger not participating) that lag screws or bolts, (except mine-roof bolts), and bolts and their nuts imported in the same shipment, nuts, and screws having shanks or threads over 0.24 inch in diameter, all the foregoing of iron or steel, provided for in items 646.49, 646.54, 646.56, and 646.63 of the TSUS, were being imported into the United States in such increased quantities as to be a substantial cause of serious injury, or the threat thereof, to the domestic industry producing articles like or directly competitive with the imported articles. The Commission made no determination with respect to imports of Canadian articles admitted free of duty as original equipment for motor vehicles under item 646.79 of the TSUS. The Commission recommended import relief in the form of higher tariffs.

In February 1978, the President determined that import relief was not in the national economic interest and so advised Congress. Concurrent resolutions to disapprove the President's action and, in effect, to direct the President to proclaim the relief recommended by the Commission were introduced in both the House and the Senate. The Subcommittee on International Trade of the Committee on Ways and Means favorably reported H. Con. Res. 485 to such effect to the full Committee in March 1978, but the Committee on April 27, 1978, rejected the recommendation of the Subcommittee to report out the resolution. No further action was taken regarding the resolutions.

Following receipt on June 9, 1978, of a resolution of the House Committee on Ways and Means, and after soliciting and receiving public comment on the "good cause" issue, the U.S. International Trade Commission on August 3, 1978, determined good cause to exist within the meaning of section 201(e) of the Trade Act for a reinvestigation within 1 year of the subject merchandise. Accordingly, the Commission instituted investigation No. TA-201-37 to determine whether lag screws or bolts, bolts (except mine-roof bolts) and bolts and their nuts imported in the same shipment, nuts, and screws having

shanks or threads over 0.24 inch in diameter, all the foregoing of iron or steel, provided for in TSUS items 646.49, 646.54, 646.56, 646.63, and 646.79 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 the articles like or directly competitive with the imported articles.

On the basis of the investigation, the Commission determined (Vice Chairman Alberger dissenting, Chairman Parker and Commissioner Stern 1/ not participating) that lag screws or bolts, bolts (except mine-roof bolts) and bolts and their nuts imported in the same shipment, nuts, and screws having shanks or threads over 0.24 inch in diameter, all the foregoing of iron or steel, provided for in TSUS item 646.49, 646.54, 646.56, and 646.63 are being imported into the United States in such increased quantities as to be a substantial cause of serious injury, 2/ or the threat thereof, 3/ to the domestic industry producing articles like or directly competitive with the imported articles. The Commission made no determination with respect to imports of the subject articles from Canada admitted free of duty as original equipment for motor vehicles under TSUS item 646.79. 4/

In November 1978, the Commission determined (Vice Chairman Alberger dissenting, 5/ Chairman Parker and Commissioner Stern not participating) that to prevent 6/ or remedy 7/ such injury it was necessary to impose rates of duty (a) in lieu of the present rates of duty with respect to lag screws and screws having shanks or threads over 0.24 inch in diameter, of iron or steel, provided for in items 646.49 and 646.63 of the TSUS, and (b) in addition to the present rates with respect to bolts (except mine-roof bolts) and bolts and their nuts imported in the same shipment, and nuts, of iron or steel, provided for in items 646.54 and 646.56 of the TSUS, as follows--

1st year	2nd year	3d year	4th year 1/	5th year 1/
20% ad val.	20% ad val.	15% ad val.	10% ad val.	10% ad val.

1/ In view of the fact that the rate of duty set forth in col. 1 of the TSUS on lag screws or bolts provided for in item 646.49 of the TSUS is 12.5 percent ad valorem, import relief with respect to such articles provided in accord with this proposal would terminate at the end of the third year.

1/ Commissioner Stern assumed her duties as a Commissioner on Oct. 16, 1978, and was not a Commissioner at the time of the public hearing or during most of the investigative period.

2/ Commissioner Bedell found serious injury with respect to imports of such articles.

3/ Commissioner Moore found threat of serious injury with respect to imports of such articles.

4/ Vice Chairman Alberger's negative determination was with respect to all the imported articles under investigation, including these Canadian articles.

5/ Vice Chairman Alberger recommended no remedy.

6/ Commissioner Moore, having found a threat of serious injury, found and recommended relief necessary to prevent such threatened injury.

7/ Commissioner Bedell, having found serious injury, found and recommended relief necessary to remedy such injury.

On December 22, 1978, the President rejected the Commission's recommendations and instead imposed the relief presently in effect. (See the Tariff Treatment section of this report.)

APPENDIX C

COMMISSION'S NOTICE OF INVESTIGATION AND HEARING

(EIS) being prepared in the above-entitled proceeding.

SUMMARY: The ICC's Energy and Environment Branch is, with the assistance of an independent third party consultant, Tera Corporation, engaged in preparing a supplement to the final EIS previously issued by the Commission in connection with Somerset Railroad Corporation's application to construct and operate a line of railroad in Niagara County, NY. Interested members of the public will be briefed by staff from ICC and Tera Corporation on the progress which has been made to date toward completion of this supplement. After this presentation there will be an opportunity for the public to comment on the scope and content of the supplement.

DATE: July 30, 1981 at 7:30 p.m.

ADDRESS: Niagara County Community College, Intersection of State Highways 31 and 429, Cambria, NY.

FOR FURTHER INFORMATION CONTACT: Phillis Johnson-Ball, Energy and Environment Branch, Room 5380, Interstate Commerce Commission, Washington, DC 20423; Tel. (202) 275-7916.

Agatha L. Mergenovich,
Secretary.

[FR Doc. 81-20753 Filed 7-14-81: 8:45 am]
BILLING CODE 7035-01-M

INTERNATIONAL TRADE COMMISSION

[Investigation No. TA-203-11]

Bolts, Nuts, and Large Screws of Iron or Steel; Investigation and Hearing

AGENCY: International Trade Commission.

ACTION: Upon its own motion and on the basis of a petition filed on June 30, 1981, on behalf of the United States Fastener Manufacturing Group, the United Steel Workers of America, the International Association of Machinists and Aerospace Workers, the United Automobile, Aerospace and Agricultural Implement Workers of America, and the Industrial Union Department of the AFL-CIO, the Commission on July 9, 1981, instituted investigation No. TA-203-11 under sections 203(i)(2) and 203(i)(3) of the Trade Act of 1974 (19 U.S.C. 2253(i)(2) and (i)(3)) for the purpose of gathering information in order that it might advise the President of its judgment as to the probable economic effect on the industry concerned of the extension, reduction, or termination of import relief presently in effect with respect to lag screws or bolts, bolts (except mine-roof bolts) and bolts and their nuts imported in the same shipment, nuts, and screws having shanks or threads over 0.24 inch in diameter, all the foregoing of iron or steel, provided for in items 646.49, 646.54, 646.56, and 646.63 of the Tariff Schedules of the United States (TSUS). Relief in the form of temporary duty increases described in items 923.50, 923.51, 923.52, and 923.53 of the Appendix to the TSUS is provided for in Presidential Proclamation 4632 (issued January 4, 1979, 44 FR 1697). Import relief presently in effect with respect to such merchandise is scheduled to terminate at the close of business on January 5, 1982, unless extended by the President.

EFFECTIVE DATE: July 9, 1981.

FOR FURTHER INFORMATION CONTACT: David Coombs, Investigator, telephone 202-523-1376, U.S. International Trade Commission, Room 344, 701 E Street, NW., Washington, D.C. 20436.

SUPPLEMENTARY INFORMATION: *Public hearing ordered.* A public hearing in connection with this investigation will be held in Washington, D.C., at 10 a.m., e.d.t., on Thursday, September 10, 1981, in the Hearing Room U.S. International Trade Commission Building, 701 E Street, NW. Requests for appearances at the hearing should be received in writing by the Secretary to the Commission at his office in Washington no later than the close of business on Friday, August 21, 1981.

Prehearing procedure. To facilitate the hearing process, it is requested that persons wishing to appear at the hearing submit prehearing briefs enumerating and discussing the issues which they wish to raise at the hearing. Nineteen copies of such prehearing briefs should be submitted to the Secretary to the Commission no later than the close of business on Wednesday, September 2, 1981. Copies of prehearing briefs submitted will be made available for public inspection in the Office of the Secretary. While submission of prehearing briefs does not prohibit submission of prepared statements in accordance with § 201.12(d) of the Commission's rules of practice and procedure (19 CFR 201.12(d)), it would be unnecessary to submit such a statement if a prehearing brief is submitted instead. Oral presentations should, to the extent possible, be limited to issues raised in the prehearing briefs.

A prehearing conference will be held on Tuesday, August 25, 1981, at 10:00 a.m., e.d.t., in Room 117 of the U.S. International Trade Commission Building.

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

Inspection of petition. The petition filed in this case is available for public inspection at the Office of the Secretary, U.S. International Trade Commission.

Issued: July 10, 1981.

By order of the Commission.

Kenneth R. Mason,
Secretary.

[FR Doc. 81-20677 Filed 7-14-81: 8:45 am]
BILLING CODE 7020-02-M

[Investigation No. 337-TA-89]

Certain Apparatus for the Continuous Production of Copper Rod; Approval of Settlement Agreements

ACTION: Approval of settlement agreements.

SUMMARY: Notice is hereby given that the U.S. International Trade Commission has approved the settlement agreements entered into by Southwire Company and Fried. Krupp GmbH and Krupp International, Inc. on April 10, 1981.

SUPPLEMENTARY INFORMATION: As a result of a complaint filed by Southwire Company on July 29, 1980, and amended on August 1, 1980, and August 5, 1980, under section 337 of the Tariff Act of 1930 (19 U.S.C. 1337) the Commission instituted an investigation to determine whether section 337 is being violated by reason of infringement of U.S. Letters Patent 4,129,170. A notice of investigation was published in the Federal Register on August 13, 1980 (45 FR 53923).

On April 21, 1981, Krupp G.m.b.H., Krupp International Inc., Southwire Co., and the Commission investigative attorney filed a joint motion for an order approving the settlement agreements entered into by Southwire and Krupp on April 10, 1981. The Commission sought comments on the proposed settlement agreements through notice published in the Federal Register on May 15, 1981 (46 FR 26943). No comments were received in response to that notice. On July 2, 1981, the Commission approved the settlement agreements.

Copies of the Commission's Action and Order and all non-confidential documents in the record of this investigation are available for inspection during official business hours (8:45 a.m. to 5:15 p.m.) in the Office of the Secretary, U.S. International Trade Commission, 701 E Street NW.,

APPENDIX D

WITNESSES AT THE HEARING

CALENDAR OF PUBLIC HEARING

Those listed below appeared as witnesses at the United States International Trade Commission's hearing:

Subject : Bolts, Nuts, and Large Screws of Iron or Steel

Inv. No. : TA-203-11

Date and time: September 10, 1981 - 10:00 a.m., e.d.t.

Sessions were held in connection with the investigation in the Hearing Room of the United States International Trade Commission, 701 E Street, N.W., in Washington.

In support of the extension of import relief:

McClure & Trotter--Counsel
Washington, D.C.
on behalf of

The United States Fastener Manufacturing Group

Robert J. Blinken, Chairman, USFMG/Mite Corporation, New York, N.Y.

James E. Schiele, Chairman, St. Louis Screw & Bolt Company, St. Louis, Missouri

David Mallion, Legislative Representative, United Steelworkers of America, Washington, D.C.

Economic Consulting Service, Inc., Washington, D.C.

Stanley Nehmer, President

Mark Love, Vice President

Ms. Julie Solomon, Economist

Peter Buck Feller)
Robert W. Johnson)--OF COUNSEL
R. Keith Thomas)

In opposition to the extension of import relief:

Eric M. Cohn, President, Allied International-American Eagle Trading Corporation, New York, N.Y.

Tanaka, Walders & Ritger--Counsel
Washington, D.C.
on behalf of

The Fasteners Institute of Japan and the Machinery Exporters' Association

H. William Tanaka)
Lawrence R. Walders) --OF COUNSEL

James P. Davenport--Economist

Barnes, Richardson & Colburn--Counsel
New York, N.Y.
on behalf of

The Industrial Fasteners Group of the American Importers Association

Andrew P. Vance)
Matthew T. McGrath) --OF COUNSEL

Williams & Ince--Counsel
Washington, D.C.
on behalf of

TFI Fastener Corporation, Mississauga, Ontario, Canada

Edward D. Clark, President

James D. Williams, Jr.)
William K. Ince) --OF COUNSEL

William E. Wright, Executive Vice President, Willking Int'l.

Fox and Mandal--Advocates & Solicitors
Calcutta, India
on behalf of

A-65

The Engineering Export Promotion Council of India

S. B. Mandal

Daniels, Houlihan & Palmeter--Counsel
Washington, D.C.
on behalf of

Taiwan Industrial Fastener Institute

Dominic Yin, Chief Delegate of TIFI

David P. Houlihan)--OF COUNSEL
Martin Lewin)

Herbert Liebman, President, A. L. Liebman & Son, Inc., Woodside, New York

APPENDIX E

DISCUSSION OF THE TERMS "STANDARD" AND "SPECIAL"

The terms "standard" and "special" have been mentioned during both the current investigation and the previous section 201 investigations involving bolts, nuts, and large screws. This discussion will clarify the meaning of each, and allow the reader to use his judgement as to their importance in this investigation.

The Industrial Fasteners Institute (IFI) states "The IFI historically has said that only if the item is found in our Standards book, it indeed is a standard." 1/ The book referred to, Fastener Standards, is published by the IFI and contains accepted standards for various types of fasteners. The purpose of the standards book is to allow fastener producers and purchasers to refer to commonly defined specifications for various fasteners.

All published product standards are reviewed at least every 5 years. If the specifications commonly used by the industry have changed, the standard is updated to reflect these changes. If the industry no longer makes a particular item, that standard is dropped. If a new type of fastener gains wide acceptance, and the industry has an interest, a new standard is developed for this item. For example, locknuts changed from a special item to a standard item over a 10-year period. Also, the IFI has published about 19 standards for metric fasteners since 1975, and anticipates publishing another 20 in the next 2 or 3 years.

This project was undertaken because of industry interest and the growing use of metric fasteners. Finally, two standards regarding inch specifications, first published in 1972, have been revised to reflect current industry use and will be published in 1982. 2/

The parties to this investigation generally agree that standard fasteners are high-volume items, which can be sold from inventory. 3/

Specials, conversely, cannot usually be referenced from accepted standards, and cannot be sold from inventory. The fasteners have been defined as "customerized" by counsel for the Fasteners Institue of Japan, 4/ "blueprint fasteners" by the Taiwan Industrial Fasteners Institue 5/ and "ordered and manufactured to specification" by the AIA. 6/ A spokesman for the domestic industry defined a special as "a product that does not lend itself, to that kind of forward planning," referring to the ability to produce for inventory. 7/

Specials appear to be subdivided into three groupings. 8/ The first, modified standards, are standard fasteners with slight modifications to fit a particular purchaser's needs. The second, proprietory or patented specials,

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1/ Letter of Sept. 29, 1981, from IFI to James Brandon.
2/ Letter from IFI to David Coombs, Oct. 1, 1981.
3/ Transcript of the hearing, pp. 289, 236, 185, 177, and 117.
4/ Ibid, p. 181
5/ Ibid, p. 259
6/ Ibid, p. 236
7/ Ibid, p. 117
8/ Information on the three groups is from Fastener Standards.

are designed or developed by modifying a standard by adding a unique feature, which is patented. Production is limited by the patent. These fasteners may gain in popularity as they fill a fastening need, and eventually become standards. The final category, engineered special fasteners, are designed and produced for a single application.

APPENDIX F

TARIFF SCHEDULES

TARIFF SCHEDULES OF THE UNITED STATES ANNOTATED (1981)

SCHEDULE 6. - METALS AND METAL PRODUCTS
Part 3. - Metal Products

GSP	Item	Stat. Suffix	Articles	Units of Quantity	Rates of Duty 1	Rates of Duty LDDC	Rates of Duty 2
			Wood screws (including lag screws or bolts) of base metal:				
	646.49		Of iron or steel				
		20	Lag screws or bolts	.....	12.5% ad val. 1/		25% ad val.
		40	Other	Lb.			
			Other:	Lb.			
A	646.51	00	Having shanks or threads not over 0.12 inch in diameter	Lb.....	10.2% ad val.	6.3% ad val.	45% ad val.
A	646.53	00	Having shanks or threads over 0.12 inch in diameter	Lb.....	8.1% ad val.	5.5% ad val.	45% ad val.
			Bolts, nuts, studs and studding, screws, and washers (including bolts and their nuts imported in the same shipment, and assembled bolts or screws and washers, with or without nuts); screw eyes, screw hooks and screw rings; turnbuckles; all the foregoing not described in the foregoing provisions of this subpart, of base metal:				
			Of iron or steel:				
A2/	646.54	00	Bolts and bolts and their nuts imported in the same shipment	Lb.....	0.7% ad val. 3/		3.5% ad val. 3/
A4/	646.56	00	Nuts	Lb.....	0.2% ad val. 5/		0.5% ad val. 5/
A	646.57	00	Studs and studding	Lb.....	6.4% ad val.	4.7% ad val.	45% ad val.
	646.58	00	Screws: Machine screws 0.375 inch or more in length and 0.125 inch or more in diameter (not including cap screws)	Lb.....	0.48¢ per lb.	0.45¢ per lb.	1¢ per lb.
	646.60		Other: Having shanks or threads not over 0.24 inch in diameter	.....	9.8% ad val.	6.2% ad val.	45% ad val.
		20	Cap screws	Lb.			
		40	Other	Lb.			
	646.63		Having shanks or threads over 0.24 inch in diameter	.....	9.5% ad val. 6/		45% ad val.
		20	Cap screws	Lb.			
		40	Other	Lb.			
			Washers:				
A	646.65	00	Spiral and other lock washers	Lb.....	9% ad val.	5.8% ad val.	35% ad val.
	646.70	00	Other	Lb.....	Free		0.6¢ per lb.
A	646.72	00	Assembled bolts or screws and washers; screw eyes, screw hooks and screw rings; turnbuckles	Lb.....	8.6% ad val.	5.7% ad val.	45% ad val.

1/ Duty on lag screws or bolts, of iron or steel, temporarily increased. See item 923.50 in part 2A, Appendix to Tariff Schedules.

2/ GSP eligibility temporarily suspended (except on mine-roof bolts). See Pres. Proc. 4632 (44 F.R. 1697, January 8, 1979).

3/ Duty temporarily increased (except on mine-roof bolts). See item 923.51 in part 2A, Appendix to Tariff Schedules.

4/ GSP eligibility temporarily suspended. See Pres. Proc. 4632 (44 F.R. 1697, January 8, 1979).

5/ Duty temporarily increased. See item 923.52 in part 2A, Appendix to Tariff Schedules.

6/ Duty temporarily increased. See item 923.53 in part 2A, Appendix to Tariff Schedules.

Note: For explanation of the symbol "A" or "A*" in the column entitled "GSP", see general headnote 3(c).

Item	Stat. Suffix	Articles	Units of Quantity	Rates of Duty 1	Rates of Duty 2	Effective Period
923.50	1/	Lag screws or bolts, of iron or steel, provided for in item 646.49	1/	15% ad val.	No change	On or before 1/5/82
923.51	1/	Bolts (except mine-roof bolts) and such bolts and their nuts imported in the same shipment, of iron or steel, provided for in item 646.54	1/	0.2¢ per lb. + 15% ad val.	0.2¢ per lb. + 15% ad val.	On or before 1/5/82
923.52	1/	Nuts, of iron or steel, provided for in item 646.56	1/	0.1¢ per lb. + 15% ad val.	0.1¢ per lb. + 15% ad val.	On or before 1/5/82
923.53	1/	Screws, of iron or steel, having shanks or threads over 0.24 inch in diameter, provided for in item 646.63	1/	15% ad val.	No change	On or before 1/5/82

Item	Stat. Suffix	Articles	Units of Quantity	Rates of Duty 1 (Effective on or after January 17,--) 1980	1981	1982	1983 2/	Rates of Duty 2
923.60	1/	Cooking ware (except teakettles) of steel, not having self-contained electrical heating elements, enameled or glazed with vitreous glasses, and valued not over $2.25 per pound, provided for in item 654.02	1/	The rate provided for in item 654.02 + 20¢ per lb., but the total duty shall not exceed 53.3% ad val.	The rate provided for in item 654.02 + 20¢ per lb., but the total duty shall not exceed 53.3% ad val.	The rate provided for in item 654.02 + 15¢ per lb., but the total duty shall not exceed 53.3% ad val.	The rate provided for in item 654.02 + 10¢ per lb., but the total duty shall not exceed 53.3% ad val.	35.5% ad val., but not less than the rate which would have applied had the imported article been subject to the applicable column 1 rate of duty provided herein for this item

Item	Stat. Suffix	Articles	Units of Quantity	Quota Quantity (in units)
		Whenever the respective aggregate quantity of color television receivers and subassemblies thereof specified below for items 923.66 through 923.77, inclusive, the product of Taiwan or of the Republic of Korea has been exported in any restraint period and has been entered, no article in such item the product of Taiwan or of the Republic of Korea exported during such restraint period may be entered except, as provided in headnote 5:		
		Taiwan:		
		Color television receivers, having a single picture tube intended for direct viewing, with a video display diagonal of 12.5 inches and over, provided for in items 685.11 or 685.14:		
923.66	1/	If exported during the period from July 1, 1980, through June 30, 1981, inclusive	1/	400,000

1/ See Appendix statistical headnote 1.
2/ Effective period for increased duties terminates at the close of January 16, 1984.

APPENDIX G

STATISTICAL TABLES

Table 1.--Bolts, nuts, and large screws of iron or steel: U.S. imports for consumption, by sources, 1978-80, January-June 1980, and January-June 1981

(Quantity in thousands of pounds; value in thousands of dollars)

Source	1978	1979	1980	January-June--		Percent change, 1980 from 1978
				1980	1981	
	Quantity (1,000 pounds)					
Japan	521,527	441,291	404,545	231,760	154,725	-22.4
Taiwan	85,756	107,081	95,559	44,012	74,201	11.4
Canada	102,291	85,322	73,107	38,543	42,578	-28.5
India	34,084	40,131	22,259	15,284	3,744	-34.7
Poland	10,332	23,477	19,105	13,981	7,644	84.9
All other	95,323	95,681	63,970	34,319	38,080	-32.8
Total	849,313	792,983	678,545	377,899	320,972	-20.1
	Value (1,000 dollars)					
Japan	220,381	218,501	196,469	107,309	83,994	-10.9
Taiwan	27,765	41,765	34,991	16,123	26,308	26.0
Canada	47,786	43,655	39,606	21,149	23,678	-17.1
India	6,890	9,928	6,071	4,159	1,070	-11.9
Poland	2,332	6,198	4,949	3,511	2,273	112.2
All other	48,727	54,910	48,128	24,804	27,311	-1.2
Total	353,881	374,957	330,214	177,055	164,634	- 6.7

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

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

Table 2.--Bolts, nuts, and large screws of iron or steel: Percentage distribution of imports for consumption, by sources, 1978-80, January-June 1980, and January-June 1981

Source	1978	1979	1980	Jan. June-- 1980	1981
	Quantity				
Japan	61.4	55.6	59.6	61.3	48.2
Taiwan	10.1	13.5	14.1	11.6	23.1
Canada	12.0	10.8	10.8	10.2	13.3
India	4.0	5.1	3.3	4.0	1.2
Poland	1.2	3.0	2.8	3.7	2.4
All other	11.2	12.1	9.4	9.1	11.9
Total	100.0	100.0	100.0	100.0	100.0
	Value				
Japan	62.3	58.3	59.5	60.6	51.0
Taiwan	7.8	11.1	10.6	9.1	16.0
Canada	13.5	11.6	12.0	11.9	14.4
India	1.9	2.6	1.8	2.3	.6
Poland	.7	1.7	1.5	2.0	1.4
All other	13.8	14.6	14.6	14.0	16.6
Total	100.0	100.0	100.0	100.0	100.0

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

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

Table 3.--Bolts of iron or steel: U.S. imports for consumption, by sources, 1978-80, January-June 1980, and January-June 1981

(Quantity in thousands of pounds; value in thousands of dollars)

Source	1978	1979	1980	January-June-- 1980	January-June-- 1981	Percent change, 1980 from 1978
	Quantity					
Japan	141,840	96,227	81,670	44,971	38,435	-42.4
Canada	36,430	28,938	24,187	12,168	13,085	-33.6
India	28,701	34,592	17,780	12,314	3,258	-38.1
Taiwan	10,026	12,766	8,045	3,277	7,796	-19.8
Italy	6,708	4,757	3,910	1,853	2,191	-41.7
All other	14,602	15,701	14,051	8,506	7,604	-3.8
Total	238,307	192,981	149,643	83,089	72,369	-37.2
	Value					
Japan	51,187	41,643	34,891	18,380	17,482	-31.8
Canada	16,063	14,626	13,775	6,950	7,691	-14.2
India	5,100	7,656	4,308	2,954	818	-15.5
Taiwan	3,169	5,005	3,459	1,466	3,025	9.2
Italy	2,891	2,057	2,657	1,245	1,576	-8.1
All other	9,008	11,626	12,400	6,594	6,947	37.7
Total	87,418	82,613	71,490	37,589	37,539	-18.2

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

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

Table 4.--Bolts of iron or steel: Percentage distribution of U.S. imports for consumption, by sources, 1978-80, January-June 1980, and January-June 1981

Source	1978	1979	1980	January-June--	
				1980	1981
	Quantity				
Japan	59.5	49.9	54.6	54.1	53.1
Canada	15.3	15.0	16.2	14.6	18.1
India	12.0	17.9	11.9	14.8	4.5
Taiwan	4.2	6.6	5.4	3.9	10.8
Italy	2.8	2.5	2.6	2.2	3.0
All other	6.1	8.1	9.4	10.2	10.5
Total	100.0	100.0	100.0	100.0	100.0
	Value				
Japan	58.6	50.4	48.8	48.9	46.6
Canada	18.4	17.7	19.3	18.5	20.5
India	5.8	9.3	6.0	7.9	2.2
Taiwan	3.6	6.1	4.8	3.9	8.1
Italy	3.3	2.5	3.7	3.3	4.2
All other	10.3	14.1	17.3	17.5	18.5
Total	100.0	100.0	100.0	100.0	100.0

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

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

Table 5.--Nuts of iron or steel: U.S. imports for consumption, by sources, 1978-80, January-June 1980, and January-June 1981

(Quantity in thousands of pounds; value in thousands of dollars)

Source	1978	1979	1980	January-June-- 1980	January-June-- 1981	Percent change, 1980 from 1978
	Quantity					
Japan	162,949	134,421	116,591	67,239	46,767	-28.4
Taiwan	72,318	87,790	66,702	31,973	49,529	-7.8
Canada	19,358	7,887	9,429	4,797	4,975	-51.3
Netherlands	13,162	11,716	6,565	3,104	4,168	-50.1
China	68	462	5,422	2,404	2,614	1/
All other	30,135	32,811	16,413	8,592	11,771	-45.5
Total	297,990	275,087	221,122	118,109	119,824	-25.8
	Value					
Japan	94,016	91,658	75,834	40,917	35,843	-19.3
Taiwan	23,591	34,634	25,028	11,980	17,931	6.1
Canada	11,558	5,597	6,238	3,172	3,660	-46.0
Netherlands	5,786	6,540	4,190	2,006	2,828	-27.6
China	25	163	1,651	764	823	1/
All other	18,358	18,975	15,225	7,547	8,622	-17.1
Total	153,334	157,567	128,166	66,386	69,707	-16.4

1/ Over 500 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.

Table 6.--Nuts of iron or steel: Percentage distribution of U.S. imports for consumption, by sources, 1978-80, January-June 1980, and January-June 1981

Source	1978	1979	1980	January-June--	
				1980	1981
	Quantity				
Japan	54.7	48.9	52.7	56.9	39.0
Taiwan	24.3	31.9	30.2	27.1	41.3
Canada	6.5	2.9	4.3	4.1	4.2
Netherlands	4.4	4.3	3.0	2.6	3.5
China	1/	.2	2.5	2.0	2.2
All other	10.1	11.9	7.4	7.3	9.8
Total	100.0	100.0	100.0	100.0	100.0
	Value				
Japan	61.3	58.2	59.2	61.6	51.4
Taiwan	15.4	22.0	19.5	18.0	25.7
Canada	7.5	3.6	4.9	4.8	5.3
Netherlands	3.8	4.2	3.3	3.0	4.1
China	1/	0.1	1.3	1.2	1.2
All other	12.0	12.0	11.9	11.4	12.4
Total	100.0	100.0	100.0	100.0	100.0

1/ 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.

Table 7.--Large screws of iron or steel: U.S. imports for consumption, by sources, 1978-80, January-June 1980, and January-June 1981

(Quantity in thousands of pounds; value in thousands of dollars)

Source	1978	1979	1980	January-June-- 1980	January-June-- 1981	Percent change, 1980 from 1978
	Quantity					
Japan	200,888	192,911	190,995	110,504	52,067	-4.9
Canada	46,462	48,353	39,248	21,489	24,188	-15.5
Taiwan	2,950	5,725	19,693	8,559	15,053	1/
Poland	5,690	15,163	13,226	9,831	5,346	132.4
Yugoslavia	4,223	10,332	10,497	5,901	4,226	148.6
All other	36,398	33,597	17,356	10,965	18,186	-52.3
Total	296,611	306,081	291,015	167,248	119,066	-1.9
	Value					
Japan	69,377	78,104	79,854	44,546	27,628	15.1
Canada	20,144	23,361	19,461	10,977	12,127	-3.4
Taiwan	842	1,782	6,000	2,587	4,535	1/
Poland	1,204	3,955	3,377	2,446	1,565	180.5
Yugoslavia	926	2,752	2,782	1,578	1,021	200.4
All other	14,613	17,221	12,486	7,266	6,405	-14.6
Total	107,106	127,175	123,959	69,401	53,282	15.7

1/ Over 500 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.

Table 8.--Large screws of iron or steel: Percentage distribution of U.S. imports for consumption, by sources, 1978-80, January-June 1980, and January-June 1981

Source	1978	1979	1980	January-June--	
				1980	1981
	Quantity				
Japan	67.7	63.0	65.6	66.1	43.7
Canada	15.7	15.8	13.5	12.8	20.3
Taiwan	1.0	1.9	6.8	5.1	12.6
Poland	1.9	5.0	4.5	5.9	4.5
Yugoslavia	1.4	3.4	3.6	3.5	3.5
All other	12.3	11.0	6.0	6.6	15.3
Total	100.0	100.0	100.0	100.0	100.0
	Value				
Japan	64.8	61.4	64.4	64.2	51.9
Canada	18.8	18.4	15.7	15.8	22.8
Taiwan	0.8	1.4	4.8	3.7	8.5
Poland	1.1	3.1	2.7	3.5	2.9
Yugoslavia	.9	2.2	2.2	2.3	1.9
All other	13.6	13.5	10.1	10.5	12.0
Total	100.0	100.0	100.0	100.0	100.0

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

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

Table 9.--Lag screws and bolts of iron or steel: U.S. imports for consumption, by source, 1978-80, January-June 1980, and January-June 1981

(Quantity in thousands of pounds; value in thousands of dollars)

Source	1978	1979	1980	January-June-- 1980	January-June-- 1981	Percent change, 1980 from 1978
	Quantity					
Japan	15,850	17,733	15,289	9,045	7,455	-3.5
Taiwan	462	800	1,119	204	1,823	-142.2
Canada	40	144	244	90	331	1/
France	0	0	71	71	0	2/
Republic of Korea	27	5	13	28	37	-51.9
All other	26	153	14	14	67	-46.2
Total	16,405	18,835	16,764	9,452	9,713	2.2
	Value					
Japan	5,800	7,096	5,891	3,468	3,042	1.6
Taiwan	164	344	504	91	816	207.3
Canada	21	71	132	49	200	1/
France	0	0	54	54	0	2/
Republic of Korea	11	2	10	10	12	-9.1
All other	27	89	7	8	36	-74.1
Total	6,023	7,602	6,598	3,680	4,106	9.5

1/ Over 500 percent.
2/ Imported in 1 year only.

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

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

Table 10.--Lag screws and bolts of iron or steel: Percentage distribution of U.S. imports for consumption, by sources, 1978-80, January-June 1980, and January-June 1981

Source	1978	1979	1980	January-June--	
				1980	1981
	Quantity				
Japan	96.6	94.1	91.3	95.7	76.8
Taiwan	2.8	4.2	6.7	2.2	18.8
Canada	.2	.8	1.5	1.0	3.4
France	0	0	.4	.8	0
Republic of Korea	.2	1/	.1	.3	.4
All other	.2	.8	.1	.1	.7
Total	100.0	100.0	100.0	100.0	100.0
	Value				
Japan	96.3	93.3	89.3	94.2	74.1
Taiwan	2.7	4.5	7.6	2.5	19.9
Canada	.3	.9	2.0	1.3	4.9
France	.0	0	.8	1.5	0
Republic of Korea	.2	1/	.2	.3	.3
All other	.4	1.2	.1	.2	.9
Total	100.0	100.0	100.0	100.0	100.0

1/ Less than 0.15 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.

Table 11.--Bolts, nuts, and large screws of iron or steel: U.S. imports for consumption, by sources, 1978-80, January-June 1980, and January-June 1981

(Quantity in thousands of pounds; value in thousands of dollars)

Source	1978	1979	1980	January-June--		Percent of total, 1980
				1980	1981	
	Quantity					
Japan	521,527	441,291	404,545	231,760	154,725	56.0
Canada 1/	171,812	150,896	117,202	60,193	71,289	16.2
Taiwan	85,756	107,081	95,559	44,012	74,201	13.2
India	34,084	40,131	22,259	15,284	3,744	3.1
Poland	10,332	23,477	19,105	13,981	7,644	2.6
All other	95,323	95,681	63,970	34,319	38,080	8.9
Total	918,834	858,558	722,641	399,549	349,683	100.0
	Value					
Japan	220,381	218,501	196,469	107,309	83,994	54.2
Canada 1/	87,536	86,209	71,879	36,766	45,087	19.8
Taiwan	27,765	41,765	34,991	16,123	26,308	9.7
India	6,890	9,928	6,071	4,159	1,070	1.7
Poland	2,332	6,198	4,949	3,511	2,273	1.4
All other	48,727	54,910	48,128	24,804	27,311	13.3
Total	393,631	417,511	362,487	192,672	186,043	100.0

1/ Includes imports from Canada under TSUS item 646.79.

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

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

Table 12.--Bolts of iron or steel: Domestic shipments, imports, and apparent consumption, by markets, 1978-80, January-June 1980, and January-June 1981

(Quantity in thousands of pounds; value in thousands of dollars)

Market and period	Shipments	Imports	Apparent consumption	Ratio (percent) of imports to apparent consumption
	Quantity			
Commercial market: 1/				
1978	2/ 433,347	238,307	2/ 671,654	35.5
1979	459,446	192,981	652,427	29.6
1980	341,262	149,643	490,905	30.5
January-June--				
1980	184,258	83,089	267,347	31.1
1981	183,095	72,369	255,464	28.3
Total market: 3/				
1978	2/ 563,857	238,307	2/ 802,164	29.7
1979	580,972	192,981	773,953	24.9
1980	409,748	149,643	559,391	26.8
January-June--				
1980	223,632	83,089	306,721	27.1
1981	220,402	72,369	292,771	24.7
	Value			
Commercial market: 4/				
1978	2/ 366,461	87,418	2/ 453,879	19.3
1979	430,510	82,613	513,123	16.1
1980	391,410	71,490	462,900	15.4
January-June--				
1980	198,431	37,589	236,020	15.9
1981	210,213	37,539	247,752	15.2

1/ Excludes captive consumption.
2/ Data are understated.
3/ Includes captive consumption.
4/ Excludes captive consumption, for which value data are not available.

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 13.--Nuts of iron or steel: Domestic shipments, imports, and apparent consumption, by markets, 1978-80, January-June 1980, and January-June 1981

(Quantity in thousands of pounds; value in thousands of dollars)

Market and period	Shipments	Imports	Apparent consumption	Ratio (percent) of imports to apparent consumption
	Quantity			
Commercial market: 1/				
1978	2/ 142,829	297,990	2/ 440,819	67.6
1979	165,372	275,087	440,459	62.5
1980	114,443	221,122	335,565	65.9
January-June--				
1980	60,681	118,109	178,790	66.1
1981	58,691	119,824	178,515	67.1
Total market: 3/				
1978	2/ 153,897	297,990	2/ 451,887	65.9
1979	177,706	275,087	452,793	60.8
1980	125,425	221,122	346,547	63.8
January-June--				
1980	67,383	118,109	185,492	63.7
1981	62,862	119,824	182,686	65.6
	Value			
Commercial market: 4/				
1978	2/ 218,677	153,334	2/ 372,011	41.2
1979	295,327	157,567	452,894	34.8
1980	248,880	128,166	377,046	34.0
January-June--				
1980	129,646	66,386	196,032	33.9
1981	141,378	69,707	211,085	33.0

1/ Excludes captive consumption.
2/ Data are understated.
3/ Includes captive consumption.
4/ Excludes captive consumption, for which value data are not available.

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 14.--Large screws of iron or steel: Domestic shipments, imports, and apparent consumption, by markets, 1978-80, January-June 1980, and January-June 1981

(Quantity in thousands of pounds; value in thousands of dollars)

Market and period	Shipments	Imports	Apparent consumption	Ratio (percent) of imports to apparent consumption
	Quantity			
Commercial market: 1/				
1978	2/ 132,862	296,611	2/ 429,473	69.1
1979	176,731	306,081	482,812	63.4
1980	120,138	291,015	411,153	70.8
January-June--				
1980	68,706	167,248	235,954	70.9
1981	52,288	119,066	171,354	69.5
Total market: 3/				
1978	2/ 138,620	296,611	2/ 435,231	68.2
1979	184,008	306,081	490,089	62.5
1980	125,305	291,015	416,320	69.9
January-June--				
1980	71,661	167,248	238,909	70.0
1981	55,390	119,066	174,456	68.2
	Value			
Commercial market: 4/				
1978	2/ 127,084	107,106	2/ 234,190	45.7
1979	171,868	127,175	299,043	42.5
1980	127,565	123,959	251,524	49.3
January-June--				
1980	72,269	69,401	141,670	49.0
1981	62,743	53,282	116,025	45.9

1/ Excludes captive consumption.
2/ Data are understated.
3/ Includes captive consumption.
4/ Excludes captive consumption, for which value data are not available.

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 15.--Lag screws and bolts of iron or steel: Domestic shipments, imports, and apparent consumption, by markets, 1978-80, January-June 1980, and January-June 1981

(Quantity in thousands of pounds; value in thousands of dollars)

Market and period	Shipments	Imports	Apparent consumption	Ratio (percent) of imports to apparent consumption
	Quantity			
Commercial market: 1/				
1978	2/ 1,209	16,405	2/ 17,614	93.1
1979	1,516	18,835	20,351	92.6
1980	1,426	16,750	18,176	92.2
January-June--				
1980	1,009	9,452	10,461	90.4
1981	452	9,713	10,165	95.6
Total market: 3/				
1978	2/ 1,231	16,405	2/ 17,636	93.0
1979	1,566	18,835	20,401	92.3
1980	1,473	16,750	18,223	91.9
January-June--				
1980	1,034	9,452	10,486	90.1
1981	476	9,713	10,189	95.3
	Value			
Commercial market: 4/				
1978	2/ 979	6,023	2/ 7,002	86.0
1979	1,831	7,602	9,433	80.6
1980	1,570	6,598	8,168	80.8
January-June--				
1980	1,127	3,680	4,807	76.6
1981	696	4,106	4,804	85.5

1/ Excludes captive consumption.
2/ Data are understated.
3/ Includes captive consumption.
4/ Excludes captive consumption, for which value data are not available.

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 16.--Bolts, nuts, and large screws of iron or steel: 1/ Production capacity, production, and capacity utilization, 1978-80, January-June 1980, and January-June 1981

Item	1978	1979	1980	January-June--	
				1980	1981
Production capacity:					
1,000 pounds--	1,586,471	1,567,289	1,493,926	639,363	669,483
Production 2/-----1,000 pounds--	2/ 833,940	616,911	616,911	343,099	326,697
Capacity utilization---Percent--	2/ 52.5	58.4	41.2	53.7	48.9

1/ Includes capacity and production for lag bolts and screws.
2/ Data are understated.

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

Table 17.--Bolts of iron or steel: Production capacity, production, and capacity utilization, 1978-80, January-June 1980, and January-June 1981

Item	1978	1979	1980	January-June--	
				1980	1981
Production capacity:					
1,000 pounds--	842,426	851,203	839,909	379,392	392,705
Production -----1,000 pounds--	1/ 518,389	536,977	367,532	203,249	206,289
Capacity utilization---Percent--	1/ 61.2	62.6	43.5	53.3	52.5

1/Data are understated.

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

Table 18.--Nuts of iron or steel: Production capacity, production, and capacity utilization, 1978-80, January-June 1980, and January-June 1981

Item	1978	1979	1980	January-June--	
				1980	1981
Production capacity:					
1,000 pounds	358,359	349,329	342,496	142,167	150,437
Production -----1,000 pounds	1/ 140,431	171,171	110,151	61,847	54,111
Capacity utilization---Percent	1/ 39.7	49.6	32.5	44.1	36.5

1/ Data are understated.

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

Table 19.--Large screws of iron or steel: Production capacity, production, and capacity utilization, 1978-80, January-June 1980, and January-June 1981

Item	1978	1979	1980	January-June--	
				1980	1981
Production capacity:					
1,000 pounds--	379,811	361,118	306,538	116,108	124,273
Production -----1,000 pounds--	1/ 173,376	206,375	137,601	76,732	65,631
Capacity utilization---Percent--	1/ 45.6	57.1	44.9	66.1	52.8

1/ Data are understated.

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

Table 20.--Lag screws and bolts of iron or steel: Production capacity, production, capacity utilization, 1978-80, January-June 1980, and January-June 1981

Item	1978	1979	1980	January-June--	
				1980	1981
Production capacity: 1/ 1,000 pounds	5,875	5,639	4,983	1,696	2,068
Production 2/-----1,000 pounds	1/ 1,744	2,117	1,627	1,271	666
Capacity utilization---Percent	1/ 29.7	37.5	32.7	74.9	32.2

1/ Data are understated.

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

Table 21.--Bolts, nuts, large screws and lag screws and bolts of iron or steel: U.S. production, by types, 1978-80, January-June 1980, and January-June 1981

(In thousands of pounds)

Item	1978 1/	1979	1980	January-June--	
				1980	1981
Bolts	518,389	536,977	367,532	203,249	206,289
Nuts	140,431	171,171	110,151	61,847	54,111
Large screws	173,376	206,375	137,601	76,732	65,631
Lag screws and bolts	1,744	2,117	1,627	1,271	666
Total	833,940	916,640	616,911	343,099	326,697

1/ Data are understated.

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

Table 22.--Bolts, nuts, large screws, and lag screws and bolts of iron or steel: U.S. producers' commercial shipments, by types, quantity, and value, 1978-80, January-June 1980, and January-June 1981

Item	1978 1/		1979		1980		January-June--			
							1980		1981	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
	1,000 pounds	1,000 dollars	1,000 pounds	1,000 dollars	1,000 pounds	1,000 dollars	1,000 pounds	1,000 dollars	1,000 pounds	1,000 dollars
Bolts	433,347	366,461	459,446	430,510	341,262	391,410	184,258	198,431	183,095	210,213
Nuts	142,829	218,677	165,372	295,372	114,443	248,880	60,681	129,646	56,691	141,378
Large screws	132,862	127,084	176,731	171,868	120,138	127,565	68,706	72,269	52,288	62,743
Lag screws and bolts	1,209	979	1,516	1,831	1,426	1,570	1,009	1,127	452	696
Total	710,247	713,201	803,065	899,581	577,269	769,425	314,654	401,473	294,526	415,030

1/ Data are slightly understated.

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

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Table 23.--Bolts, nuts, and large screws of iron or steel: U.S. producers' end-of-period inventories, by types, 1978-80, January-June 1980, and January-June 1981

(In thousands of pounds)

Item	As of Dec. 31--			As of June 30--	
	1978	1979	1980	1980	1981
Bolts	107,606	115,692	103,415	108,787	94,982
Nuts	34,132	36,109	34,675	35,946	33,061
Large screws	32,530	35,006	23,140	25,237	21,166
Lag screws and bolts	457	424	432	460	1,498
Total	174,725	187,231	161,662	170,430	150,707

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

Table 24.--Bolts, nuts, and large screws of iron or steel: Importers' end-of-period inventories, by types, 1978-80, January-June 1980, and January-June 1981

(In thousands of pounds)

Item	As of Dec. 31--			As of June 30--	
	1978	1979	1980	1980	1981
Bolts	46,624	49,803	59,753	62,398	46,736
Nuts	32,126	33,556	32,682	33,410	27,088
Large screws	35,872	31,051	31,876	31,235	30,669
Lag screws and bolts	4,252	3,157	3,611	4,445	3,365
Total	118,874	117,567	127,922	131,488	107,858

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

Table 25.--Bolts, nuts and large screws of iron or steel: U.S. producers' end-of-period unfilled orders, by types, 1978-80, January-June 1980, and January-June 1981

(In thousands of pounds)

Item	As of Dec. 31--			As of June 30--	
	1978	1979	1980	1980	1981
Bolts	85,347	73,697	58,660	54,212	58,760
Nuts	37,391	34,833	26,062	23,069	26,893
Large screws	35,706	30,176	18,771	18,052	18,871
Lag screws and bolts	44	97	43	53	375
Total	158,488	138,803	103,536	95,386	104,899

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

Table 26.--Bolts, nuts, and large screws of iron or steel: Importers' end-of-period unfilled orders, by types, 1978-80, January-June 1980, and January-June 1981

(In thousands of pounds)

Item	As of Dec. 31--			As of June 30--	
	1978	1979	1980	1980	1981
Bolts	2,709	2,700	1,353	1,962	1,501
Nuts	9,559	8,953	5,506	6,922	6,463
Large screws	9,418	8,168	5,934	7,245	6,778
Lag screws and bolts	1,716	1,836	1,017	1,325	1,126
Total	23,402	21,657	13,810	17,454	15,868

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

Table 27.--Average number of production and related workers in U.S. establishments producing bolts, nuts, and large screws of iron or steel, hours worked, and wages paid, 1978-80, January-June 1980, and January-June 1981

Period	Average number of production and related workers	Hours worked	Wages paid
		1,000 hours	1,000 dollars
1978	22,193	45,270	449,991
1979	22,749	48,115	494,009
1980	20,118	39,151	442,686
January-June--			
1980	20,617	21,144	221,487
1981	19,587	21,374	236,789

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

Table 28.--Profit-and-loss experience of U.S. producers on their bolts, nuts, large screws, lag bolts, and screws of iron or steel operations, by fastener types, accounting years 1978-80, part-year up to June 1980, and part-year up to June 1981

Item and period	Net sales	Cost of goods sold	Gross profit or (loss)	General selling, and administrative expenses	Net operating profit or (loss)	Other income (expenses)	Net profit or (loss) before income taxes	Ratio of net operating profit (loss) to net sales	Ratio of net profit or (loss) before income taxes to net sales
	1,000 dollars							Percent	
Special fasteners:									
1978	343,728	264,506	79,222	39,022	40,200	(453)	39,747	11.7	11.6
1979	369,012	286,637	82,375	43,127	39,248	(1,067)	38,181	10.6	10.3
1980	277,485	227,024	50,461	40,721	9,740	(728)	9,012	3.5	3.2
Part year up to June--									
1980	166,405	138,473	27,932	22,573	5,359	(633)	4,726	3.2	2.8
1981	179,789	150,833	28,956	21,785	7,171	(404)	6,767	4.0	3.8
Standard fasteners:									
1978	129,999	103,962	26,037	17,274	8,763	(456)	8,307	6.7	6.4
1979	154,716	122,985	31,731	17,394	14,337	750	15,087	9.3	9.8
1980	148,483	119,146	29,337	20,978	8,359	(213)	8,146	5.6	5.5
Part year up to June--									
1980	39,720	27,832	11,888	6,558	5,330	(134)	5,196	13.4	13.1
1981	46,218	31,784	14,434	7,150	7,284	(85)	7,199	15.8	15.6
Standard/special fasteners:									
1978	59,262	44,586	14,676	5,066	9,610	175	9,785	16.2	16.5
1979	62,299	48,159	14,140	5,624	8,516	(170)	8,346	13.7	13.4
1980	51,623	39,964	12,659	5,407	7,252	(384)	6,868	14.0	13.3
Part year up to June--									
1980	26,066	19,689	6,377	2,858	3,519	(81)	3,438	13.5	13.2
1981	31,481	23,128	8,353	3,108	5,245	133	5,378	16.7	17.1
Aerospace fasteners:									
1978	***	***	***	***	***	***	***	***	***
1979	***	***	***	***	***	***	***	***	***
1980	***	***	***	***	***	***	***	***	***
Part year up to June--									
1980	***	***	***	***	***	***	***	***	***
1981	***	***	***	***	***	***	***	***	***
Nonfasteners:									
1978	***	***	***	***	***	***	***	***	***
1979	***	***	***	***	***	***	***	***	***
1980	***	***	***	***	***	***	***	***	***
Part year up to June--									
1980	***	***	***	***	***	***	***	***	***
1981	***	***	***	***	***	***	***	***	***
Total, all categories:									
1978	713,920	552,413	161,489	86,526	74,963	312	75,275	10.5	10.5
1979	821,506	625,218	196,288	98,727	97,561	752	98,313	11.9	12.0
1980	716,964	556,459	160,505	101,061	59,444	(379)	59,065	8.3	8.2
Part year up to June--									
1980	354,613	273,172	81,441	49,720	31,721	(340)	31,381	8.9	8.8
1981	382,125	294,681	87,444	52,134	35,310	28	35,338	9.2	9.2

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

Table 29.--Bolts, nuts, and large screws of iron or steel: Number of firms reporting losses and percent of total reporting firms, by production types, 1978-80, and part-year up to June 1980, and part-year up to June 1981

Major type of production	1978		1979		1980		Part year up to June			
							1980		1981	
	Number of firms	Percent of total reporting firms	Number of firms	Percent of total reporting firms	Number of firms	Percent of total reporting firms	Number of firms	Percent of total reporting firms	Number of firms	Percent of total reporting firms
Special fasteners	1	0.06	1	0.06	6	38.0	5	33.0	6	40.0
Standard fasteners	2	40.0	1	20.0	2	40.0	1	33.0	1	33.0
Standard/special fasteners	0	-	1	33.0	1	33.0	1	33.0	0	-
Nonfasteners	***	***	***	***	***	***	***	***	***	***
Aerospace fasteners	***	***	***	***	***	***	***	***	***	***
Total, all categories	4	14.0	4	14.0	11	38.0	9	35.0	10	38.0

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

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Table 30.--Investment in fixed assets employed in the production of bolts, nuts, large screws and lag bolts, and screws of iron or steel, and net profit before income taxes of U.S. producers, accounting years 1978-80, part-year up to June 1980, and part-year up to June 1981

Item and period	Investment in fixed assets		Net profit (loss) before income taxes	Ratio of net profit (loss) before income taxes to investment in fixed assets in terms of--	
	Original cost	Book value		Original cost	Book value
	1,000 dollars			Percent	
Special fasteners:					
1978	164,234	117,524	39,747	24.2	33.8
1979	174,868	85,070	38,181	21.8	44.9
1980	189,117	91,213	9,012	4.8	9.9
Part year up to June--					
1980	185,871	90,583	4,726	2.5	5.2
1981	195,669	91,296	6,767	3.5	7.4
Standard fasteners:					
1978	1/ 33,920	35,517	8,307	1/ 26.8	23.4
1979	1/ 37,439	33,353	15,087	1/ 39.3	45.2
1980	1/ 46,159	36,641	8,146	1/ 20.4	22.2
Part year up to June--					
1980	1/ 17,820	22,261	5,196	1/ 33.2	23.3
1981	1/ 22,284	23,112	7,199	1/ 35.4	31.1
Standard/special fasteners:					
1978	21,636	8,898	9,785	45.2	110.0
1979	19,889	10,189	8,346	42.0	81.9
1980	22,507	10,247	6,868	30.5	67.0
Part year up to June--					
1980	21,201	11,062	3,438	16.2	31.1
1981	21,948	9,367	5,378	24.5	57.4
Aerospace fasteners:					
1978	***	***	***	***	***
1979	***	***	***	***	***
1980	***	***	***	***	***
Part year up to June--					
1980	***	***	***	***	***
1981	***	***	***	***	***
Non-fasteners:					
1978	***	***	***	***	***
1979	***	***	***	***	***
1980	***	***	***	***	***
Part year up to June--					
1980	***	***	***	***	***
1981	***	***	***	***	***
Total, all categories:					
1978	303,518	186,841	75,275	1/ 25.1	40.3
1979	340,154	165,018	98,313	1/ 28.8	59.6
1980	373,591	179,755	59,065	1/ 16.1	32.9
Part year up to June--					
1980	335,084	161,144	31,381	1/ 9.6	19.5
1981	353,224	163,374	35,338	1/ 10.2	21.6

1/ ***. Hence, total cost of standard fasteners category for some periods is less than book value. Further, net profit (loss) before income taxes are adjusted to compute ratios for each period.

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

Table 31.--Profit-and-loss experience of U.S. producers of bolts, nuts, large screws or lag bolts and screws of iron or steel on their overall operations, by types of major production of fasteners, accounting years 1978-80, part-year up to June 1980, and part-year up to June 1981

Item and period	Net sales	Cost of goods sold	Gross profit or (loss)	General, selling, and administrative expenses	Net operating profit or (loss)	Other income or (expenses)	Net profit or (loss before income taxes	Ratio of net operating profit or (loss) to net sales	Ratio of net profit or (loss) before income taxes to net sales
	1,000 dollars							Percent	
Special fasteners:									
1978	902,521	666,681	235,840	126,660	109,180	(3,590)	105,590	12.1	11.7
1979	879,980	657,207	222,773	132,130	90,643	(3,588)	87,055	10.3	9.9
1980	663,021	509,079	153,942	127,893	26,049	(1,669)	24,380	3.9	3.7
Part year up to June--									
1980	369,653	287,641	82,012	70,464	11,548	(1,171)	10,377	3.1	2.8
1981	408,322	314,567	93,755	60,104	33,651	(1,503)	32,148	8.2	7.9
Standard fasteners:									
1978	426,065	331,036	95,029	68,147	26,882	(6,776)	20,106	6.3	4.7
1979	504,316	392,831	111,485	75,433	36,052	804	36,856	7.1	7.3
1980	479,026	382,069	96,957	76,542	20,415	1,966	22,381	4.3	4.7
Part year up to June--									
1980	211,615	161,129	50,486	34,514	15,972	626	16,598	7.5	7.8
1981	243,775	188,623	55,152	40,826	14,326	2,086	16,412	5.9	6.7
Standard/special fasteners:									
1978	62,090	46,411	15,679	5,391	10,288	371	10,659	16.6	17.2
1979	65,216	50,091	15,125	5,996	9,129	57	9,186	14.0	14.1
1980	53,732	40,394	13,338	5,760	7,578	(192)	7,386	14.1	13.7
Part year up to June--									
1980	27,258	20,496	6,762	3,051	3,711	46	3,757	13.6	13.8
1981	32,658	23,861	8,797	3,289	5,508	273	5,781	16.9	17.7
Aerospace fasteners:									
1978	***	***	***	***	***	***	***	***	***
1979	***	***	***	***	***	***	***	***	***
1980	***	***	***	***	***	***	***	***	***
Part year up to June--									
1980	***	***	***	***	***	***	***	***	***
1981	***	***	***	***	***	***	***	***	***
Nonfasteners:									
1978	***	***	***	***	***	***	***	***	***
1979	***	***	***	***	***	***	***	***	***
1980	***	***	***	***	***	***	***	***	***
Part year up to June--									
1980	***	***	***	***	***	***	***	***	***
1981	***	***	***	***	***	***	***	***	***
Total, all categories:									
1978	1,688,724	1,282,981	405,743	236,524	169,219	(5,814)	160,405	10.0	9.5
1979	1,824,081	1,386,322	437,759	259,241	178,518	(1,035)	177,483	9.8	9.7
1980	1,575,770	1,220,614	355,156	257,800	97,356	1,528	98,884	6.2	6.3
Part year up to June--									
1980	806,468	619,064	187,404	133,105	54,299	249	54,548	6.7	6.8
1981	889,444	684,313	205,131	131,695	73,436	1,911	75,347	8.3	8.5

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

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Table 32.--Capital expenditures and research and development expenses of U.S. producers on their bolts, nuts, and large screws of iron or steel operations, 1978-80, January-June 1980, and January-June 1981

Period	Capital expenditures for--			Total	Research and development expenses
	Land or land improvements	Building or leasehold improvements	Machinery, equipment, or fixtures		
1978	916	2,072	20,462	23,450	1,815
1979	561	3,447	18,283	22,291	2,006
1980	130	3,572	19,486	23,188	1,756
January-June--					
1980	130	2,687	11,817	14,634	956
1981	-	550	6,323	6,873	1,145

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

Table 33.--Certain bolts: Ranges and simple average of imported and domestic bolt prices, by quarters, January 1976-June 1981

(Per 1,000 units)

Period	High-strength structural bolt 1/				Carriage bolt 2/			
	Price range		Average prices		Price range		Average prices	
	Import	Domestic	Import	Domestic	Import	Domestic	Import	Domestic
1976:								
Jan.-Mar---	$212.50-$282.00	$189.43-$352.90	$238.95	$289.66	$21.94-$37.77	$33.40-$74.40	$31.21	$49.46
Apr.-June--	189.00- 282.00	194.95- 357.00	239.13	308.26	24.93- 37.77	33.40- 66.96	32.32	48.78
July-Sept--	217.00- 282.00	199.30- 357.00	238.62	293.23	29.60- 39.20	33.40- 66.96	32.94	50.55
Oct.-Dec---	194.00- 298.73	162.55- 339.20	231.91	272.34	29.23- 38.85	33.40- 66.96	34.01	50.70
Annual---	189.00- 298.73	162.55- 357.00	237.15	290.87	21.94- 39.20	33.40- 74.40	32.62	49.87
1977:								
Jan.-Mar---	$204.09- 283.74	215.00- 339.20	232.33	281.75	$29.50-$41.36	33.40- 55.80	36.14	47.78
Apr.-June--	203.00- 283.74	215.00- 339.20	230.17	282.92	28.50- 42.02	33.40- 65.10	35.09	45.99
July-Sept--	205.29- 283.74	215.00- 321.31	243.65	283.11	26.00- 47.08	33.40- 55.80	35.37	43.57
Oct.-Dec---	205.97- 288.31	215.00- 321.30	248.71	278.76	29.58- 47.08	33.40- 59.52	35.85	44.53
Annual---	203.00- 288.31	215.00- 339.20	238.72	281.64	26.00- 47.08	33.40- 65.10	35.61	45.47
1978:								
Jan.-Mar---	$246.00- 293.69	216.41- 343.80	275.18	299.46	$31.29-$47.08	33.40- 59.52	38.47	44.68
Apr.-June--	267.72- 346.00	246.89- 343.80	306.03	314.20	34.24- 46.35	37.40- 59.52	41.86	45.90
July-Sept--	295.42- 373.69	285.18- 343.80	333.29	324.04	40.10- 47.61	37.40- 52.56	44.75	44.64
Oct.-Dec---	310.75- 411.06	278.53- 343.80	344.06	332.39	42.00- 50.93	37.40- 64.65	45.09	46.41
Annual---	246.00- 411.06	216.41- 343.80	314.64	317.52	31.29- 50.93	33.40- 64.65	42.54	45.41
1979:								
Jan.-Mar---	$264.50- 359.86	280.04- 367.90	319.07	333.07	$41.00-$46.66	48.06- 57.78	44.79	51.43
Apr.-June--	239.00- 369.09	288.96- 367.92	311.48	353.04	40.00- 47.56	45.64- 57.78	45.31	52.14
July-Sept--	222.05- 378.04	304.44- 367.92	338.06	356.38	41.00- 50.39	48.98- 57.78	46.57	52.04
Oct.-Dec---	238.85- 385.00	313.42- 367.92	345.93	356.06	42.00- 52.29	48.99- 57.78	46.30	53.57
Annual---	222.05- 385.00	280.04- 367.92	328.64	349.64	40.00- 52.29	45.64- 57.78	45.74	52.54
1980:								
Jan.-Mar---	$319.49- 386.58	311.32- 393.66	358.07	352.85	42.35- 64.60	48.63- 57.80	51.47	54.36
Apr.-June--	331.13- 381.37	307.60- 393.66	354.64	359.19	42.00- 64.60	48.65- 57.80	52.12	54.30
July-Sept--	331.13- 381.37	304.33- 371.79	358.29	349.60	42.00- 64.60	50.20- 79.37	51.02	63.99
Oct.-Dec---	269.23- 400.67	300.46- 371.79	358.58	352.81	43.00- 64.60	48.56- 71.23	51.81	59.52
Annual---	269.23- 400.67	300.46- 393.66	357.40	353.61	42.00- 64.60	48.56- 79.37	51.61	58.04
1981:								
Jan.-Mar---	-	322.31- 396.10	-	373.73	-	48.06- 66.36	-	53.83
Apr.-June--	-	302.06- 396.10	-	349.24	-	44.73- 65.43	-	55.42

1/ Price reported for standard, high-strength structural bolts, A325, with heavy hexagon head, washer faced, and heavy hexagon nuts, 3/4"x2".

2/ Price reported for standard, round head, square neck carriage bolts, full-size, black, 3/8"x3", less nut.

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

Table 34.--Selected cap screws: Ranges and simple averages of imported and domestic cap screws, by quarters, January 1976-June 81

(Per 1,000 units)

Period	Grade 2 1/				Grade 8 2/			
	Price range		Average prices		Price range		Average prices	
	Import	Domestic	Import	Domestic	Import	Domestic	Import	Domestic
1976:								
Jan.-Mar---	$11.37-$15.90	$15.90-$30.00	$13.50	$21.74	$20.24-$29.79	$21.28-$44.80	$25.02	$31.07
Apr.-June--	12.28- 15.90	15.90- 27.00	14.32	21.75	22.09- 27.82	21.28- 44.68	24.96	30.61
July-Sept--	12.85- 15.95	15.87- 27.30	14.74	22.05	21.40- 29.77	21.28- 40.32	24.86	29.24
Oct.-Dec---	10.16- 16.90	15.90- 27.20	14.50	21.88	21.40- 29.77	21.28- 43.80	24.72	30.91
Annual---	10.16- 16.90	15.87- 30.00	14.26	21.86	20.24- 29.79	21.28- 44.80	24.69	30.46
1977:								
Jan.-Mar---	$13.44-$17.25	$15.90-$27.30	$15.06	$21.64	$22.54-$40.30	$21.28-$44.63	$27.63	$30.51
Apr.-June--	13.36- 17.25	15.90- 31.57	14.79	20.53	21.40- 40.30	21.28- 37.45	27.87	29.78
July-Sept--	12.70- 18.15	15.90- 22.86	14.88	19.88	21.28- 40.30	22.34- 34.20	26.41	29.74
Oct.-Dec---	12.67- 18.15	15.90- 24.00	14.99	19.85	21.67- 40.30	22.34- 36.76	27.12	30.35
Annual---	12.67- 18.15	15.90- 31.57	14.93	20.48	21.28- 40.30	21.28- 44.63	27.26	30.10
1978:								
Jan.-Mar---	$13.66-$19.06	$15.90-$24.00	$16.24	$21.92	$22.70-$44.10	$28.45-$40.32	$29.38	$32.96
Apr.-June--	15.03- 19.92	15.90- 25.02	17.83	21.38	23.90- 44.10	30.15- 43.74	31.76	34.07
July-Sept--	16.09- 22.00	17.58- 29.21	19.10	22.16	26.39- 55.00	31.36- 42.37	37.93	35.17
Oct.-Dec---	16.72- 22.36	17.58- 29.21	19.85	23.13	28.42- 52.50	31.36- 42.87	38.16	36.74
Annual---	13.66- 22.36	15.90- 29.21	18.26	22.15	22.70- 55.00	28.45- 43.74	34.31	34.74
1979:								
Jan.-Mar---	$17.89-$20.12	$19.43-$29.21	$19.16	$24.46	$28.42-$36.52	$31.36-$43.27	$32.40	$37.75
Apr.-June--	19.15- 21.48	22.24- 29.75	19.88	25.18	28.42- 36.52	27.73- 67.50	32.52	40.04
July-Sept--	19.49- 23.20	22.24- 29.82	20.88	26.00	29.41- 38.18	29.60- 57.12	33.92	40.77
Oct.-Dec---	18.99- 23.20	22.24- 32.73	20.60	26.17	20.62- 36.94	30.80- 46.80	30.78	39.11
Annual---	17.89- 23.20	19.43- 32.73	20.13	25.45	20.62- 38.18	27.73- 67.50	32.41	39.42
1980:								
Jan.-Mar---	$17.70-$26.35	$22.24-$26.82	$21.34	$25.17	$28.01-$36.31	$28.10-$44.10	$32.94	$35.29
Apr.-June--	17.45- 25.41	20.35- 39.10	21.07	26.25	21.25- 34.52	28.10- 46.90	33.67	38.64
July-Sept--	16.92- 25.41	22.35- 39.10	21.49	28.48	28.01- 39.51	28.10- 46.90	33.15	38.23
Oct.-Dec---	17.32- 24.86	20.35- 42.00	21.26	28.07	25.60- 36.80	28.10- 50.40	30.59	39.75
Annual---	16.92- 26.35	20.35- 42.00	21.29	26.99	21.25- 39.51	28.10- 50.40	32.59	37.98
1981:								
Jan.-Mar---	-	20.35- 44.00	-	$29.03	-	$32.75-$50.71	-	$45.08
Apr.-June--	-	20.35- 42.00	-	28.16	-	19.55- 50.40	-	35.44

1/ Price reported for standard, grade 2, 3/8"-16x1" hex head cap screws with washer face, plain finish, UNC class 2A thread.

2/ Price reported for standard, grade 8, 3/8"-16x1" hex head cap screws with washer face, plain finish, UNC class 2A thread.

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

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Table 35.--Certain hexagon nuts: Ranges and simple averages of imported and domestic hexagon nut prices, by quarters, January 1976-June 1981

(per 1,000 units)

Period	1/4" nuts 1/				1/2" nuts 2/			
	Price range		Average price		Price range		Average price	
	Import	Domestic	Import	Domestic	Import	Domestic	Import	Domestic
1976:								
Jan.-Mar---	$1.71-$2.70	$2.69-$8.81	$2.21	$5.66	$9.15-$13.50	$17.60-$33.42	$11.79	$24.22
Apr.-June--	1.71- 2.61	2.69- 8.80	2.17	5.66	9.00- 14.98	17.60- 33.02	12.22	24.23
July-Sept--	1.68- 2.84	2.63- 9.78	2.31	5.85	8.84- 15.44	17.60- 36.93	12.78	25.00
Oct.-Dec---	1.80- 3.01	2.63- 9.83	2.35	5.85	10.67- 15.73	17.60- 28.40	13.07	23.84
Annual---	1.68- 3.01	2.63- 9.83	2.26	5.76	8.84- 15.73	17.60- 36.93	12.47	24.32
1977:								
Jan.-Mar---	$2.10- $2.94	$2.59- $8.82	$2.47	$5.72	$10.60-$15.19	$17.60-$32.88	$12.76	$24.44
Apr.-June--	2.10- 2.94	2.59- 8.70	2.40	5.64	10.58- 14.02	17.60- 32.98	12.51	24.23
July-Sept--	2.00- 3.10	3.06- 8.59	2.47	6.33	9.13- 16.90	18.48- 29.68	12.66	23.52
Oct.-Dec---	2.20- 3.10	3.40- 8.76	2.52	6.45	10.04- 16.90	18.48- 31.67	12.77	24.42
Annual---	2.00- 3.10	2.59- 8.82	2.47	6.04	9.13- 16.90	17.60- 32.98	12.68	24.15
1978:								
Jan.-Mar---	$2.44- $3.50	$3.75- $9.00	$2.84	$6.50	$10.49-$18.50	$18.48-$34.02	$14.01	$25.80
Apr.-June--	2.87- 4.60	4.00- 9.90	3.96	6.58	10.68- 23.28	18.48- 37.26	18.59	26.20
July-Sept--	3.65- 4.91	4.03- 11.31	4.24	7.42	14.49- 24.60	19.44- 37.80	20.54	29.13
Oct.-Dec---	3.55- 4.91	4.03- 12.27	4.16	7.59	17.00- 24.60	19.44- 37.80	20.73	29.11
Annual---	2.44- 4.91	3.75- 12.27	3.80	7.02	10.49- 24.60	18.48- 37.80	18.47	27.56
1979:								
Jan.-Mar---	$3.50- $4.43	$4.20-$10.98	$3.97	$7.80	$18.00-$22.02	$21.97-$41.04	$19.78	$31.18
Apr.-June--	3.60- 4.50	4.21- 10.98	3.86	8.39	17.00- 22.02	25.30- 41.04	19.26	33.63
July-Sept--	3.30- 4.50	7.52- 10.98	3.75	9.35	15.30- 22.02	25.30- 41.04	18.35	32.91
Oct.-Dec---	3.20- 4.50	4.30- 10.98	3.67	8.62	16.20- 22.02	26.60- 41.04	18.01	33.89
Annual---	3.20- 4.50	4.20- 10.98	3.81	8.54	15.30- 22.02	21.97- 41.04	18.85	32.90
1980:								
Jan.-Mar---	$2.99- $5.04	$4.30-$10.98	$4.03	$8.60	$16.53-$25.02	$26.40-$41.04	$20.25	$33.73
Apr.-June--	3.19- 4.88	3.90- 13.70	4.01	8.80	16.80- 24.75	19.60- 41.04	20.23	32.91
July-Sept--	3.00- 4.88	4.33- 13.70	3.94	9.70	16.30- 24.75	28.43- 41.04	20.35	34.46
Oct.-Dec---	3.20- 4.88	3.90- 14.70	3.84	9.71	16.50- 24.75	19.60- 45.52	20.19	34.62
Annual---	2.99- 5.04	3.90- 14.70	3.96	9.21	16.30- 25.02	19.60- 45.52	20.26	33.93
1981:								
Jan.-Mar---	-	$3.90-$14.70	-	$11.05	-	$19.60-$46.80	-	$36.65
Apr.-June--	-	3.90- 14.70	-	10.78	-	19.60- 45.71	-	36.46

1/ Price reported for standard, finished hexagon nuts, bright, double chamfered, plain finish, 1/4"-20.
2/ Price reported for standard, finished hexagon nuts, bright, double chamfered, plain finish, 1/2"-13.

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

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Table 36.--Selected industrial fasteners: Weighted average prices of selected fasteners, by quarter, July 1978-June 1981

(Per thousand units)

Period	High-strength bolt 1/		Carriage bolt 2/		1/4" hexagon nut 3/		1/2" hexagon nut 4/	
	Domestic	Imported	Domestic	Imported	Domestic	Imported	Domestic	Imported
1978:								
July-Sept	$337.97	$252.81	$42.81	$40.30	$11.11	$3.85	$23.04	$19.13
Oct.-Dec	343.80	291.66	49.68	42.38	11.25	3.87	23.40	18.70
1979:								
Jan.-Mar	350.14	326.91	48.81	40.84	12.07	3.50	28.97	19.00
Apr.-June	367.92	259.17	48.81	42.16	12.00	3.65	28.48	18.89
July-Sept	367.92	305.32	52.52	42.54	12.60	3.42	28.18	16.63
Oct.-Dec	367.92	323.59	54.06	43.32	13.01	3.64	28.20	17.24
1980:								
Jan.-Mar	376.48	329.29	55.43	44.09	13.39	3.32	31.97	16.82
Apr.-June	379.04	323.26	54.13	43.12	13.32	3.12	32.87	17.74
July-Sept	371.78	368.39	54.13	43.73	13.06	3.02	32.52	17.48
Oct.-Dec	353.31	337.22	56.68	44.21	13.87	3.18	32.77	17.01
1981:								
Jan.-Mar	389.33	340.10	52.16	42.99	5.25	2.91	32.67	17.04
Apr.-June	376.19	326.32	51.14	43.06	8.87	2.90	31.46	17.29

See footnotes at end of table.

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Table 36.--Selected Industrial fasteners: Weighted average prices of selected fasteners, by quarter, July 1978-June 1981--Continued

(Per thousand units)

Period	Grade 2 cap screw 5/		Grade 8 cap screw 6/		Lag screw 7/		Nylon insert hexagon nut		Wheel bolt 9/	
	Domestic	Imported	Domestic	Imported	Domestic	Imported	Domestic	Imported	Domestic	Imported
1978:										
July-Sept	$20.82	$17.35	***	$33.59	***	$12.51	***	$9.40	***	-
Oct.-Dec	22.87	19.33	***	31.76	***	13.74	***	9.43	***	-
1979:										
Jan.-Mar	28.78	18.38	***	32.37	***	13.80	***	9.15	***	-
Apr.-June	28.45	19.22	***	36.52	***	12.94	***	9.66	***	-
July-Sept	31.33	20.68	***	38.11	***	13.81	***	9.44	***	-
Oct.-Dec	25.80	21.33	***	36.99	***	12.41	***	9.10	***	-
1980:										
Jan.-Mar	32.34	21.51	***	38.12	***	13.81	***	9.25	***	-
Apr.-June	25.51	20.60	***	36.27	***	13.33	***	8.03	***	-
July-Sept	33.01	19.93	***	34.03	***	13.26	***	9.00	***	-
Oct.-Dec	30.05	19.57	***	31.89	***	13.61	***	9.01	***	-
1981:										
Jan.-Mar	27.89	19.62	***	30.11	***	14.15	***	8.94	***	-
Apr.-June	29.35	18.88	***	31.40	***	14.69	***	8.59	***	-

1/ Standard, high-strength structural bolts, A325, with heavy hexagon head, washer faced, and heavy hexagon nuts, 3/4" x 2".
2/ Standard round head, square neck carriage bolts, full-size, black, 3/8" x 3", less nut.
3/ Standard, finished hexagon nuts, bright, double chamfered, plain finish, 1/4"-20".
4/ Standard, finished hexagon nuts, bright, double chamfered, plain finish, 1/2"-13".
5/ Standard, grade 2, 3/8"-16 x 1" hex head cap screws with washer face, plain finish, UNC class 2A thread.
6/ Standard, grade 8, 3/8"-16 x 1" hex head cap screws with washer face, plain finish, UNC class 2A thread.
7/ Standard 1/4"-10 x 1 1/2" Hex lag screws.
8/ One-fourth inch, finished, nylon-insert, self-locking (prevailing torque) hex nut.
9/ One-half inch, countersunk-head wheel bolt.

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APPENDIX H

Regression Analysis

Staff from the Commission's Office of Economics attempted to estimate the extent to which the production of consumer durables (CD's) and the relative prices of domestic and imported fasteners affect U.S. consumption and shipments of bolts, nuts, and screws. The staff obtained statistically significant results only for the subcategory--U.S. consumption of nuts. These results indicate that about 87 percent of the variation in total U.S. consumption of nuts is explained solely by fluctuations in the level of production of CD's. Efforts to estimate the impact of prices on the U.S. consumption of nuts were inconclusive. A more technical description of the methodology and results follow.

The staff attempted to estimate U.S. demand for bolts, nuts, and screws by considering separately the demand for nuts and the demand for bolts and screws. For each category, efforts were made to estimate both total U.S. demand and U.S. demand for domestic production. Experience suggests that total U.S. demand is influenced by the production of CD's but demand for domestic production is additionally influenced by its own price relative to the price of imports.

Movements in total U.S. demand for nuts were most successfully explained by the following log-linear equation:

$$\ln TN = -5.96 + 2.32 \ln CD$$
$$(1.33) \quad (0.29)$$
$$\text{S.E.} \quad \text{S.E.}$$

$R^2 = .87$
D.W. = 1.668

The dependent variable, apparent U.S. consumption of nuts (TN), was regressed on the Federal Reserve Board index of industrial production for CD's. Quarterly data (July 1978-June 1981) and the ordinary least squares (as) technique were used to estimate this equation.

These results show that 87 percent of the variation in U.S. consumption of nuts can be attributed solely to variations in the level of industrial production of CD's. The coefficient of this variable (2.32) is significant at the 1-percent level and is the elasticity or degree of responsiveness of demand for nuts to changes in the production of consumer durables. Illustratively, this means that a 1-percent rise in consumer durable production leads to a 2.32-percent increase in the quantity of nuts consumed in the U.S. market. The 95-percent confidence interval for this estimated coefficient ranges from 1.67 to 2.98.

Movements in U.S. demand for domestically produced nuts were most successfully explained by the following log-linear equation:

$$\ln DS = -9.88 + 2.99 \ln CD$$
$$(2.14) \quad (0.47)$$
$$\text{S.E.} \quad \text{S.E.}$$

$R^2 = .86$
D.W. = 1.9206

The dependent variable, domestic shipments (DS), was regressed on the Federal Reserve Board index of industrial production for consumer durables (CD), over the same 12 quarter period as for the total demand equation. The

Cochrane-Orcutt iterative technique was used to estimate this equation, because of suspected autocorrelation with the method. Autocorrelation implies that the OLS-estimated coefficients are inefficient and that the standard errors are unreliable.

These results show that 86 percent of the variation in U.S. demand for domestically produced nuts can be attributed solely to variations in the level of production of consumer durables. The coefficient of this variable (2.99) is significant at the 1-percent level and represents the respective elasticity. The 95-percent confidence interval for this estimated coefficient ranges from 1.96 to 4.03.

Efforts to include a price variable in estimates of U.S. demand for domestic production of nuts were not satisfactory. Although OLS estimates yielded statistically significant coefficients on the price variable (estimates ranged from -.11 to -.5), correction for autocorrelation by the Cochrane-Orcutt technique consistently led to significant declines in the statistical significance of the price coefficients. 1/ The available price data, which were for a limited product range and were based on simple averages, may have partially influenced these results.

Total U.S. demand for nuts and U.S. demand for domestic nuts are each largely explained by the level of production of consumer durables. Neither type of demand, however, appears to be significantly affected by price. The results for total U.S. demand are consistent with what would be expected based on product characteristics (i.e., the low value of fasteners relative to the value of the finished product), but they are not consistent with initial expectations of relatively elastic demand for domestic production. Although their statistical significance is low, the estimates of the price elasticity of domestic demand were consistently less than -1, suggesting only weak price substitutability between domestic and imported nuts. This could be because a significant amount of domestically produced nuts are specials, which do not compete directly with the bulk of imported nuts. In addition, nonprice factors, such as brand names, may be important to some buyers when choosing a supplier.

Results from attempts to estimate U.S. demand for bolts and screws were not statistically significant and are not reported. In addition to the limitations of the price data, these findings may be because consumption of bolts and screws are influenced by additional factors not specified in the equations. Significant autocorrelation in the estimated equations support this suggestion. The correlation coefficient between the production of consumer durables and the consumption of screws and bolts of only .68 also implies that some significant factor or factors were omitted from the equations.

1/ For example, OLS was used to regress domestic shipments on an index of durable goods production and on a ratio of domestic to import prices. This yielded a price elasticity estimate of -.35, which was statistically significant at the 5-percent level. However, after correcting for autocorrelation, the price elasticity estimate was reduced to -.31, but was statistically significant at only the 20-percent level. Other attempts resulted in even greater reductions in the statistical significance of this coefficient.

APPENDIX I

MEMORANDUM FROM THE COMMISSION'S OFFICE OF TARIFF AFFAIRS REGARDING SUGGESTED LANGUAGE FOR EXCLUSION OF AEROSPACE FASTENERS

UNITED STATES
INTERNATIONAL TRADE COMMISSION
WASHINGTON, D.C. 20436

November 5, 1981

MEMORANDUM

TO: The Commission

FROM: Director, O/TA

SUBJECT: Bolts, nuts and large screws of iron or steel:
Inv.-203-11, Sec. 203, Trade Act of 1974

Attached for your information are draft article descriptions which would except certain fasteners for aircraft use from items 923.51, 923.52 and 923.53.

Attachment

cc: Mr. Fry
Mr. Stein

Amend 923.51 to read as follows:

Bolts and such bolts and their nuts imported in the same shipment, of iron or steel, provided for in item 646.54; the foregoing except mine-roof bolts and except articles of alloy iron or alloy steel if certified for use in civil aircraft (see headnote 3, part 6C, schedule 6).

Amend 923.52 to read as follows:

Nuts, of iron or steel, provided for in item 646.56, except nuts of alloy iron or alloy steel if certified for use in civil aircraft (see headnote 3, part 6C, schedule 6).

Amend 923.53 to read as follows:

Screws, of iron or steel, having shanks or threads over 0.24 inch in diameter, provided for in item 646.63, except screws of alloy iron or alloy steel if certified for use in civil aircraft (see headnote 3, part 6C, schedule 6).

Note: There is no need to create exception for products classified in 923.50 as there is apparently no trade in wood screws certified for use in aircraft.