ANNUAL SURVEY CONCERNING COMPETITIVE CONDITIONS IN THE STEEL INDUSTRY AND INDUSTRY EFFORTS TO ADJUST AND MODERNIZE

Report to the President on Investigation No. 332-209 Under Section 332 of the Tariff Act of 1930

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Note.--The whole of the Commission's report to the President may not be made public since it contains certain information that has been classified by the United States Trade Representative or would result in the disclosure of the operations of individual concerns. This published report is the same as the report to the President, except that the above-mentioned information has been omitted (as indicated by asterisks) or combined with data from related product categories to ensure confidentiality.

PREFACE

On March 8, 1985, the United States International Trade Commission instituted investigation No. 332-209, Annual Surveys Concerning Competitive Conditions in the Steel Industry and Industry Efforts to Adjust and Modernize. The investigation, conducted under section 332(g) of the Tariff Act of 1930 (19 U.S.C. 1332(g)), is in response to a request from the United States Trade Representative, at the direction of the President (app. A).

This report is the third in a 5-year annual series that reports on competitive conditions in the steel industry and industry efforts to adjust and modernize. The survey compares the period July 1, 1986-June 30, 1987, with the 12-month period ending June 30, 1986. The data in the report cover U.S. producers' capacity, production, and shipments, as well as certain financial and employment information for 22 carbon and specialty steel products. Also presented in the report are data on U.S. producers' and importers' prices, as well as data on unfilled orders and inventories of the subject products.

In addition to the reported data, the report provides certain information for the 12-month period ending September 30, 1987 on: (1) the extent to which the major companies of the industry have committed, or will have committed, their net cash flow from steel product operations for purposes of reinvestment in, and modernization of, the steel industry; (2) actions taken by the major companies to maintain international competitiveness, and (3) the extent to which each of the major companies has committed, or will have committed,

not less than one percent of net cash flow to the retraining of workers. Information on world steel pricing, labor issues, and financial developments is also provided.

Notice of the investigation was given by posting copies of the notice of investigation at the Office of the Secretary, U.S. International Trade Commission, and by publication of the notice in the Federal Register of March 20, 1985 (app. B).

The Commission collected data and information from questionnaires sent to raw steel producers and selected importers of the carbon and alloy steel products subject to the investigation. Producers accounting for approximately 96 percent of U.S. raw steel production during July 1, 1986-June 30, 1987, and importers accounting for approximately 41 percent of imports of the subject products submitted data to the Commission. The producers which responded to the Commission's questionnaire are, with few exceptions, the same companies which responded to the previous survey; data are therefore generally comparable. Tables from the second survey which contain revised data appear in Appendix H.

The information and analysis in this report are for the purpose of this report only. Nothing in this report should be construed to indicate how the Commission would find in an investigation conducted under other statutory authority covering the same or similar matter.

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EXECUTIVE SUMMARY

Industry Conditions

During July 1, 1986-June 30, 1987 (as compared to the previous 12-month period): 1/

- o Shipments of the carbon steel products subject to the Commission's investigation decreased by 5 percent while shipments of specialty steel products increased by 12 percent. The unit values of these shipments declined by 1 and 6 percent, respectively.

- o Losses as a percent of sales increased in the carbon steel sector from 4.1 to 6.8 percent, while profits increased on specialty steel sales, from 2.7 to 8.9 percent.

- o During the current reporting period, 3 companies filed for protection under Chapter 11 of U.S. bankruptcy laws, including LTV, Inc. (the second largest domestic producer), which filed in July 1986. In addition, 2 companies shut down all steelmaking operations during the year.

- o Prices for domestically produced carbon steel flat-rolled products (i.e., selected plate, sheet, and strip products) generally improved during the current reporting period, rising 3 to 6 percent; survey data on selected long products (i.e., bar, rod and structurals), however, indicate a mixture of increased, decreased and unchanged prices. While there were some differences, changes in import prices in many instances paralleled those in the domestic industry. In the specialty steel area, domestic producers' prices in selected stainless steel plate and wire products declined, while sheet product prices remained relatively stable.

- o Employment in the industry declined by 16 percent, with the largest relative declines occurring in carbon steel pipe and tube facilities (down 48 percent) and carbon steel plate operations (down 44 percent). During the year new labor contracts were negotiated with Armco and USX, the last of the six major producers to conclude such agreements. The USX agreement became effective on February 1, 1987, and followed a 6-month interruption in the company's operations. As previously reported, union and management officials had been unable to reach agreement prior to the July 31, 1986 expiration date of the previous contract. Labor productivity in the industry increased by about 6 percent as the ratio of man-hours per ton shipped in the carbon steel sector (adjusted for changes in inventories) fell from 5.1 to 4.8.

1/ A broader perspective, which compares current period information with base year data (i.e., July 1, 1984 - June 30, 1985), is provided in the "Industry Conditions" section of the report (see pages 1-3).

- Adjustment continued in the industry during the current reporting period, as raw steel capacity declined 9.8 percent in the carbon steel sector. Capacity increases, however, occurred in continuous casting facilities (up 19.7 percent). Capital expenditures declined by 36 percent, to $1.2 billion during the year.

Issues

- Analysis of labor conditions internationally indicate that the depreciation of the U.S. dollar and increases in U.S. productivity have continued to improve the relative cost competitiveness of U.S. producers. One leading analyst has concluded that U.S. labor productivity surpassed that of other major producers, including Japan and West Germany, during 1986.

- The report indicates that changes are continuing to occur in labor/management relations. One of the more prominent examples involves a newly constructed electrogalvanizing facility where traditional job classification systems have been replaced by a more simplified three-tier system. Despite improvements, labor issues continue to pose problems for the industry, particularly in the area of unfunded pension liabilities. Net claims or underfunding in plans which the government, through the Pension Benefit Guaranty Corporation, has already assumed total about $3.1 billion; underfunding in other companies in the industry are estimated to be on the order of $4 to $6 billion.

- Analysis of world steel prices indicates that shifting exchange rates have produced sizable swings in international steelmaking price and cost differentials. World steel "spot" export prices have reportedly increased by about 8 percent since mid-1986, despite flat or declining demand in major markets. The increase instead reflects the decline in the value of the dollar (which has increased Japanese and European steelmaking costs (in dollar terms)), production cutbacks by these producers, and reduced exports by Brazil, Taiwan, and Korea (due to increases in home market demand in these countries).

Adjustment of Major Companies

Following is information relating to the cash flow, and cash flow commitments (including commitments for the retraining of workers) of the major steel companies during the 12-month periods ending September 30, 1986 and September 30, 1987. 1/

- Cash flow from steel operations for the major companies during October 1, 1985-September 30, 1986 totaled a negative $2.5 million, while net steel-related expenditures equaled $1.0 billion; working capital requirements declined by $1.0 billion during the period. Two of the top 10 companies, * * * and * * *, reported expenditures on the retraining of workers which did not exceed 1 percent of their companies' respective net cash flows.

- During the period October 1, 1986-September 30, 1987, five of the eight steel companies projecting positive net cash flow expect that commitments for steel operations will equal or exceed cash flow generated from the operations. For those companies projecting positive cash flows, expenditures for the retraining of workers are expected to exceed 1 percent of net cash flow in all companies except Wheeling-Pittsburgh and Nucor.

1/ Under section 806 of the Trade and Tariff Act of 1984 (P.L. 98-573), the President is required to make an annual determination to the Committee on Ways and Means of the House of Representatives and the Committee on Finance of the Senate as to whether the major companies of the steel industry have, taken as a whole, committed substantially all of their net cash flow from steel product operations for purposes of reinvestment in, and modernization of, the industry through investment in modern plant and equipment, research and development, and other appropriate projects, such as working capital for steel operations and programs for the retraining of workers. A determination must also be made as to whether each of the major companies committed not less than 1 percent of net cash flow to the retraining of workers.

CONDITIONS AND ADJUSTMENT IN THE STEEL INDUSTRY

Industry Conditions

Highlights

Following are tabulations which provide statistical highlights of the carbon steel industry (i.e., producers of carbon and certain alloy steel products), and certain segments of the specialty steel industry (i.e., producers of certain stainless and alloy tool steel products). 1/ 2/ The tabulations are based on information supplied by producers in response to Commission questionnaires and reflect data for the 12-month periods ending June 30, 1985 (1984/85), June 30, 1986 (1985/86), and June 30, 1987 (1986/87).

1/ See app. C for a description of the products subject to the investigation.
2/ On July 16, 1987, the President announced his decision to extend import relief to the specialty steel industry from July 20, 1987, through September 30, 1989. Modifications made to the relief as the result of the negotiation of voluntary restraint agreements are to remain in force. Relief will be continued in the form of increased tariffs on stainless steel flat-rolled products (i.e., plates, sheets, and strip) and quotas on stainless steel bars, stainless steel rods, and alloy tool steel.

Item	Carbon and certain alloy steel 1/ 1984/85	1985/86	1986/87	Percentage change, 1986/87 from 1985/86 2/	Percentage change, 1986/87 from 1984/85 2/
Raw steel:					
Production.....million tons..	80.0	83.2	73.6	-11.6	-8.0
Capacity.....do....	126.6	122.5	110.5	-9.8	-12.7
Capacity utilization....percent..	63	68	67	3/	3/
Shipments 4/.....million tons..	61.2	65.2	61.8	-5.2	0.9
Production and related workers:					
Average number.....1,000..	175	162	137	-15.7	-21.8
Manhours.....millions..	352	339	286	-15.5	-18.6
Wages.....millions..	$5,241	$5,275	$4,421	-16.2	-15.6
Financial:					
Net sales.....millions..	$27,542	***	$25,803	***	-6.3
Pre-tax profit or (loss)...do....	($1,027)	***	($1,748)	***	-70.3
Return on sales.....percent..	-3.7	-4.1	-6.8	3/	3/
Capital expenditures...millions..	$2,398	$1,822	$1,173	-35.6	-51.1
Research and development expenditures.....do....	$114	$96	$81	-15.6	-28.6

1/ Certain alloy steel refers to alloy steel other than stainless or alloy tool steel.
2/ Calculated from unrounded data.
3/ Percent change not calculated.
4/ Shipment figures are not directly comparable to raw steel production data, since a significant quantity of scrap is generated in processing raw steel into finished products. Moreover, shipment figures do not include certain cast products.

Item	Certain stainless and alloy tool steel 1/ 1984/85	1985/86	1986/87	Percentage change, 1986/87 from 1985/86 2/	Percentage change, 1986/87 from 1984/85 2/
Raw steel:					
Production.....million tons..	1.6	1.4	1.6	10.9	2.5
Capacity.....do....	2.4	2.2	2.3	2.7	-4.8
Capacity utilization....percent..	65	65	70	3/	3/
Shipments 4/.....million tons..	1.1	1.0	1.2	11.7	7.3
Production and related workers:					
Average number.....1,000..	13.2	12.8	11.5	-9.6	-12.5
Manhours.....millions..	26	25	23	-7.8	-10.6
Wages.....millions..	$418	$378	$376	-0.6	-10.0
Financial:					
Net sales.....millions..	$2,084	***	$2,045	***	-1.9
Pre-tax profit or (loss)...do....	$83	***	$182	***	119.0
Return on sales.....percent..	4.0	2.7	8.9	3/	3/
Capital expenditures...millions..	$132	$80	$57	-29.5	-57.0
Research and development expenditures.....do....	$18	$17	$15	-13.8	-18.6

1/ Certain stainless and alloy tool steel refers to semifinished stainless and alloy tool steel products, stainless steel plates, stainless steel sheets and strip, stainless steel wire, and stainless steel pipes and tubes.
2/ Calculated from unrounded data.
3/ Percent change not calculated.
4/ Shipment figures are not directly comparable to raw steel production data, since a significant quantity of scrap is generated in processing raw steel into finished products. Moreover, shipment figures do not include certain cast products, and, in the case of specialty steel, shipment figures exclude bars, rods, and most alloy tool steel products.

U.S. producers' capacity, production and capacity utilization 1/

Carbon and certain alloy steel.--After increasing in 1985/86, U.S. production of carbon and alloy raw steel declined during 1986/87 to a level below that achieved during 1984/85. U.S. production totaled 73.6 million tons during 1986/87 (app. D, table D-1), a decrease of about 12 percent from the level of 83.2 million tons achieved during 1985/86 and 8 percent below the 80.0 million tons produced during 1984/85. Capacity declined at a slightly lower rate than production during 1986/87 (down 10 percent), reducing the capacity utilization rate to 67 percent, compared with 63 percent during 1984/85. Capacity declines during 1986/87 occurred in all product categories except sheet and strip and ranged in relative size from 1 to 14 percent (table 1). All categories except bars and wire products experienced declines in production and concurrent declines in capacity utilization.

Certain stainless and alloy tool steel.--U.S. stainless and alloy tool raw steel production increased 10.9 percent from 1.4 million tons in 1985/86 to 1.6 million tons in 1986/87, 2.5 percent above the level achieved during 1984/85. Capacity increased by almost 3 percent from 2.2 million tons during 1985/86 to 2.3 million tons during 1986/87, but remained 5 percent below the capacity of 2.4 million tons during 1984/85. After remaining at a capacity utilization rate of 65 percent during both 1984/85 and 1985/86, the increase

1/ Detailed data on U.S. producers' capacity, production, and capacity utilization during July 1, 1986-June 30, 1987 are presented in app. D.

Table 1.--Certain carbon and alloy steel: Changes in U.S. producers' reported capacity and production, and capacity utilization, by selected operations, July 1, 1985 - June 30, 1986 (1985/86) and July 1, 1986 - June 30, 1987 (1986/87)

Item	Change in capacity	Change in production	Capacity utilization	
			1985/86	1986/87
	percent			
Certain carbon and alloy steel: 1/				
Cokemaking facilities	-6.4	-19.2	73	63
Ironmaking facilities	-4.6	-14.8	66	59
Steelmaking facilities	-9.8	-11.6	68	67
Continuous casting	19.7	18.5	77	76
Products:				
Sheets and strip 2/	5.6	-2.4	70	65
Plates	-7.3	-16.9	39	35
Bars 2/	-5.9	0.8	65	70
Structural shapes and units	-1.2	-6.4	66	63
Pipes and tubes	-14.0	-38.5	34	24
Rails and related products	-10.4	-27.4	41	33
Wire rod, wire, and wire products 3/	-5.4	0.3	68	73
Stainless and alloy tool steel:				
Steelmaking facilities	2.7	10.9	65	70
Continuous casting	13.2	8.5	86	83
Products:				
Plates	3.0	15.8	65	73
Sheets and strip	6.0	8.5	70	72
Wire	7.5	8.5	79	80
Pipes and tubes	-19.4	-31.2	51	44

1/ Certain alloy refers to alloy steel other than stainless and alloy tool steel.
2/ Weighted average of subcategory products.
3/ Weighted average of wire rod, wire, and wire products.

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

in production moved the capacity utilization rate up to 70 percent during 1986/87. Capacity utilization rates increased in all product areas, except pipes and tubes.

U.S. producers' shipments 1/

Carbon and certain alloy steel.--After increasing during 1985/86, U.S. producers' shipments of carbon and certain alloy steel declined by 5 percent from 65.2 million tons during 1985/86 to 61.8 million tons during 1986/87, about 1 percent above shipments of 61.2 million tons during 1984/85 (table 2). The unit value of these shipments declined by about 1 percent during the period, from $420 during 1985/86 to $414 during 1986/86. Shipment declines occurred in all but two categories, with the largest decrease recorded for rails and related products and pipes and tubes (both down by about 36 percent). The only increases were recorded by semifinished steel (up 47 percent) and bars (up about 0.3 percent). The unit value of shipments were evenly split, with four product categories registering increases and four registering decreases.

Certain stainless and alloy tool steel.--After decreasing during 1985/86, U.S. producers' shipments of certain stainless and alloy tool steel increased by 12 percent from 1.0 million tons during 1985/86 to 1.2 million tons during 1986/87, about 7 percent above shipments of 1.1 million tons during 1984/85. The unit value of such shipments fell by 6 percent from $1889 per ton during 1985/86 to $1782 per ton during 1986/87. Shipment increases were registered for all categories except pipes and tubes, which declined by 31 percent. The largest gain was recorded for semifinished steel (up 47 percent). Unit values declined for all product categories except plates (up 2 percent).

1/ Detailed data on U.S. producers' shipments during July 1, 1986-June 30, 1987 are presented in app. D.

Table 2.--Certain carbon and alloy steel: U.S. producers' shipments of selected products, and the unit value of those shipments, July 1, 1985 - June 30, 1986 (1985/86) and July 1, 1986 - June 30, 1987 (1986/87)

Item	Shipments			Unit value of shipments		
	1985/86	1986/87	Change	1985/86	1986/87	Change
	1,000 short tons		(percent)	per ton		(percent)
Carbon and certain alloy steel: 1/						
Semifinished	1,357	1,990	46.6	$294	$275	-6.4
Sheets and strip	37,589	36,135	-3.9	457	462	1.1
Plates	3,306	2,718	-17.8	442	405	-8.4
Bars	11,241	11,277	0.3	362	346	-4.4
Structural shapes and units	4,532	4,130	-8.9	344	348	1.2
Pipes and tubes	2,424	1,560	-35.7	688	648	-5.8
Rails and related products	750	480	-36.1	456	476	4.3
Wire rod, wire, and wire products	3,973	3,481	-12.4	356	369	3.6
Total	65,171	61,771	-5.2	420	414	-1.4
Stainless and alloy tool steel:						
Semifinished	88	129	47.0	2,169	1,920	-11.5
Stainless steel:						
Plates	166	187	12.4	1,690	1,730	2.4
Sheets and strip	730	795	9.0	1,774	1,685	-5.0
Wire	29	29	1.5	3,252	3,014	-7.3
Pipes and tubes	20	14	-30.9	4,583	4,172	-9.0
Total	1,033	1,155	11.8	1,889	1,782	-5.7
Grand total	66,205	62,925	-5.0	443	439	-0.9

1/ Certain alloy refers to alloy steel other than stainless and alloy tool steel.

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

U.S. producers' and U.S. importers' unfilled orders and inventories and U.S. importers' imports 1/

Carbon and certain alloy steel.--U.S. producers' unfilled orders as of June 30, 1987 totaled 11.0 million tons and inventories 6.7 million tons, with a ratio of inventories to unfilled orders of 0.61 (app. D, table D-2 and table 3). This represents a decrease of 43 percent from the ratio of 1.06 as of June 30, 1986. The greatest decreases in the ratio of inventories to unfilled orders occurred in pipe and tube (down 72 percent) and plate (down 66 percent). Rails and related products showed the sharpest gain (up 53 percent).

The U.S. importers who responded to the Commission's questionnaire reported imports of carbon and certain alloy steel products of 8.4 million tons ($4.0 billion) during 1986/87. These imports are believed to represent approximately 41 percent of total imports during the period (app. D, table D-3). Unfilled orders from the importers were 1.6 million tons as of June 30, 1987, which compared with inventories of 448,000 tons. The ratio of inventories to unfilled orders was 0.29, as compared with the 0.28 ratio recorded as of June 30, 1986.

Certain stainless and alloy tool steel.--U.S. producers' unfilled orders (principally sheets and strip) were 188,000 tons as of June 30, 1987, compared with inventories of 168,000 tons (app. D, table D-2) . The ratio of inventories to unfilled orders of 0.89 was 43 percent lower than the 1.56 ratio of June 30, 1986, due to a combination of reduced unfilled orders and increased inventories. The sharpest decrease occurred in the ratio for stainless steel wire, principally due to a significant decline in inventory.

1/ Detailed data on U.S. producers' and U.S. importers' unfilled orders and inventories as of June 30, 1986 and U.S. importers' imports during July 1, 1986-June 30, 1987 are presented in app. D.

Table 3.--Certain carbon and alloy steel: U.S. producers' and U.S. importers' ratios of inventories to unfilled orders as of June 30, 1986 and June 30, 1987

Item	U.S. Producers			U.S. Importers		
	June 30, 1986	June 30, 1987	Change	June 30, 1986	June 30, 1987	Change
			(percent)			(percent)
Carbon and certain alloy steel: 1/						
Semifinished	-			0.34	0.21	-36.9
Sheets and strip	1.16	0.62	-46.3	0.13	0.22	70.3
Plates	0.59	0.20	-65.8	0.10	0.20	96.6
Bars	1.02	0.77	-24.8	0.31	0.55	78.3
Structural shapes and units	1.30	0.82	-37.2	0.10	0.14	41.8
Pipe and tube	3.18	0.88	-72.2	1.85	0.79	-57.2
Rails and related products	0.47	0.72	52.9	0.30	0.03	-89.8
Wire rod, wire, and wire products	0.43	0.63	45.8	0.16	0.24	50.7
Total	1.06	0.61	-42.9	0.28	0.29	2.6
Certain stainless and alloy tool steel:						
Semifinished	-	-		-	-	
Stainless steel:						
Plates	1.88	1.62	-13.7	0.28	0.37	32.4
Sheets and strip	1.32	0.87	-34.1	0.30	0.98	227.7
Wire	18.27	1.49	-91.8	0.24	0.22	-10.0
Pipes and tube	3.46	2.24	-35.3	1.13	1.25	10.4
Total	1.56	0.89	-42.7	0.39	1.15	194.6
Grand total	1.07	0.61	-43.0	0.28	0.30	7.2

1/ Certain alloy refers to alloy steel other than stainless and alloy tool steel.

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

The U.S. importers who responded to the Commission's questionnaire reported 79,000 tons of imports of the subject stainless and alloy tool steel products ($149 million) during 1986/87, which represented approximately 34 percent of total imports. Unfilled orders were 23,000 tons as of June 30, 1987, which compares with inventories of 27,000 tons (app. D, table D-2). The ratio of inventories to unfilled orders of 1.15 was 195 percent higher than the ratio of 0.39 as of June 30, 1986, due largely to an increase in inventories. The ratio increased for all products except wire.

Labor conditions

The review of labor conditions in the steel industry contains basic information about employment levels, labor costs, wage rates, and productivity in the United States, as well as comparisons with foreign steel producers in certain of these areas. In addition to the information collected through the Commission's surveys, other data sources have been used to help place recent developments in a broader perspective. Much of the information which is presented on the labor negotiations and labor topics is based on discussions with union and industry executives.

Survey results.--Responses to the Commission's survey indicate that employment of production and related workers declined for the third consecutive year, decreasing by 15 percent to 148,000 workers during 1986/87 from 175,000 during 1985/86, which was 21 percent below the employment level of 188,000 during 1984/85 (table 4 and app. D, table D-4). The greatest declines in employment during 1986/87 occurred in the sheet and strip and pipe and tube product areas. Employment levels in the carbon steel sheet and strip product area are still the highest (36 percent of total employment), followed by basic carbon steelmaking (21 percent of the total).

Productivity levels rose significantly during 1986/87. In the carbon steel sector, for example, productivity rose by about 6 percent as the man-hours required per ton of shipments (adjusted for inventory changes) fell from 5.1 in 1985/86 to 4.8 in 1986/87. The greatest relative gains on a product-by-product basis occurred in the carbon steel plate and pipe and tube product areas, where productivity increased by 49 percent and 29 percent, respectively.

Table 4.--Certain carbon and alloy steel: U.S. producers' employment, productivity, and wage costs, by sector, July 1, 1985 - June 30, 1986 (1985/86) and July 1, 1986 - June 30, 1987 (1986/87)

Item	Average Number Employed			Productivity Index 1/			Hourly Wage Costs		
	1985/86	1986/87	Change	1985/86	1986/87	Change	1985/86	1986/87	Change
			(percent)			(percent)			(percent)
Carbon and certain alloy steel: 2/									
Cokemaking facilities	10,977	9,165	-16.5	102	103	1.0	$15.85	$15.48	-2.3
Ironmaking facilities	8,961	8,051	-10.2	108	103	-4.7	15.90	15.90	0.0
Steelmaking facilities 3/	34,990	31,602	-9.7	96	94	-1.8	15.57	15.81	1.5
Products:									
Sheets and strip	60,436	54,071	-10.5	113	122	7.5	15.97	16.11	0.9
Plates	7,061	3,957	-44.0	101	150	48.9	15.79	15.19	-3.8
Bars	17,709	14,569	-17.7	116	130	12.0	14.82	13.38	-9.7
Structural shapes and units	6,157	4,931	-19.9	126	153	21.7	15.00	14.12	-5.9
Pipe and tube	10,332	5,408	-47.7	104	135	29.4	14.28	14.30	0.1
Rails and related products	952	749	-21.3	93	89	-4.3	13.67	13.36	-2.3
Wire rod, wire, and wire products	4,816	4,438	-7.8	115	104	-9.8	15.11	13.58	-10.1
Total	162,391	136,941	-15.7	4/	4/	4/	15.56	15.43	-0.8
Stainless and alloy tool steel:									
Steelmaking facilities 3/	5,823	4,602	-21.0	100	122	21.6	15.73	15.89	1.0
Stainless steel products:									
Plates	1,100	1,191	8.3	129	140	8.4	15.46	16.80	8.7
Sheets and strip	4,670	4,603	-1.4	87	105	21.1	15.28	17.71	15.9
Wire	700	689	-1.6	103	116	12.5	14.03	14.21	1.1
Pipes and tube	458	442	-3.5	127	102	-19.4	12.45	12.24	-1.7
Total	12,751	11,527	-9.6	4/	4/	4/	15.31	16.50	7.8
Grand total	175,142	148,468	-15.2	4/	4/	4/	15.54	15.51	-0.2

1/ Calculated on the basis of production per manhour, except for the carbon and certain alloy sheets and strip, bars, and wire product categories, which are calculated on the basis of shipments per manhour. The 1984/85 period is used as a base (i.e., 1984/85=100).

2/ Certain alloy steel refers to alloy steel other than stainless and alloy tool steel.

3/ Including semifinished steel.

4/ Not applicable.

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

Although wage levels for total steel production remained about the same during 1986/87, an 8-percent increase occurred in the wages of workers manufacturing stainless and alloy tool steel. Increases in the specialty steel sector were experienced in all areas, with the exception of pipe and tube operations, which declined from $12.45 to $12.24 per hour. Overall, wages ranged from $12.24 to $17.71, with the average at $15.51.

Employment trends in the United States.--In general, total employment and hours worked have declined since 1979 (figure 1). That trend continued in 1986 and 1987. The American Iron and Steel Institute (AISI) reported that the number of workers fell from 236,000 in 1984 to 175,000 in 1986, and then to 150,000 during April 1987, or by 36 percent in the last 3 years. 1/ Average hours worked per week, however, have risen consistently since 1981, when it averaged 37 hours per week. By 1986, the average had risen 6 percent to 39.1 hours per week.

Total employment costs per unit of production are reported to have declined in the past several years, as has the share of labor costs to total costs (figure 2). The decline in costs reflects the fact that productivity gains have exceeded increases in compensation, which peaked in 1982 at $24.67 per hour before declining to $22.36 in 1984. This decline was reversed in 1985, with an increase to $23.26. The increase reflected scheduled cost of living increases that were negotiated in 1983. During 1986, wage rates increased to $23.99 per hour. 2/

1/ As reported by 64 steel companies to the American Iron and Steel Institute, representing 87 percent of U.S. raw steel production.
2/ World Steel Dynamics.

Figure 1

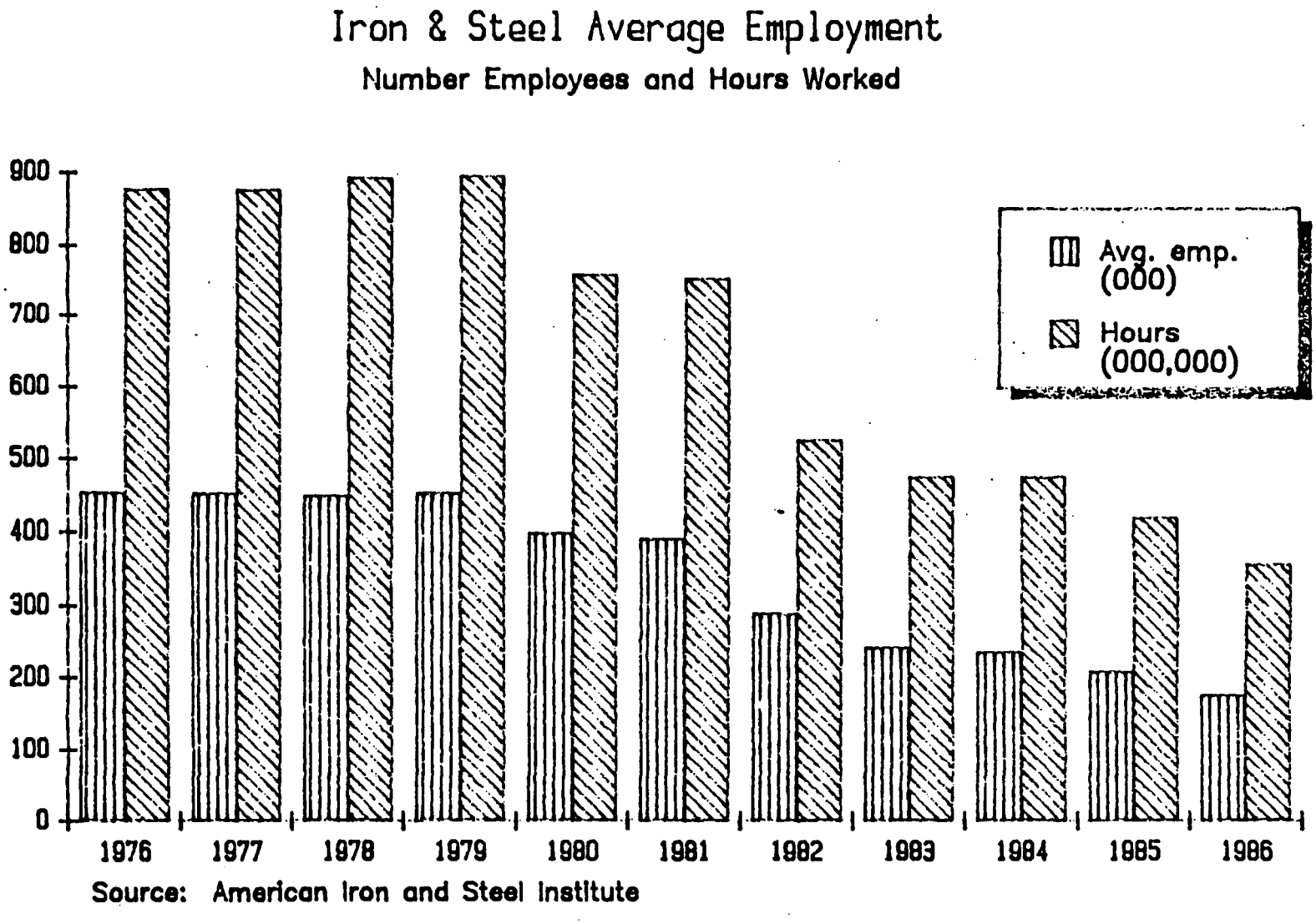
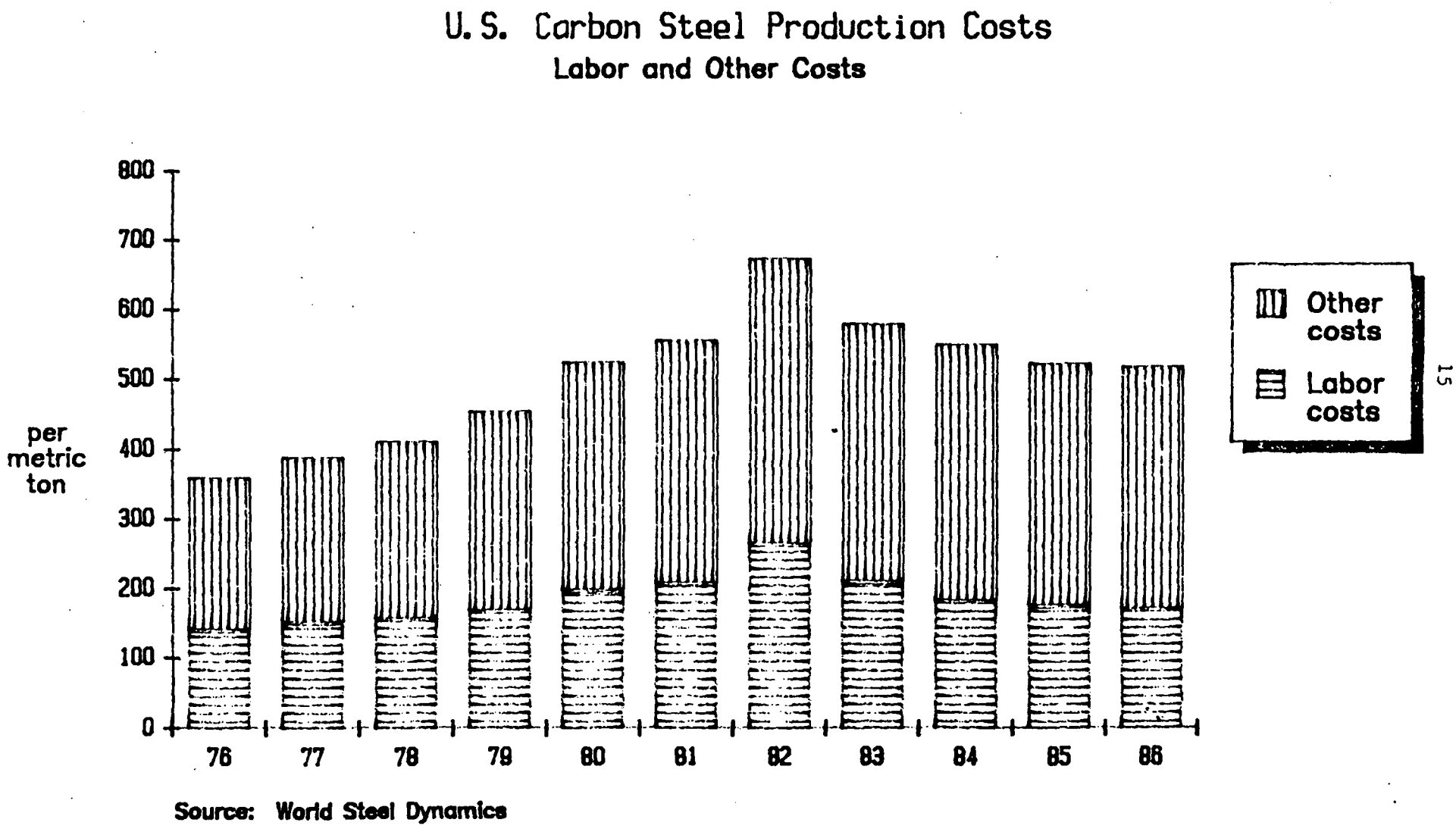

Iron & Steel Average Employment
Number Employees and Hours Worked
900
800
700
600
500
400
300
200
100
0
1976
1977
1978
1979
1980
1981
1982
1983
1984
1985
1986
Avg. emp. (000)
Hours (000,000)
Source: American Iron and Steel Institute

Figure 2


U.S. Carbon Steel Production Costs
Labor and Other Costs
per metric ton
800
700
600
500
400
300
200
100
0
76
77
78
79
80
81
82
83
84
85
86
Other costs
Labor costs
Source: World Steel Dynamics

International comparisons.--The depreciation of the U.S. dollar and increases in U.S. productivity continued to improve the relative position of the United States with its principal global competitors during 1986. As shown in figure 3, the gap in wage rates among major steel producers has narrowed, although U.S. wage rates are still the highest in the world. With respect to productivity, U.S. performance continued to improve and was at its highest level in 1986 (figure 4). As shown below, man-hours per short ton shipped were estimated to be 6.39 hours in the United States in 1986, surpassing that of other major competitors (such as Japan and West Germany).

Major mills' man-hours per short ton shipped

	Actual Operating Rate			Standard Operating Rate		
	1975	1981	1986	1975	1981	1986
United States.....	11.31	9.00	6.39	10.75	8.85	5.81
Japan.....	10.30	8.60	7.75	9.56	6.51	5.47
Germany.....	11.83	9.21	7.07	8.79	7.05	6.54
United Kingdom....	22.59	12.86	8.28	17.57	9.04	5.89
France.....	16.02	9.85	8.06	14.67	8.98	7.30

Source: World Steel Dynamics.

Labor Negotiations 1/

A number of major events and issues influenced the climate of the 1986/87 labor negotiations between the United Steelworkers of America (USWA) and the major integrated steel companies. 2/

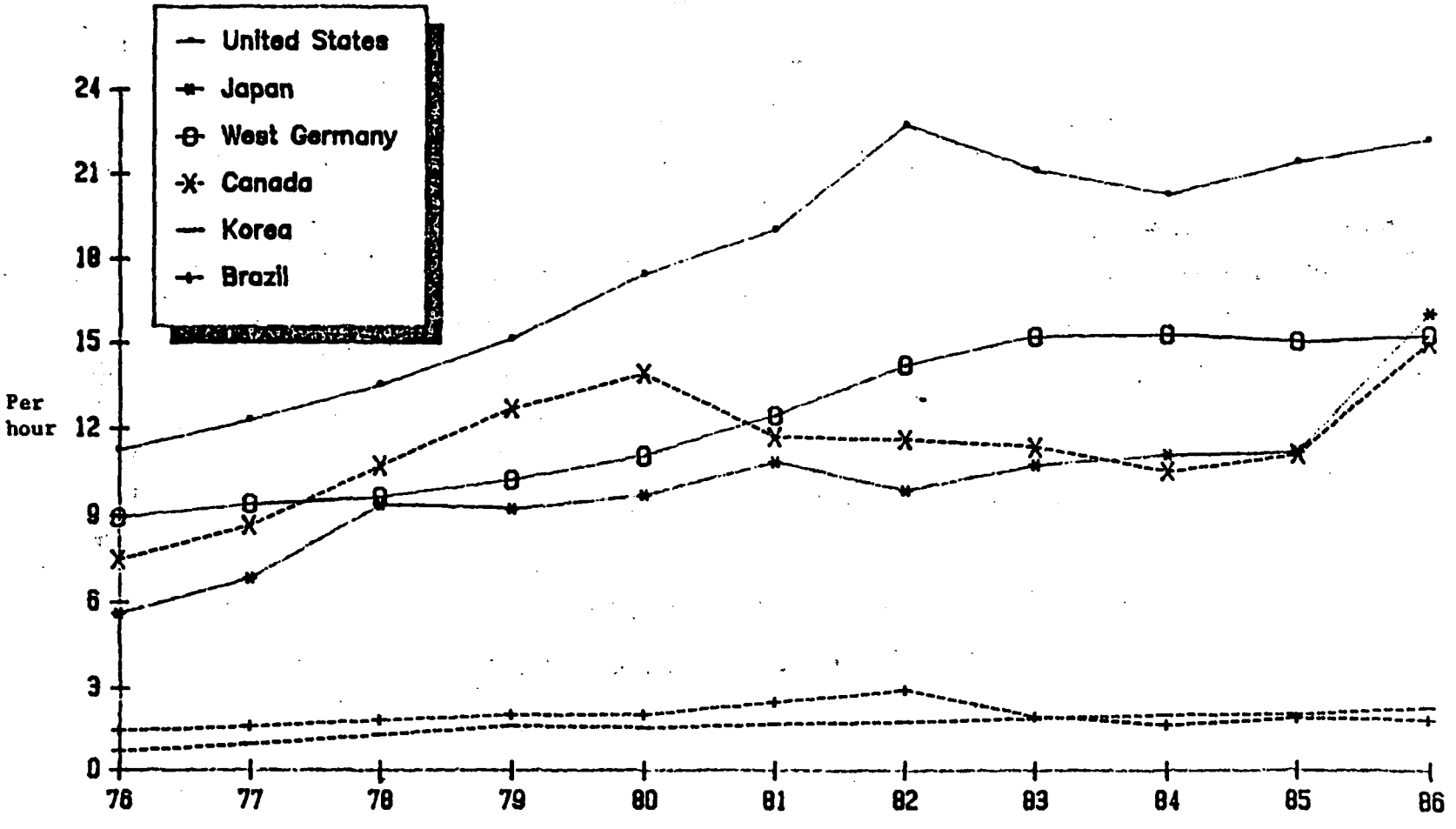
1/ Additional information concerning the labor negotiations between the United Steelworkers of America and the U.S. steel producers' Coordinating Committee is contained in last year's report (see Annual Survey Concerning Competitive Conditions in the Steel Industry and Industry Efforts to Adjust and Modernize, Report to the President on Investigation No. 332-209, p. 17, USITC Publication 1881, September 1986).

2/ The major companies with whom the USW negotiated include Armco, Inc., Bethlehem Steel Corp., Inland Steel Co., LTV Steel Co., National Steel Corp., USX Corp. and Wheeling-Pittsburgh Steel Corp.; these companies account for approximately 57 percent of all raw steel production in the United States.

Figure 3

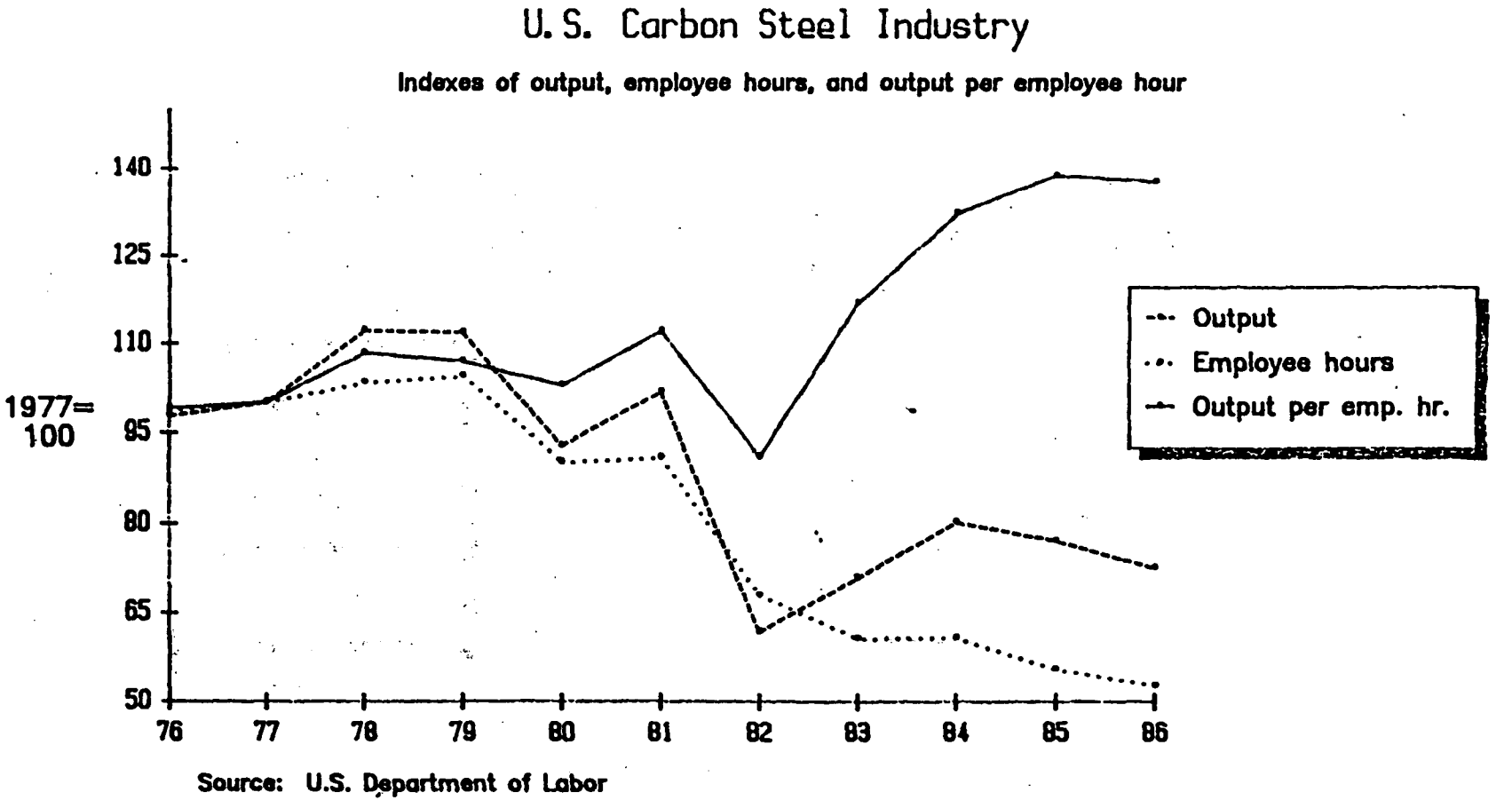
Compensation in the Steel Industry

U.S. and Selected Foreign Countries



Source: U.S. Department of Labor

Figure 4


U.S. Carbon Steel Industry
Indexes of output, employee hours, and output per employee hour
1977= 100
140
125
110
95
80
65
50
76
77
78
79
80
81
82
83
84
85
86
Output
Employee hours
Output per emp. hr.
Source: U.S. Department of Labor

The combined effects of relatively low demand for steel during the past several years, import competition, and declining prices had a pronounced effect on the steel industry and on labor. For example, the average number of wage employees declined 63 percent from 342,000 in 1979 to 128,000 during 1986, 1/ while raw steel production declined 41 percent from 136 million to 80 million tons. During the same period, labor productivity increased sharply. It has been estimated that in the United States, man-hours per ton of steel shipped fell 30 percent to 6.4 hours during 1986, from 9.2 hours in 1979. 2/

Measures taken by the industry which resulted in the increase in labor productivity have had a significant effect on cost. A recent study estimates that 72 percent of all operating cost reductions per ton shipped since 1982 came from lowering employment cost. 3/ Other areas where cost savings were achieved included improved product yields, installation of new equipment, increased energy efficiency, and lower raw materials costs.

1/ As reported by 64 steel companies to the American Iron and Steel Institute representing 87 percent of U.S. raw steel production.
2/ World Steel Dynamics.
3/ Confronting the Crisis: The Challenge for Labor, by Locker/Albrecht Associates, Inc. Report to United Steelworkers of America, December 16, 1985 p. 2 and table 3-4.

During 1986/87, differences in the total hourly employment cost (THEC) among the "major" producers significantly narrowed. This was the result of the "level playing field" concept advanced by the USWA, which reflected the union's desire to take labor cost out of competition (i.e., not to give a competitive edge in wages to any one company). The equalizing of THEC was generally achieved for the major producers which were not operating under Chapter 11 of U.S. Bankruptcy Law.

Issues.--Some of the major issues that dominated the labor negotiations and are likely to be significant in the future include: incentive pay, overtime, wage and benefit rollbacks, and the contracting out of work.

Incentive pay is linked to production standards that were agreed upon by the USWA and the steel companies. They are based on a Cooperative Wage Study developed by the union and the steel companies which establishes the following: (1) jobs which qualify for incentive pay, (2) the criteria on which the level of incentive pay should be established, and (3) the criteria under which incentive production levels are established. 1/ In 1986/87 the straight time incentive earnings were $1.58 per man-hour worked, which

1/ United Steelworkers of America.

represented 14 percent of the base straight time earnings and 7 percent of the THEC. 1/

The union sought to reduce overtime to a minimum so that laid off employees could be recalled to work. The USWA claims that it has been common practice in the industry to use "forced overtime" which enables companies to control the size of the labor force and reduce labor costs. According to Bureau of Labor Statistics data, the use of overtime hours increased 133 percent from 1.5 hours per worker in 1982 to 3.5 hours per worker by August 1985. The report prepared by Locker and Associates estimates that the elimination of all overtime hours in 1985 would have provided 13,900 jobs, increasing steelworker employment by approximately 9.2 percent.

With respect to wage and benefit rollbacks, compensation reductions have generally taken the form of reductions in hourly wages paid as well as reductions in holidays and Sunday premium bonuses. Some reductions in insurance costs have also been achieved. 2/

The issue of the contracting out of work was of particular concern to the USWA (see further discussion in the section on "Contracting Out"). For years companies have found it more expedient to contract out work rather than to use in-house labor forces or to recall laid-off steelworkers. Under the current contracts, language that forbids many kinds of contracting out was adopted. As a result, work capable of being performed by union members is to be performed by them, thereby limiting the ability of companies to contract out. 3/

1/ As reported by 64 steel companies to the American Iron and Steel Institute.
2/ United Steelworkers of America.
3/ United Steelworkers of America's summaries of proposed agreements.

Review of Settlements.--Following is summary of the wage and benefit reductions agreed to during 1985-87 and a review of the final contracts reached with Armco and USX during the latter part of 1986 and early 1987. Additional material on Bethlehem's and Inland's contracts (which were negotiated in 1986) has also been included. Total wage and benefit reductions for the major firms are as follows:

Company	Effective date of agreement	THEC		Reduction (per hour)
		New	Expiring	
Wheeling-Pittsburgh 1/.....	8/85	2/ $18.00	3/	3/
LTV 1/.....	4/1/86	4/ $18.09	$25.19	$3.60
National.....	4/28/86	$22.21	$23.72	$1.51
Bethlehem.....	7/1/86	$22.50	$24.84	$2.34
Inland.....	8/1/86	3/	3/	3/
USX.....	2/1/87	$22.50	$24.84	$2.34
Armco:				
Ashland.....	12/1/86	3/	3/	3/
Baltimore.....	12/1/86	3/	3/	3/
Kansas City.....	12/1/86	3/	3/	3/

1/ In Chapter 11 bankruptcy proceeding.
2/ 1985 settlement agreement.
3/ Not available.
4/ Includes a $3.50 per hour reduction as a result of the Pension Benefit Guaranty Corporation's assumption of pension liabilities (as estimated by World Steel Dynamics).

Armco Inc 1/.--Negotiations between the USWA and Armco resulted in three separate agreements affecting Armco plants at Ashland, KY, Baltimore, MD, and Kansas City, MO (including Union Wire Rope). 2/ The agreements, which are in effect from December 1, 1986 until July 31, 1989, are reportedly based on the competitive situation of the product line at the respective plants.

1/ Armco, Inc., Summary of the Armco/USWA Settlement, November 4, 1986 and United Steelworkers of America.
2/ Armco's Middletown Ohio plant is represented by an independent union, the Armco Employees Independent Federation.

At Ashland, total labor cost reductions amount to $0.33 per hour. Savings are principally from insurance cost containment and some job elimination. Cost-of-living (COLA) provisions are eliminated for the duration of the contract. At Baltimore, total wage and benefit reductions of $3.25 per hour were achieved through the elimination of COLA, two holidays, and certain premium payments. Sunday premium was reduced from time and one-half to time and one-quarter and shift differentials were reduced. Baltimore further agreed to substantial job reductions and changes in work rules. Special retirement options will be provided to assist in job reductions. At Kansas City, total wage and benefit reductions amounted to $2.25 per hour. The COLA was eliminated for the duration of the agreements. Vacation and Sunday premiums were reduced in the same manner as at the Baltimore plant. Premium pay for holidays worked was reduced from double time to time and one-quarter.

Contract clauses applicable at all three plants include the protection of supplemental employment benefits from any reductions, addition of a new employee savings plan, and addition of a profit-sharing program . The negotiated contracting out provisions are similar to those of other companies.

Bethlehem Steel Corporation.--The Bethlehem agreement is in force from July 1, 1986, to August 1, 1989. Under the agreement total wage and benefit reductions amount to $2.34 per hour, including a 38 cents per hour tax saving, a reduction of Sunday premium pay, a suspension of the cost-of-living adjustment, and a modification of vacation pay. Virtually all of Bethlehem's production workers are covered under the agreement.

In return for the wage and benefit concessions, Bethlehem will make annual adjustments if profits are sufficiently high. A $1.5 million contribution for the purpose of job placement, counseling and retraining for

displaced workers is also part of the agreement. The company also agreed to capital investment of up to two billion dollars in steel and steel related projects.

Inland Steel Corporation.--The Inland agreement is in effect for a three-year period, ending August 1, 1989. The agreement reduces total wages and fringe benefits by 40 cents per hour, which was offset by increases in other areas of an equal amount. There are 11,654 workers covered under the agreement at Inland's Indiana Harbor Works, East Chicago, Indiana.

Additional features of the agreement include: a negotiated profit-sharing plan, under which 10 percent of the total pre-tax profits of the company will be distributed to workers according to their number of hours worked; a voluntary gain-sharing plan; a tax-exempt savings plan; a limitation on contracting out; increased pension and health insurance benefits; and changes to improve the seniority system.

USX Corporation.--After a 184-day strike, USX Corp. reached an agreement with the USWA that is to remain in effect from February 1, 1987 to March 31, 1991. This agreement provides for a reduction in total labor costs of $2.35 per hour in the first year, of which $0.99 are wage concessions and $1.36 are benefit concessions. A profit-sharing plan provides for payback for some, or potentially all, of the wage and benefit concessions.

The agreement further provides for improvements in pension and health insurance benefits, improvements in supplemental unemployment benefits, and provision for $2.4 million for retraining dislocated workers. Under the contract, USX agreed to make new capital investments at its Mon Valley (PA) and Fairfield (AL) works facilities. Moreover, $37 million of "shut-down" benefits are to be paid by USX to more than 4,000 workers at idle facilities. As a result of the agreement 1,346 jobs at USX plants will be eliminated.

Steel labor topics.--The purpose of this section is to examine selected labor issues affecting steel industry competitiveness. The major topics addressed in this section are:

- o Comparative labor costs in integrated steel mills, specialty steel mills, and minimills;
- o The effects of "reconstituted" mills on competitive balances (which addresses a number of factors in addition to labor);
- o Pension liabilities;
- o Contracting out; and
- o Labor/management relationships.

Comparative labor costs in integrated steel mills, specialty steel mills .--As previously indicated, total labor costs account for a substantial portion of operating costs and are an important element of cost competitiveness. In those markets in which minimills compete (i.e. primarily in steel bar, rod, and shape markets), their relatively low wage costs place significant competitive pressures on integrated mills.

According to data compiled by the American Iron and Steel Institute, the total hourly employment cost (THEC) for production and maintenance workers in the steel industry averaged $23.24 in 1986. 1/ The THEC consisted of average regular hourly earnings of $13.00, additional payroll costs of $3.22 (which include shift differentials, Sunday and holiday premium, and overtime work) and employee benefits of $7.02 (which include pensions, insurance, vacation plans, and social security).

There were significant variations in THEC among the 14 integrated companies surveyed. The variance among the largest producers amounted to 21

1/ The American Iron and Steel Institute reports on 64 companies representing 87 percent of U.S. domestic raw steel production capacity.

percent. The variations are a point of concern with certain producers who have criticized the USWA for applying a double standard in their labor negotiations. The level of the THEC is considerably higher for specialty steel producers (i.e., producers of stainless and alloy tool steel), although the variance among the companies was less than among the larger integrated producers.

According to industry sources, THEC's have increased greatly in recent years for steel companies which experienced reductions in force or temporary shutdowns. The effect of a reduction in the labor force is to make the remaining labor force more expensive, as certain fixed costs have to be allocated over a smaller population of workers. For example, according to industry sources, a $23 THEC in a mill after a partial shut down (from 2,000 to 600 employees) could result in an increase in the THEC to $33 because of lay-off benefits and other costs which the steel company may have to carry for 2 to 3 years.

Of the approximately 58 minimill plants located in the United States (representing 42 companies), 24 are organized by the USWA. The 24 plants account for over 50 percent of total minimill capacity. Available data and discussions with industry sources indicate that the average straight time hourly earnings in minimills equalled $11.38 in 1986, which compares to $13.00 for all domestic steel mills. When benefits are factored in, however, the difference in THEC between minimills and integrated producers widens, as the average minimill cost is estimated at $17.50 as compared to $23.24 for the

entire industry. 1/ The variance in THEC among minimills is believed to be significant, ranging from about $16 to $22. The structure of the THEC among the minimills also differs significantly. One company has a relatively low wage and benefit rate with a production bonus plan that represents about 40 percent of the company's THEC. At another company with a comparable THEC, the wage rate is higher, with benefits accounting for close to half of total costs; the production bonus represents less than 5 percent of total costs.

Reconstituted steel mills.--Restructuring within the steel industry has given rise to a new competitive element which is commonly being referred to as the "reconstituted" steel producer. The reconstituted producers are comprised of companies (or parts of companies) which have been sold or restructured through Chapter 11 bankruptcy proceedings. As of March 1987 there were 9 carbon steel producer companies in this category accounting for an estimated 17.8 million tons (or 25 percent) of total industry shipments in 1986. 2/ All of the companies listed below have been "reconstituted" since 1979.

1/ The all-industry average largely reflects integrated producers' costs as these producers account for a preponderant share of total employment.
2/ The list consists of producers of carbon steel products (i.e., excluding specialty steel producers and, with the exception of Phoenix, minimills).

Company	Shipments (1986) (million tons)	Percentage of industry shipments (1986)	Status
LTV Steel Co.....	9.5	13.6	In Chapter 11.
Weirton Steel.....	2.4	3.4	Formerly part of National Steel.
Wheeling-Pittsburgh.....	2.2	3.1	In Chapter 11.
California Steel Co.....	1.0	1.4	Formerly Kaiser Steel.
McLouth Steel Products..	1.0	1.4	Formerly part of McLouth Steel Corp.
Gulf States Steel.....	0.7	1.0	Formerly part of LTV.
Newport Steel.....	0.25	0.4	Formerly part of Interlake Inc.
Phoenix Steel.....	0.25	0.4	In Chapter 11.
CF & I.....	0.5	0.7	Formerly part of Crane Co.
Total.....	17.8	25.5	

Source: World Steel Dynamics, Steel Strategist #13, March 30, 1987, and ITC staff.

With respect to the cost savings that can be realized by reconstituted companies, World Steel Dynamics estimates that such a company could, while in Chapter 11, reduce average pre-tax costs by 25 percent to about $373 per metric ton or approximately $123 per ton below that of other major competitors. 1/ Of the $123 reduction, about 50 percent would result from decreased employment costs; 2/ the balance of cost reductions would occur in material and energy costs, and decreased financial costs (i.e., depreciation, state and local taxes, and interest expenses). The reductions would be achieved through the release of contractual obligations; renegotiation of electricity and natural gas rates; the negating of interest obligations through Chapter 11 procedures; and the reduction of non-cash charges such as depreciation expenses.

1/ WSD, Steel Strategist, #13, March 30, 1987, p. 16.
2/ This assumes the reduction of man-hours per metric ton shipped from 7.0 to 5.8 and a reduction in the THEC from $22.50 to $16.50.

Pension liabilities.--The matter of unfunded pension liabilities in the steel industry is one which has received increased attention during the past year. As restructuring in the industry has occurred, pension obligations have proved to be increasingly burdensome to certain companies. In the case of LTV, it was considered the single most important element in the company's filing for protection from creditors under Chapter 11. Under Chapter 11, such obligations can be assigned or transferred to the Pension Benefit Guaranty Corporation (PBGC).

The PBGC, an independent agency of the U.S. Federal Government, was established under Title IV of the Employee Retirement Income Security Act of 1974. The PBGC was intended to be a small, inexpensive program to protect workers in those instances where pension plans terminated without sufficient funds to pay employee benefits. In 1972, a Labor Department study concluded that such a program would incur about $25 million in net claims each year. Currently PBGC pays estimated monthly pension benefits of about $660 million per year. 1/

The PBGC guarantees the pension plans of U.S. workers in a range of industries. As of March 1987, 81 percent of all PBGC claims were by steel companies and amounted to approximately $535 million for the year. The 182 plans terminated by steel companies represented about 14 percent of the 1,345 plans terminated. Net claims or under-funding for the 182 steel plans amount to $3.1 billion as opposed to $3.9 billion for all 1,345 plans.

Underfunding of the pension plans has occurred as companies experiencing operational problems encountered difficulties setting aside resources to fund

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1/ Statement by Dr. Kathleen P. Utgoff, Executive Director, PBGC as quoted in News Release, Tuesday, January 13, 1987, "Pension Benefit Guaranty Corporation to Take Over LTV Steel Pension Plans".

their pension plans. As of May 1987, the PBGC was responsible for providing benefits to 151,900 workers in the steel industry, 76,875 of which were already retired. Following is a tabulation showing the major steel industry pension plans terminated as of May 1987. 1/

Company	Date of termination	Plan underfunding (in millions)	Workers Covered	Currently retired
Allan Wood Steel Co.	1977	$41	3,400	1,100
Continental Steel Corp.	1986	$61	3,200	1,600
McLouth	1982	$51	5,500	1,400
Phoenix Steel Corp.	1983	$43	3,200	1,100
Washburn Wire	1976 & 1979	$21	1,500	700
Wheeling-Pittsburgh Steel Corp.	1985	$498	21,500	10,000
Wisconsin Steel Co.	1980	$62	4,000	1,400
Kaiser Steel	1987	$27	1,000	175
			43,300	17,475
LTV:				
Republic Steel Retirement Plan	1986	$230	7,700	3,300
Jones and Laughlin Retirement Plan (salaried)	1987	$320	15,400	7,700
Pension Plan of Republic Steel (hourly)	1987	$540	41,600	22,400
Jones and Laughlin Hourly Pension Plan	1987	$1,230	43,900	26,000
Subtotals for LTV Steel		$2,320 1/	108,600	59,400
Total for steel companies		$3,097	151,900	76,875
Other companies		803	213,100	94,025
Grand total		3,900	292,700	170,900

1/ Represents the difference between the estimated present value of guaranteed benefits ($3,640) and the assets in trust ($1,320).

1/ Source: Pension Benefit Guaranty Corporation, News Release Jan. 13, 1987 and Major Steel Industry Pension Plan Terminations, Table-undated and LTV Corporation Pension Facts, undated.

The latest and largest addition to the PBGC group of steel companies was the court approved termination of three LTV Steel pension plans on January 13, 1987. In 1986, LTV Corp. had three times as many retirees (71,000) as employees (25,000), and was paying annual pension payments of $380 million. An important issue is whether LTV will continue to cover $90 million in annual health and life insurance premiums for retirees, or whether the PBGC will assume the costs.

Additional supplemental benefit payments of $400 (to be paid to approximately 10,000 retirees) is to be decided by the Bankruptcy court. The $400 would be for losses suffered as a result of plant closings, negotiated work force reductions, and job or skill consolidations.

The PBGC estimates that as of May 1987 the total pension underfunding for five other major steel companies (Bethlehem, Armco, National, USX, and Inland) was between $4 to $6 billion. The underfunding includes 420,000 participants in the pension plans of those 5 companies, of whom 220,000 are already retired.

As indicated earlier, the termination of steel pension plans can have a significant effect on labor costs. By terminating its plans, Wheeling-Pittsburgh saved over $3.00 per hour in pension costs as its THEC fell to $18.00 per hour. The transfer of LTV pension liabilities to the PBGC has saved the company an estimated $3.50 per hour labor cost, 1/ decreasing its total employment costs to about $18 per hour.

1/ World Steel Dynamics.

Contracting out.--Contracting out is the practice of subcontracting steel mill work to outside contractors. The issue has been particularly sensitive in light of the unprecedented lay-offs in the industry. Most of the subcontracting has traditionally consisted of maintenance tasks. In its drive to improve its competitiveness by lowering costs, however, companies in recent years have explored new areas for subcontracting.

According to industry executives, contracting out or subcontracting was the single most important issue in the 1986/87 labor negotiations. It is estimated that the equivalent of 8 percent of the steel labor force of approximately 147,000 wage earners, or 12,000 full time steelworkers' jobs were contracted out in 1986. 1/ This translates into approximately 24 million hours of labor. The amount of contracting out varies significantly among the larger integrated steel companies. While some companies contract out only 1 to 2 percent of their total labor hours, others reportedly contract as much as 25 percent, or more.

How one major steel company is looking upon subcontracting is illustrated in the following statement made by a steel company official to a group of investment bankers: 2/ "After extensive analysis in 1983, we (USX) developed a plan which we put into effect in late 1983 . . . . The major attack we made on the cost side of the equation was to try to reduce our cost of manpower and better utilization . . . We supplemented this with teams of industrial engineers to work with the plant organization to define detailed job analysis of each position and determine what activities required steel worker

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1/ World Steel Dynamics.
2/ Thomas J. Usher, Senior Vice President, Operations, Steel, at USX, speaking to a group of Wall Street investment bankers, in 1985. As presented in the USWA publication USX Special Report, undated.

expertise, what activities had to be performed on plant site, and what activities could be performed more economically by non-steel workers, remembering that our wage costs are substantially higher than manufacturing labor costs in general. As a result of this kind of effort, we have been shedding service and support functions where steel worker expertise is not required. We have ceased the manufacture of process consumables. We have closed foundry shops. We've cut back on machine shops. We've cut back on plants, we have reorganized the maintenance effort, and functions such as shearing, slitting, and finishing steel products, which are high-man-hour operations, have been transferred to processors outside the plant with lower unit conversion costs."

Another dimension of subcontracting occurs in instances where a steel company purchases semifinished products from another manufacturer, domestic or foreign, thereby saving on employment or, possibly, investment cost. For example, the purchase of steel slabs and hot rolled bands from South Korea and Brazil for finishing on domestic mills would fall into this category.

Another producer with whom the issue was discussed noted that flexibility is a major advantage associated with contracting out. Specifically, it was noted that steel labor becomes less expensive if the size of the labor force can be varied according to need; this is reportedly easier to achieve with subcontracting. Some major producers estimate that a 15- to 30-percent increase in labor productivity can be attained by using subcontractors.

As indicated earlier, the issue of contracting out was negotiated with companies during the past 2 years. The result was that all contracts which were negotiated by the major producers acknowledge the principle that, "work

capable of being performed by bargaining unit employees shall be performed by such employees." USWA did not object to subcontracting in certain situations. It was acceptable, for example, if warranty on equipment required the original manufacturer to perform the work or if special skills or special equipment were required. What the USWA wanted to prevent during the recent labor negotiations were instances where companies might sell part of a steel plant (such as a machine shop or finishing shop) in order to allow other parties to set it up as an independent contract operation.

Labor/management relationships.--Restructuring in the steel industry has resulted in significant changes in traditional labor management relationships, with an increased emphasis on developing cooperative solutions to problems. One of the more prominent examples can be found at LTV Steel Co.'s recently constructed state-of-the-art, 72 inch wide electrogalvanizing line, which is capable of producing 400,000 tons per year of rust-resistant steel to be pressed into automobile body parts (at its Cleveland Works). The line is operated by the L-S Electrogalvanizing Company (L-SE), a joint venture of LTV and Sumitomo Metal Industries, Ltd. (SMI). Basically, LTV provides operating, sales, marketing, and field services, while SMI supplied its vertical cell, anode plating technology.

The major innovation at L-SE is that a separate labor agreement was concluded between the company and the USWA. In lieu of rigid job classes, only three skill levels were established, as follows:

Classification level	Pay per hour	Pay category
Skilled	$13.50	Straight time rate
	2.00	Bonus
	1.00	Overtime
	$16.50	Total
Intermediate	$10.00	Straight time rate
	2.00	Bonus
	1.00	Overtime
	$13.00	Total
Entry and general	$8.75	Straight time rate
	2.00	Bonus
	1.00	Overtime
	$11.75	Total

Bonuses are paid twice a year to all 60 employees; overtime is paid after 40 hours per week. Workers are paid salaries at a rate applicable to 80 hours of work at straight time during a two week period. There is no cost of living adjustment, nor extra pay for afternoon, night, or Sunday work. All employees have guaranteed salaries while laid off (for a maximum of 52 consecutive weeks) and are entitled to disability payments, supplemental salary, and severance allowance. Moreover, workers have a voice in major decisions, including hiring and firing.

The plant is viewed by both the union and the company as an important experiment which could serve as a model for changes in other plants. The 45 USWA members and 15 managers have been trained to run the plant as a team which is cross-trained in various skills. Managers assist in nonsupervisory activities related to plant operations, and actively solict suggestions and ideas from junior members of the team.

Each of the 60 employees received the equivalent of more than 800 hours of classroom preparation, as well as on site training at the SMI Kashima line

(in Japan) and the L-SE line in Cleveland. Of the 60 employees all are high school graduates with various levels of technical or maintenance training.

The L-SE plant is claimed to be the most productive facility of this type in the United States, requiring 0.3 to 0.4 man-hour per ton of steel for finishing operations, which compares favorably to the 0.5 man-hour per ton for a similar facility in Japan. U.S. plants reportedly average approximately 1 man-hour per ton in galvanizing operations.

U.S. producers' capital expenditures and research and development expenditures 1/

Carbon and certain alloy steel.--Capital expenditures for carbon and certain alloy steel operations declined for the second consecutive year during 1986/87 to $1.2 billion, representing a decrease of 36 percent from the expenditure level of $1.8 billion achieved during 1985/86 and 51 percent from the expenditure level of $2.4 billion during 1984/85. In both 1985/86 and 1986/87, primary steelmaking (including ironmaking, cokemaking, and semifinished steelmaking facilities) accounted for the largest share of total capital expenditures (55 percent in 1985/86 and 67 percent in 1986/87), although actual expenditures in this area fell by 21.8 percent from 1985/86 to 1986/87. Increases in capital expenditures were recorded in wire rod, wire, and wire products (an increase of 49 percent from 1985/86 to 1986/87). Capital expenditures declined during the period in the remaining six product categories, with decreases ranging from 6 percent in bars to 85 percent in pipe and tube.

Producers' research and development expenditures also declined for the second consecutive year during 1986/87 to $81.4 million, a decrease of about 16 percent from expenditures of $96.4 million during 1985/86 and 29 percent from expenditures of $113.9 million during 1984/85. Research and development expenditures declined in all areas except plates, bars, and rails and related products. In both 1985/86 and 1986/87, projects in the sheet and strip product area accounted for the largest share of research and development expenditures (40.0 percent in 1985/86 and 41.7 percent in 1986/87).

1/ Detailed data on U.S. producers' capital expenditures and research and development expenditures during July 1, 1986-June 30, 1987 are presented in app. D.

Certain stainless and alloy tool steel.--Total capital expenditures for the production of certain stainless and alloy tool steel products were $56.7 million during 1986/87, a decline of 30 percent from expenditures of $80.4 million during 1985/86 and 57 percent from expenditures of $132.0 million during 1984/85 (table 5 and app. D, table D-5). Plates (down 76 percent), pipes and tubes (down * * * percent), and wire (down * * * percent) exhibited the largest declines.

Spending for research and development also declined for the second consecutive year, falling 14 percent from $17.1 million during 1985/86 to $14.8 million during 1986/87, a decline of 19 percent from spending of $18.1 million during 1984/85. The most significant declines were in steelmaking facilities (down * * * percent) and pipes and tubes (down 54 percent). There was a significant increase in research and development spending for sheets and strip (up * * * percent).

Table 5.--Certain carbon and alloy steel: U.S. producers' capital expenditures and research and development expenditures, July 1, 1985 - June 30, 1986 (1985/86) and July 1, 1986 - June 30, 1987 (1986/87)

Item	Capital Expenditures			Research and Development		
	1985/86	1986/87	Change	1985/86	1986/87	Change
	----1,000 dollars----		(percent)	----1,000 dollars----		(percent)
Carbon and certain alloy steel: 1/						
Cokemaking facilities	77,456	27,398	-64.6	3,734	2,871	-23.1
Ironmaking facilities	141,862	168,572	18.8	3,097	2,209	-28.7
Steelmaking facilities 2/	790,689	594,079	-24.9	30,505	27,656	-9.3
Products:						
Sheets and strip	496,422	196,285	-60.5	38,520	33,936	-11.9
Plates	* * *	* * *	* * *	4,417	4,509	2.1
Bars	121,351	113,585	-6.4	3,477	4,380	26.0
Structural shapes and units	57,564	23,225	-59.7	1,609	* * *	-58.4
Pipe and tube	56,109	8,455	-84.9	9,845	* * *	-61.2
Rails and related products	* * *	5,728	* * *	111	* * *	126.1
Wire rod, wire, and wire products	18,860	28,070	48.8	1,096	1,075	-1.9
Total	1,821,658	1,173,093	-35.6	96,411	81,371	-15.6
Stainless and alloy tool steel:						
Steelmaking facilities 2/	27,985	23,107	-17.4	***	7,055	* * *
Products:						
Plates	* * *	2,663	-75.9	* * *	359	* * *
Sheets and strip	25,220	24,336	-3.5	* * *	5,128	* * *
Wire	* * *	* * *	* * *	* * *	* * *	-3.3
Pipes and tubes	2,823	* * *	* * *	* * *	* * *	-54.4
Total	80,407	56,721	-29.5	17,128	14,772	-13.8
Grand total	1,902,065	1,229,814	-35.3	113,539	96,143	-15.3

1/ Certain alloy refers to alloy steel other than stainless and alloy tool steel.
2/ Including semifinished steel.

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

Financial experience of U.S. producers

During the 12-month period ending June 30, 1987, sales of steel products totaled approximately $27.8 billion, down * * * percent from sales in the preceding 12-month period. Net losses occurred in most product categories, as overall losses as a percent of sales rose from -3.7 percent to -5.7 percent (table 6 and app. D, tables D-6 and D-7).

The financial community continues to respond to unfavorable financial conditions in the industry by progressively downgrading the ratings assigned to companies on certain financial instruments, such as bonds. Table 7 lists Moody's bond ratings for the top six U.S. steel producers. The ratings are an indication of the confidence certain financial institutions place in the investment quality of debt instruments issued by a company. The ratings are one of several factors which influence market price movements in a bond over its life. Generally, interest rates vary inversely to the bond ratings. While all bonds are rated individually for a single company, ratings are usually the same on all bonds of the company issued in the same rating period. The major exceptions to this rule are subordinated debentures of a company, which are rated lower than its bonds.

The Moody's ratings indicate a deterioration in almost all companies' standings since January 1986. Only National Steel, whose rating rebounded slightly from B3 to Ba3, showed any improvement over the year. As of June 1987, all these companies' bonds were rated as falling below the level of medium-grade obligations, a rating two of them held last year. This rating indicates that the obligations are speculative in nature. The Chapter 11 filing of LTV Corp. severely depressed the rating of its bonds, as they are currently considered to be highly speculative. The bonds of the companies

Table 6.—Certain carbon and alloy steel: Total net sales and net profits and losses as a percentage of sales, by selected product, July 1, 1985 — June 30, 1986, (1985/86) and July 1, 1986 — June 30, 1987 (1986/87)

Item	Total net sales 1/ 1985/86	Total net sales 1/ 1986/87	Net change in sales	Net profit or loss as a percent of sales 2/ 1985/86	Net profit or loss as a percent of sales 2/ 1986/87	Net change in percentage
Carbon and alloy steel: 3/						
Semifinished	426,757	561,619	31.6	(27.2)	(25.2)	2.0
Plates	1,471,992	1,118,232	(24.0)	(9.7)	(4.3)	5.4
Sheets and strip	***	16,242,019	***	(1.6)	(6.1)	(4.5)
Bars	3,571,239	3,867,251	(8.3)	(6.4)	(8.3)	(1.9)
Wire, wire rod and wire products	1,434,071	1,349,569	(5.9)	(0.7)	1.7	2.4
Structural shapes and units	1,576,190	1,432,577	(9.1)	(2.8)	1.5	4.3
Rails and related products	334,834	227,633	(32.0)	(4.1)	(10.0)	(5.9)
Pipes and tubes	1,662,306	1,004,322	(39.6)	(17.6)	(27.2)	(9.6)
Subtotal, carbon and certain alloy steel	***	25,803,222	***	(4.1)	(6.8)	(2.7)
Certain stainless and tool steel:						
Semifinished	160,115	213,708	33.5	(3.3)	(3.8)	(0.5)
Stainless steel:						
Plates	***	320,520	***	(12.7)	6.3	19.0
Sheets and strip	***	1,364,038	***	7.4	12.7	5.3
Wire	95,996	88,675	(7.6)	4.1	1.4	(2.7)
Pipes and tubes	***	57,606	***	(7.2)	(8.8)	(1.6)
Subtotal, certain stainless and alloy tool steel	***	2,044,547	***	2.7	8.9	6.2
Grand total	***	27,847,769	***	(3.7)	(5.6)	(1.9)

1/ Includes intracompany and intercompany transfers, less discounts, returns, and allowances.
2/ Net profit is defined as the total net sales, less the cost of goods sold, general, selling and administrative expenses, and other expenses (such as net interest expense for income).
3/ Certain alloy refers to alloy steel other than stainless and alloy tool steel.

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

Table 7.-- Moody's bond ratings 1/ 2/ of selected U.S. steel producers, 1980-1987

Firm	Feb. 1980	As of January -- 1981	1982	1983	1984	1985	1986	1987	June 1987
Armco	A	A	A	A2	Baa2	Baa3	Ba2	B2	B2
Bethlehem	A	A	A	Baa2	Baa2	Ba1	Ba1	B2	B2
Inland	Aa	A	A	Baa2	Baa2	Baa2	Baa2	Ba3	Ba3
J & L 4/	Ba	Ba	Ba	Ba1	Ba1	Ba1	B3	Baa	Caa
National	Aa	A	A	Baa3	Ba1	ba1	B3	Ba3	Ba3
Republic 4/	A	A	A	Baa3	Ba1	Ba1	B3	Caa	Caa
U.S.S. 5/	Aa	A	A	A3	Baa2	Baa2	Baa2	Baa3	Ba1
LTV 4/	6/	6/	6/	6/	6/	B1	B1	Ca	Ca

1/ Moody's bond ratings are as follows:

- Aaa: Best quality and carry smallest degree of risk.
- Aa: High quality and together with Aaa, are known as high-grade bonds.
- A: Possess many favorable investment attributes and are considered upper-medium grade obligations.
- Baa: Medium-grade obligations which are neither highly protected nor poorly secured.
- Ba: Obligations which have speculative elements; future cannot be considered well assured.
- B: Generally lack characteristics of desirable investment.
- Caa: In poor standing; may be in default or may present elements of danger with respect to principal or interest.
- Ca: Speculative in a high degree.
- C: Lowest rated bonds.

2/ Bond ratings of subordinated debentures are not shown. These ratings have historically been one rating below the ratings shown here.
3/ In 1983, Moody's modified its ratings. The numbers place the bond's rating within the alphabetic (A and B) ratings. 1 is preferable to 2, which is preferable to 3.
4/ During 1984, Jones and Laughlin (J & L) and Republic were merged with LTV Corp.'s Youngstown Sheet and Tube division to form LTV Steel Co.
5/ On July 9, 1986, U.S.S. changed its corporate name to USX to reflect the diversification of the company into non-steel lines of business.
6/ Not applicable.

Source: Moody's Bond Record, Moody's Investors Service, Inc., Various Editions.

absorbed by LTV in 1984, Republic and J & L, were also downgraded to the point where the principal or interest may be considered to be in danger.

The serious financial problems confronting the industry are also reflected in the fact that within the study period, five U.S. steel producers either ceased operations or filed for protection from creditors under Chapter 11 of the federal bankruptcy code. These firms are listed in the following tabulation:

Filed under Chapter 11	
LTV Steel	July, 1986
Sharon Steel	April, 1987
Phoenix Steel	April, 1987
Shut down	
Judson Steel	September 1, 1986
Roblin Steel	December, 1986

The firms which filed under Chapter 11 during the period joined Wheeling-Pittsburgh and Eastmet, both of which had taken similar action at earlier dates and have not yet emerged from that state.

In July 1986, LTV Corp., a conglomerate involved in aerospace, defense, and energy products as well as steel, filed for protection under Chapter 11. The nation's second largest steel producer, the LTV Steel division was formed by the combination of three steel companies; Jones and Laughlin, Youngstown Sheet and Tube, and Republic Steel. The company has attempted to phase out inefficient plants and combine efficient facilities to create a modern and profitable entity. However, heavy losses in the steelmaking division, which adversely affected cash flow, and large debt and pension obligations overwhelmed profitable operations in other divisions. According to company officials, the $1.7 billion in scheduled debt repayments over the next 3 years and the $375 million in annual pension obligations were primary factors in

their decision to file for protection. 1/ As a result of the filing much of LTV's pension liabilities were assumed by the Pension Benefit Guaranty Corporation (PBGC), a move which has endangered the viability of the PBGC. This move makes the PBGC the largest single creditor of LTV.

The two other filings for protection under Chapter 11 were by smaller firms. Sharon Steel, a company which has had a history of financial difficulties, filed for protection under Chapter 11 when a creditor threatened liquidation proceedings. Pheonix Steel filed for protection under Chapter 11 for the second time this decade. The company had emerged from Chapter 11 in 1985, but said it needed more time to negotiate the sale of its facilities than creditors were ready to grant. 2/

The two firms that shut down during the study period were also small firms. Judson Steel, a rebar producer located in the San Francisco area, was reportedly profitable at the time of its shut down, despite a recent history of losses. However, the mill site is a valuable piece of property and the owners of the mill, the Australian based firm of Peko-Wallsend, decided to redevelop the property. While Peko-Wallsend confirmed the profitability of the mill, they said that profitability levels did not meet internal criteria for return on investment.

Two firms reported in financial trouble in last years report have changed their status. Roblin Steel was in Chapter 11 (filed July, 1985) when it laid off its workforce in November, 1986. Shortly thereafter its banks cut off

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1/ "LTV Corp., Hurt by Steel Imports, Files Bankruptcy Petition," Washington Post, July 18, 1986.
2/ "Newswatch", Iron Age, June 1987, Pg. 7.

lines of credit required for day to day operations. The officials of the firm resigned as their liability insurance expired, and the bankruptcy court has appointed a trustee to sell the compnay's facilities, either as a whole or in pieces.

Enduro Stainless Corp., operating under Chapter 11 since February 21, 1986, was bought out by a group of investors and is now operating as Mercury Stainless. Kentucy Electric Steel, which had shut down August 2, 1985 after a protracted labor dispute, sold its facilities to Newport Steel.

The following is a review of the profit and loss performance of the industry in key product groups during the twelve month periods ending June 30, 1986 and June 30, 1987.

Carbon and certain alloy steel.-- Total net sales of all carbon and certain alloy steel products subject to the investigation amounted to $25.8 billion, a decrease from last period's * * * billion (table 6). Net losses before taxes in the sector increased from * * * billion to $1.7 billion between the previous study period and the current one. 1/ As a result, losses as a percent of sales increased from 4.1 to 6.8. Three product areas showed significant positive movement, as losses narrowed for plates from -9.7 to -4.3, while wire products (-0.7 to 1.7) and structural shapes (-2.8 to 1.5) both moved from net losses to net profits. Losses as a percentage of sales were again greatest for semifinished products (25.2 percent), although pipe

1/ Detailed data on profit-and-loss by product line during July 1, 1986-June 20, 1987 are presented in app. D, table D-6. Final data on the July 1, 1985-June 30, 1986 period are contained in app. H, table H-2.

and tubes showed the greatest negative net change, as losses as a percent of sales increased from 17.6 percent to 27.2 percent.

Certain stainless and alloy tool steel.-- Total net sales of certain stainless and alloy tool steel products amounted to $2.0 billion, up * * * percent from the * * * billion in net sales for the year ending June 30, 1986 (table 6). Net profits before taxes in the sector rose from $52.6 million to $178.4 million between the previous study period and the current one. 1/ Net profits as a percent of sales increased from 2.7 to 8.9, a net change of 6.2 percentage points (table 6). Plates rebounded sharply from a loss on sales of 12.7 percent to a profit on sales of 6.3 percent, a net gain of 19.0 percentage points. Sheets and strip also improved its performance, as profits as a percent of sales increased from 7.4 percent to 12.7 percent. The return on sales declined in the case of wire (where profits of 1.4 percent turned into losses of 2.7 percent) and pipe and tube (where losses widened from 7.2 to 8.8 percent).

1/ Detailed data on profit-and-loss by product line during July 1, 1986-June 20, 1987 are presented in app. D, table D-6. Final data on the July 1, 1985-June 30, 1986 period are contained in app. H, table H-2.

Steel Pricing

The intense pricing competition that exists in domestic and international steel markets continues to reflect the significant shifts which have occurred in demand, changes in the value of the dollar and other currencies, and the restructuring which is occurring worldwide. As pricing pressures intensified, both domestic and foreign steel producers were forced into cost reduction programs which resulted in declining capacity and significant reductions in employment. In addition, with Developing World steel producers becoming more efficient and cost effective in steel manufacture, their ability to influence the level of prices in international markets has become an increasingly important factor. POSCO of South Korea and China Steel of Taiwan are examples of how the combination of relatively low-wages and production costs and capital investment have advanced the competitiveness of developing world steel producers.

Although wide variations in the prices of certain steel products continue to exist on a country-by-country basis, in the United States market domestic producers' steel prices and import prices are moving closer together. In January 1985, for example, 68 percent of surveyed steel service centers in the United States reported that foreign mill prices for carbon steel products were 6 to 10 percent below U.S. delivered prices. 1/ During June 1987, however, 71 percent of these service centers reported that foreign mill carbon steel prices were equal to, or no more than 5 percent below, U.S. prices.

1/ These price comparisions are published in Business Conditions prepared by the Steel Service Center Institute.

Steel price index trends in the United States, Japan, Canada, and West Germany.1/--An analysis of government published price indexes 2/ reveals that home currency steel prices in the United States and Canada remained stable (increasing about 1 percent) during January-September 1986, whereas steel prices in Japan and West Germany declined by about 5 percent during the period (figure 5). When comparing home currency steel prices during September 1986 with those in 1981, the most significant changes occurred in West Germany and Canada. These countries recorded increases of 9 percent and 17 percent, respectively, during September 1986 compared to 1981 prices.

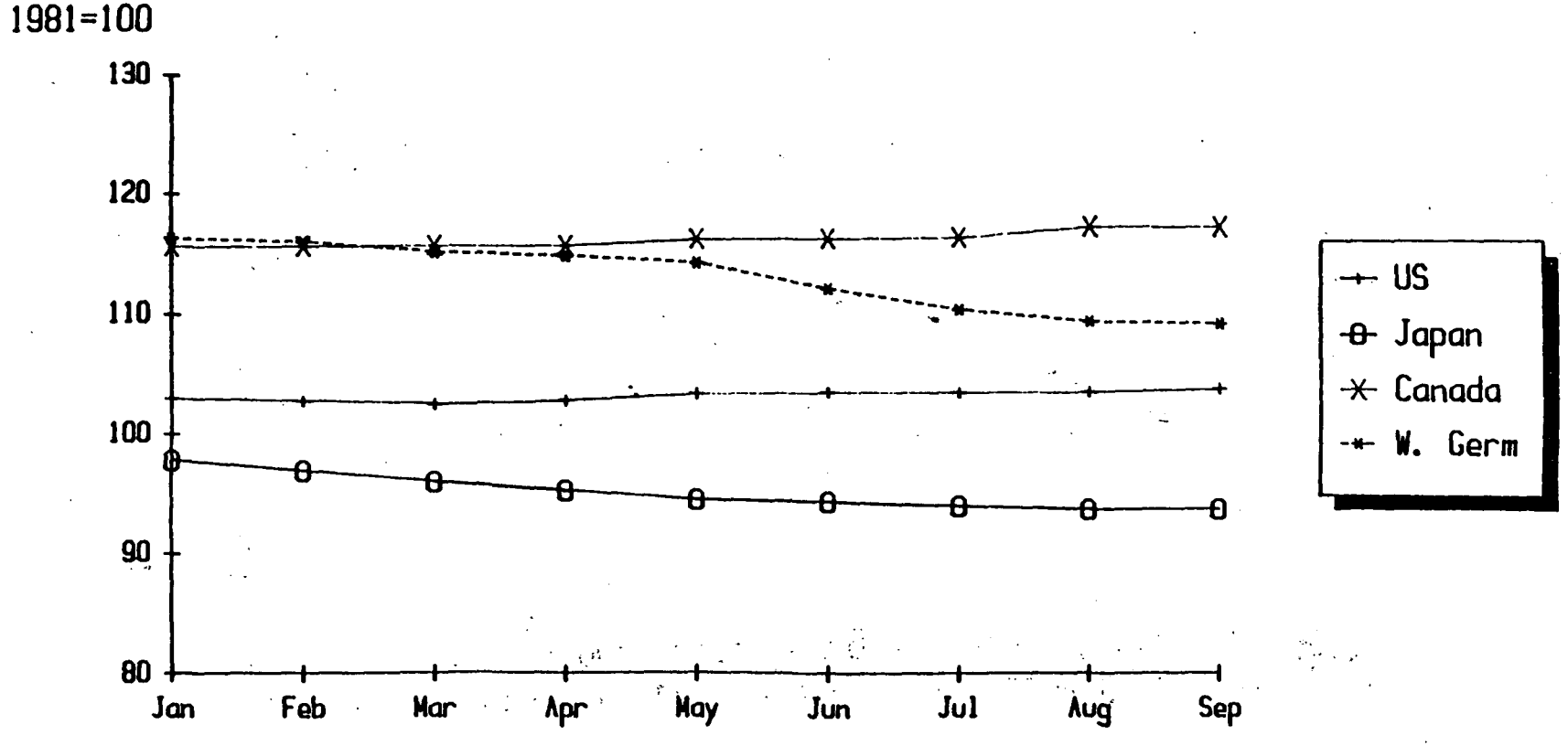
In order to examine the effects of exchange rate fluctuations on relative prices in these countries, the government price indexes were adjusted to reflect percentage changes in home currency prices and percentage changes in currency values versus the U.S. dollar. As illustrated in figure 6, the adjustment indicates that steel prices in West Germany and Japan (in dollar terms) increased significantly (by about 12 and 25 percent, respectively) during January-September 1986, while steel prices in the United States and Canada remained relatively stable. Although the adjusted steel prices indicate that all four countries experienced increases in steel prices since 1981, West Germany (18 percent) and Japan (35 percent) recorded the largest increases.

International pricing developments.--As indicated above, steel pricing in the Western World continues to be affected by a number of factors.

1/ Japan, Canada, and West Germany are the three leading sources of U.S. steel imports, respectively.

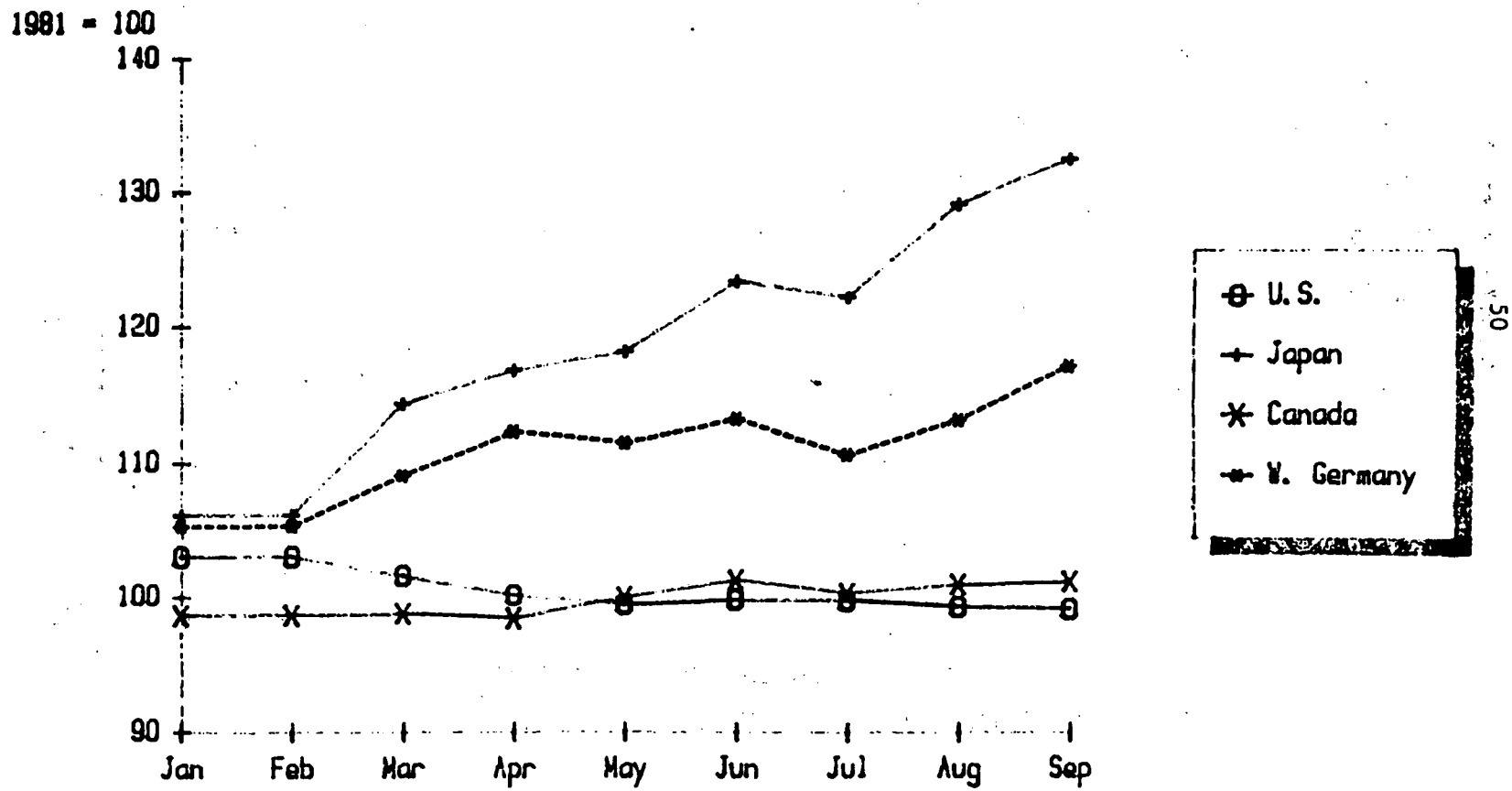
2/ The price indexes do not necessarily reflect movements in transaction prices. See the Commission's 1986 Annual Survey Concerning Competitive in the Steel Industry and Industry Efforts to Adjust and Modernize for a fuller discussion of this point.

Figure 5.--Steel Price Indexes in Selected Countries, January-September, 1986



Source: Price indexes of selected official government publications.

Figure 6.--Steel Price Indexes in Selected Countries, Adjusted for Exchange Rate Changes January-September 1986



Source: Price indexes of selected official government publications.

Shifting exchange rates, which produced sizable swings in international steelmaking cost and price differentials, have affected the relative competitive positions of Western World producers significantly. Moreover, as a result of unfavorable market conditions, developed Western World producers were forced to reduce steelmaking capacity by 7 percent during 1981-86, while Developing World steel producers of relatively low-cost steel increased capacity by 28 percent during the period, raising their share of total Western World steelmaking capacity to 20 percent in 1986, up from 14 percent in 1981.

World steel "spot" export prices have moved up about 8 percent in dollar terms since mid 1986 even though demand is flat in Europe and down in both the United States and Japan. 1/ In those Developing World countries where currencies have been relatively weak versus the dollar (such as Brazil and South Korea), "spot" export prices have remained fairly stable. The increase in World steel "spot" export price can be largely attributed to the following developments: (1) the devaluation of the dollar which increased Japanese and European steel producers' costs (in dollar terms); (2) production cutbacks implemented by these producers; and (3) reduced world exports by Brazil, Taiwan, and South Korea due to increased demand in their respective home markets. 2/

Following are summaries of steel pricing developments and conditions in the United States, Japan, Canada, and the European Community (EC).

1/ World Steel Dynamics, "Steel Price Trak #19-#20."
2/ World Steel Dynamics, "Steel Price Trak #22.

United States.--The decline in domestic "spot" prices that began in the summer of 1986 was halted in most markets by the USX work stoppage in August of that year. Since USX accounted for nearly a fifth of the market in a number of products, its withdrawal from the U.S. market had a significant impact, especially in the Midwest where the "spot" price of galvanized sheet rose by about 5 percent to $640 per ton. 1/ There was reportedly only slight hedging against the USX stoppage; many service centers did not have the capital to pile up emergency stocks and others bought cautiously for fear of being caught with costly stocks when USX returned to production. 2/ Subsequent to USX's reentry into the market, indications are that domestic steel producers have sharply extended lead times and that steel service centers and producers of welded tubing are paying significantly higher prices for certain steel products in the "spot" market. The effects of the work stoppage is reflected in a continued reduction in discounts offered by U.S. producers. As shown in the following tabulation, the level of discounts fell from as much as 31.2 percent in December 1985, to 14.0 percent in December 1986.

1/ World Steel Dynamics, "Steel Price Trak #19-#20."
2/ On Feruary 1, 1987, the United Steelworkers and officials of USX approved a 4-year contract to end the 6-month work stoppage. The company agreed to shut down indefinitely one of its plants, as well as significant portions of two more, as part of its restructuring plan. Company officials have asserted that USX will re-start the shut down facilities slowly, ultimately reaching full shipping capacity in the fourth quarter of 1987.

Percentage variation between U.S. list and "spot" prices 1/

Period	Percent
March 1981	-5.7
May 1981	-4.9
July 1981	-3.2
November 1981	-8.5
March 1982	-10.1
July 1982	-16.6
December 1982	-20.3
April 1983	-22.0
July 1983	-29.3
October 1983	-29.9
January 1984	-24.9
May 1984	-21.3
September 1984	-23.0
January 1985	-27.8
April 1985	-28.3
July 1985	-30.2
December 1985	-31.2
April 1986	-21.0
July 1986	-21.8
September 1986	-15.7
December 1986	-14.0

1/ Composite for five major products through January 1985; composite for four major products starting April 1985.

Source: World Steel Dynamics: Steel Price Track 18 and 22, April 15, 1986 - May 15, 1987.

On a regional basis, the most depressed market in the United States is the Gulf area where oil drilling rig counts remain relatively low and large projects, including major projects such as power plants, are on indefinite hold. In other parts of the Southern United States, depressed demand has resulted in the prices on all carbon products being unstable and on the brink

of a downward trend, even during the period of the USX work stoppage. Before the VRA's were imposed, offshore suppliers were curtailing shipments to this region largely because of dampened demand. 1/ Throughout the first quarter of 1987, the price of plate in this region has reportedly been relatively flat, largely reflecting the decline in demand from heavy industries such as buildings, tank fabrication, and major petrochemical projects.

In the Eastern United States, construction bookings have declined although public works projects are going forward. The result has been that structural steel prices are slighly lower, leaving profit margins relatively low. The USX work stoppage was largely unfelt in this region, although hot-rolled and cold-rolled sheet prices have reportedly shown a slight upward movement. Steel imports from Italy, England, France, and Japan have reportedly lessened, partly as a result of the weakening U.S. dollar. 2/ The higher prices announced by major steel mills during the first quarter of 1987 have apparently been partially accepted by end-users, as supplies have tightened in certain product categories.

In the Midwestern United States, the largest of the U.S. regional steel markets, demand for flat-rolled products was stagnating and showing further signs of falling when the USX work stoppage occurred. Because of USX's prominence in this market, there was a marked price reaction to its withdrawal from the market. Cold-rolled coil prices at the mill increased by 4 percent to $435 per ton. The hot-rolled coil market is reportedly highly competitive and volatile with good offers available from offshore sources. Galvanized sheet is the current "hot" item in this marketplace. With USX having been a

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1/ World Steel Dynamics, Steel Price Trak #19-#20.
2/ Ibid.

major supplier of galvanized sheet, "spot" prices rose by about 5 percent to $640 per ton. 1/

Competitive forces have intensified in the Western United States. Domestic producers are reportedly aggressively pricing their plate and flat-rolled products in every market on the West Coast, underselling Canadian flat-rolled products by up to $30 per ton. The most recent competitive force in this region are the Japanese whose galvanized steel prices are down by $10 per ton or more. The Japanese are also supplying cold-rolled coil at $420 per ton, a drop from their previous offerings of at least $40 per ton above other suppliers' prices. Hot-rolled coil demand is viewed as good in the Western region, with prices up by 7 percent to $340 per ton since the USX work stoppage. In a declining market, plate prices have dropped $10 to $15 per ton in the Western United States. 2/

The quarterly data collected by the Commission during July 1985-June 1987 tend to support the analysis of recent pricing developments. The data reveal that although domestic producers' steel prices fluctuated upward throughout most of the 3-year period, the prices of a number of products were below the July-September 1985 levels (table 8 and app. D, table D-8). The largest price increases occurred in rails and related products (up 30 percent) and certain stainless pipes and tubes (up 18 percent). With respect to importers' prices, the data reveal numerous fluctuations among products, with price movements in an upward direction (especially during April-June 1987). The data further reveal that in most instances, import prices were comparable to, or higher than domestic prices. In those product areas where import prices were lower

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1/ World Steel Dynamics, "Steel Price Trak #19-#20."
2/ Ibid

Table 8.--Certain carbon and alloy steel: Weighted average net prices for the three largest sales shipped by U.S. producers and importers, of selected products, by specified period 1/

(Per ton)

Product 2/	Weighted average net price						Ratio of U.S. producer prices to importers prices	
	U.S. producers			U.S. importers				
	July-September 1985	April-June 1987	Percent Change	July-September 1985	April-June 1987	Percent Change	July-September 1985	April-June 1987
Carbon and certain alloy steel: 3/								
Plates	347.31	367.83	5.9%	330.43	395.25	19.6%	105.1	93.1
Sheets and strip:								
Hot rolled	313.58	295.69	-5.7%	329.67	344.78	4.6%	95.1	85.8
Galvanized	528.70	544.46	3.0%	556.30	564.02	1.4%	95.0	96.5
Bars:								
Hot finished	305.02	328.16	7.6%	278.25	454.01	63.2%	109.6	72.3
Reinforcing	284.76	262.79	-7.7%	248.33	271.41	9.3%	114.7	96.8
Wire rod	279.06	276.75	-0.8%	290.52	314.04	8.1%	96.1	88.1
Structural shapes and units	325.48	339.83	4.4%	338.32	410.44	21.3%	96.2	82.8
Rails and related products	368.36	476.97	29.5%	433.56	* * *	* * *	85.0	* * *
Pipes and tubes:								
Oil country tubular goods	* * *	* * *	0.6%	516.53	764.43	48.0%	141.8	96.4
Line pipe	452.86	* * *	* * *	595.06	426.16	-28.4%	76.1	105.8
Certain stainless and alloy tool steel:								
Plates	2364.02	1850.90	-21.7%	2370.37	1925.00	-18.8%	99.7	96.2
Sheets and strip	1614.57	1690.43	4.7%	1695.32	1770.99	4.5%	95.2	95.5
Wire	4499.99	3000.00	-33.3%	4/	4/	4/	4/	4/
Pipes and tubes	* * *	* * *	18.2%	1072.08	3119.76	191.0%	276.2	112.2

1/ Prices are net of all discounts and allowances (including freight allowances) and excluding U.S. inland freight. Producers' prices are f.o.b. mill; importers' prices are f.o.b. warehouse, or, if shipped directly to customs, c.i.f., ex-dock, port of entry, duty paid. Prices represent the total industry value of reported sales divided by the total quantity sold, based on the 3 largest sales of each firm.

2/ See Appendix E for decription of products.

3/ Certain alloy refers to alloy steel other than stainless and alloy tool steel.

4/ No data reported.

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

during July-September 1985, the price differential narrowed during April-June 1987.

Following are brief summaries of pricing developments in selected key product groups during recent months.

Sheet products.--Sheet product prices appear to be headed upward. One leading producer (LTV) announced a reduction in the base price discount on most flat-rolled products by 20 percent, effective with shipments on or after March 29, 1987. The transaction price hike affects hot-rolled, cold-rolled, and hot-dipped galvanized sheet. Not affected are electro-galvanized sheets and terne plate sheets, both products consumed primarily by automakers that purchase the material on year-long contracts which were negotiated in the Spring of 1986. Long-term contractual agreements negotiated prior to November 5, 1986 were not affected by the announcement (for the life of the contract). 1/

During April-May 1987, hot-rolled sheet prices in the South on new mill orders reportedly increased by about $20 per ton, which effectively eliminated a $15 per ton discount which had been in effect; the price increase also reflected full implementation of extra charges announced by southern steelmakers. 2/ Hot-rolled prices on new orders are generally in the $400 to $420 per ton range, according to industry sources. Like domestic hot-rolled sheet prices, prices for imported sheet were also up by about $20 per ton. Spot prices of carbon sheet for the auto market experienced declines in the second quarter of 1987. The softening market is directly tied to the declining production of autos which has lead to order cancellations by automotive related customers.

1/ American Metal Market, December 3, 1986.
2/ American Metal Market, May 20, 1987

In a recent action, another major producer (USX) reportedly raised transaction prices by reducing discounts on all sheet products by $15 per ton, effective with July 1 shipments. The price hikes will raise hot-rolled band prices by $25 to $30 per ton, resulting in selling prices of about $325 to $380 per ton. 1/

With regard to general international price comparisons, the following tabulation indicates that, as of December 1986, U.S. prices for sheet products were generally higher than Canadian and EC prices (in their respective markets) but equal to or less than Japanese prices.

Spot price comparisons, December 1986

(U.S. dollars per net ton)

Market	Hot-rolled Coil	Cold-rolled Coil	Galvanized sheet
Canada	319	392	464
EC	256	377	480
Japan:			
Dealer	334	456	729
Big Buyer 2/	454	542	634
United States	334	445	640

Source: World Steel Dynamics, "Steel Price Trak #21"

Wire rod.--Wire rod prices are showing signs of improving. Citing seasonally slack demand and increasing import competition from non-VRA countries, domestic carbon wire rod producers cut prices by $5 to $15 per ton in the first quarter of 1987, hoping to increase transaction prices in the second quarter as the construction market geared up for summer work. 3/

1/ American Metal Market, March 27, 1987.
2/ "Big Buyer" prices are those quoted to big contract buyers in Japan.
3/ American Metal Market, February 4, 1987.

Transaction prices on low-carbon industrial-grade rods have been lowered to $300 per ton, or lower, from last year's high of $310 to $330 per ton. Low carbon rod from Singapore, Malaysia, and Indonesia shipped to the port of Houston is reportedly available on the "spot" market for $280 per ton. The two dominant producers of low-carbon wire rod in the south, (Georgetown Steel and North Star Steel), announced hikes of nearly $10 per ton, effective July 1, 1987. While their competitors have not made any similar announcements, market sources have asserted that the companies may have enough influence in the southern market to make a price hike hold. 1/ In another price leading move, Laclede Steel of St. Louis announced a $20 transaction base price increase to $330-$350 per ton on its high-carbon wire rod. 2/

Plate.--Plate prices are apparently headed upward in most regions, with the exception of the West Coast. In an effort to reclaim a large portion of the lackluster West Coast carbon plate market and regain profitability, a producer in the region (Oregon Steel Mills) has reportedly contracted with some of the region's largest steel distributors and provided a program that offers a delivered price of $340 per ton for plate (about $10 per ton less than the "spot" price for plate in this region) if purchases of 5,000 tons or more were made during November 1, 1986 through mid-April 1987. Since freight from the company's plant in Portland to the region's largest market (Los Angeles) is more than $30 per ton, industry sources maintain that the company's effective f.o.b. price to buyers is more on the order of $320 per ton. 3/ The plate market was affected by the work stoppage at USX Corp.,

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1/ American Metal Market, May 27, 1987.
2/ American Metal Market, May 25, 1987.
3/ American Metal Market, December 30, 1986.

which halted plate output at its Geneva Works near Provo, Utah. Before the stoppage this facility of USX accounted for approximately 10,000 tons of plate per month. The only other plate mill in the West is California Steel Industries, which is currently producing about 7,000 tons per month. 1/

Other major producers recently announced increases in the base published price of certain plate products. One (Bethlehem) indicated that carbon and high-strength low alloy plate prices would be raised by $25 per ton and the composite published price for alloy plate by $25 per ton (increases of approximately 5 percent), effective with July 1, 1987 shipments; the composite price for strip mill plate would also be raised by $15 per ton. The other company (USX) announced an increase in the price of carbon high-strength low alloy plate by $25 per ton, or by approximately 5 percent, effective with shipments on June 28. 2/

With regard to international price comparisons, the following tabulation indicates that by December 1986, U.S. "spot" prices for plate products were very competitive with "spot" plate prices, denominated in dollars, in Canada and Japan. EC prices, on the other hand, were significantly lower.

Spot price comparisons, December 1986

(U.S. dollars per net ton)

Market	Plate
Canada	348
EC	256
Japan:	
Dealer	306
Big Buyer	481
United States	320

Source: World Steel Dynamics, "Steel Price Trak #21."

1/ American Metal Market, December 30, 1986.
2/ American Metal Market, April 2, 1987.

Bar products.--Like wire rod, bar product prices have softened slightly since last summer. On a regional basis, demand for rebar in the Northeast remains good with the price of #6 rebar currently reported at $282 per ton, slightly less than the price of $287 per ton in August 1986. Demand in the Midwest and Southeast is reasonably good and the price levels of $270 and $267 per ton, respectively, are also slightly lower than August 1986 prices. Because of the oil drilling slump, the price of rebar in Texas has reportedly declined to the lowest level in the country at about $245 per ton. The highest price for rebar remains on the West Coast at $292 per ton. 1/

Japanese steel producers and one U.S. company (Nucor) have announced price hikes on cold finished bar in the western market. The U.S. company raised its prices by about three percent (its second increase in 18 months). The prices, however, are still reportedly below the April 1985 level for popular grades, such as 1018 bars. Currently, the Japanese are delivering 1-inch diameter 1018 bars for $480 per ton. The Japanese announced a $20 per ton increase for certain leaded bars, raising prices to $525 per ton, which compares to a U.S. price of about $550 per ton. 2/

With regard to international price comparisons, by December 1986, U.S. rebar "spot" prices were very competitive with rebar "spot" prices in Canada and Japan, as the following tabulation indicates. Prices in the EC, however, were reportedly lower.

1/ World Steel Dynamics, Steel Price Trak #19 and #20.
2/ American Metal Market, May 22, 1987.

Spot price comparisons, December 1986

(U.S. dollars per net ton)

Market	Rebar
Canada	264
EC	225
Japan:	
Dealer	328
United States	252

Oil country tubular goods.--Relatively low oil prices and the related reduction in oil and gas exploration and production (especially in the Gulf region) continues to shrink the distribution network for oil country tubular goods. Product prices are depressed with discounts of up to 75 percent, or more, off list prices published in January 1986. 1/

Specialty products.--Increased prices and reduced discounts have been implemented for stainless steel sheet, plate, and wire rod. Increasing costs for electricity (which have increased by 30 percent) reportedly forced one producer (Allegheny Ludlum Corp.) to increase its base published prices on nearly all of its stainless steel flat-rolled sheet products by 2 cents to 3 cents per pound, depending on the alloy content of the product, effective February 1, 1987. The price hike was reportedly followed by similar increases by other major producers.

Eroding profits and stagnant demand reportedly resulted in another producer (Eastern Stainless Steel Co.) announcing a reduction in discounts to distributors with respect to major grades of sheared stainless steel plate,

1/ Pipeline, October 1986.

effective with January 5, 1987 shipments. The price discounts for principal distributors will decline by one to two percentage points on many products, though certain product prices will remain unchanged. Adjustments are also being made in the level of deductions, which will effectively raise the price of certain products.1/ Eastern, which makes only stainless plate after exiting the sheet and strip market nearly a year ago, will retain a 2 cents per pound price discount for random-length plates but will discontinue all other discounts, including a 3 cents per pound deductor on Grades 304 and 304L, and a 4 cents per pound discount on Grades 316, 316L, 317, 309, and 310. 1/

Increasing production costs prompted domestic producers of stainless steel wire rod to increase prices an average of 5 cents per pound on two top-selling grades, effective October 1, 1986. The hikes, which were followed by most producers, raised the transaction price of types 302 and 304 hot-rolled stainless redrawn rod, which represents the bulk of stainless wire rod demand, from 85 cents to 90 cents per pound. The base, or published price, for these heavily discounted wire rod products is $1.27 cents per pound. 2/

The rise in wire rod costs has affected wire drawers, who have been experiencing depressed prices resulting from over capacity for more than

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1/ American Metal Market, December 2, 1986.
2/ American Metal Market, October 21, 1986.

2 years. Wire drawers have reportedly been unable to translate the rising material costs into higher selling prices for their own products. 1/

Citing the avilability of cheaper foreign stainless steel bars, some service centers in the South are reportedly resisting the 5 cents per pound price hike on domestically produced bars which became effective on April 1, 1987. However, some service centers placed orders before that date and have not yet paid higher prices. 2/

Japan.--The appreciation of the yen against the dollar reportedly pushed the "Big Buyer" steel price in Japan at least 30 percent above "spot" prices in the United States at year end 1986. Most of Japan's industries are finding it difficult to remain profitable at the current exchange rate of about 150 yen to the dollar (as of mid July 1987), which is up about 60 percent from the 240 level of September 1985, when the dollar began its fall on the foreign exchange markets. 3/ The decline in the yen is particularly troublesome to the Japanese steelmakers since they export about 30 percent of their shipments; an additional 20 percent of their steel output is exported indirectly through exports of cars, machinery, and other equipment. 4/

Dealer prices in Japan remain far below "Big Buyer" prices in a number of steel product areas. For example, dealer prices are 38 percent below "Big

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1/ American Metal Market, October 21, 1986.
2/ American Metal Market, April 24, 1987.
3/ The Journal of Commerce, January 26, 1987.
4/ World Steel Dynamics, "Steel Price Trak 22."

Buyer" quotes for plate, 26 percent below "Big Buyer" quotas hot-rolled coil, and 16 percent below the "Big Buyer" quotas for cold-rolled coil. Because of Japan's relatively higher priced steel, imports are reportedly becoming a growing concern to their steel industry.

In anticipation of a decline in market demand and in production, Japan's major steelmakers are furloughing or putting surplus workers on temporary leave with less pay. 1/ Japan's five largest steelmakers, Nippon Steel, Nippon Kokan, Sumitomo Metal Industries, Kawasaki Steel, and Kobe Steel employ 178,000 workers. Of these, 30,000 to 40,000 reportedly are becoming surplus. 2/ Many of those furloughed will be paid 70 percent of their full pay with two-thirds of the cost financed by a government subsidy program. The program was reportedly instituted to soften the impact of the yen's appreciation on export-dependent industries, thereby giving them more flexibility and time to restructure. 3/

Canada.--The Canadian market remains stable and price levels have increased slightly from the levels established in the Spring of 1986. Market conditions in the Eastern Provinces and Quebec reportedly remain fair; are very strong in Ontario; and are depressed in Mid-Canada and British Columbia. At year end 1986, rebar list prices in Eastern Canada were about C$350 ($249) per ton and in Western Canada C$370 ($263) per ton, with discounting

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1/ American Metal Market, October 31, 1986.
2/ Ibid.
3/ American Metal Market, October 31, 1986.

of 5 to 10 percent in British Columbia. 1/ Discounts have been lowered and list price increases reportedly appear to be forthcoming. Galvanized sheet prices are apparently strong due to tight supplies and an active housing market. 2/

European Community.--Prices of steel in the EC (i.e., as measured by transaction prices in the industrial section at the French/German border) have declined by about 10 percent since the Spring of 1986, largely reflecting shifts in currency values and dampened demand. Steel consumption in the EC is reportedly flat at 83 million tons, with very small year-to-year changes in either the United Kingdom, France, or West Germany. 3/

Wide flange beam prices, which have been the strongest, have fallen by about 15 percent. Typical f.o.b. export EC prices are structurals at $275 per ton, plate at $275 to $280 per ton, hot-rolled bands at $225 per ton, hot-rolled pickled and oiled products at $245 per ton, and galvanized sheet at $375 to $390 per ton. 4/ The major EC Steel mills are reportedly concerned that the ending of production controls at year-end 1987 would cause a further decline in prices. If production controls are ended, some have forecast that prices in the EC would drop by at least 15 percent. 5/

1/ World Steel Dynamics, "Steel Price Trak #19-#20."
2/ World Steel Dynamics, "Steel Price Trak #22."
3/ World Steel Dynamics, "Steel price trak #19-20."
4/ Ibid.
5/ World Steel Dynamics, "Steel Price Trak #22."

Actions to Adjust and Modernize, Other than Capital Expenditures

Of the 74 companies responding to the questionnaire, 37 firms provided information on actions that had been taken to adjust and modernize, other than capital expenditures and research and development expenditures. A tabulation showing the number of companies reporting various types of actions follows. 1/

Type of action	Number of companies
Changes in company practices----	19
Cost reduction programs---------	16
Labor-related practices---------	15
Organizational changes----------	12
Divestitures and closures-------	8
Expansions and acquisitions-----	8
Training/seminars---------------	3
Other---------------------------	23

Over half of the companies providing responses reported changes in company practices with the majority noting changes in the steelmaking process (to produce steel more efficiently and to improve product quality). Additional company actions included increasing customer service, shifting to outside processing of selected steel products, and shifting marketing emphasis to those products in which they have a competitive advantage in quality and delivery.

Nearly one half of the respondents reported taking cost reduction measures or actions affecting their labor force. With respect to cost reduction measures, actions taken focused on reducing energy costs through the negotiatiation of lower rates during non-peak hours, switching to lower cost suppliers, reducing consumption, and switching to less expensive energy inputs. The most predominant labor-related action taken was the reduction of salaried and/or hourly personnel, followed by gaining concessions from labor

1/ See app. F for a company by company analysis of the actions taken by the responding firms.

after ratification of new union contracts. Additional company actions taken included cutting back on health benefit programs and introducing profit sharing plans in return for labor's concessions.

Approximately one third of the responding companies reported making organizational changes. These included reorganization of entire companies or departments, followed by being spun off from the parent company in order to operate independently, and being acquired by another company.

Actions taken in other areas to aid in adjustment and modernization efforts included a number of firms idling or shutting down outdated or inefficient facilities, the acquisition of new facilities related to the steelmaking business, the expansion and promotion of new products, and the implementation of new market strategies. Other actions also included shifting production to high valued products, implementing the recommendations of consultants to improve operations, leasing major production equipment, installing computer systems, and training employees in computer process control techniques.

Investment in Activities Other than Steel

Following is a company by company report on investments that were made by U.S. producers in activities other than steel that were considered part of each firm's efforts to adjust during July 1, 1986-June 30, 1987. 1/

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(Pages 68 to 70 contain information entitled to confidential treatment and have not been published.)

1/ Based on information submitted in response to questionnaires of the U.S. International Trade Commission.

CASH FLOW, CASH FLOW COMMITMENTS, AND ADJUSTMENT OF MAJOR COMPANIES

Net Cash Flow, Cash Flow Commitments, and Expenditures for the Retraining of Workers

Cash flow commitments 1/

Net cash flow for the 10 major steel companies 2/ during the period October 1, 1986-June 30, 1987 totaled $710.7 million, while net steel related expenditures amounted to $608.6 million, 3/ and working capital decreased by $451.3 million (tables 9 and 11). Of the eight companies projecting a positive cash flow for the period October 1, 1986-September 30, 1987, five indicate that capital expenditures will exceed net cash flow. * * *, * * * and * * * expect cash flow to exceed expenditures.

Final data for the period October 1, 1985-September 30, 1986 indicate a total net cash flow for the 10 major companies of negative $2.5 million, while net steel related expenditures for the same period amounted to $1.0 billion, and working capital declined by $1.0 billion (tables 10 and 12).

1/ Under the Trade and Tariff Act of 1984 (P.L. 98-573), the President is required to make an annual determination to the Committee on Ways and Means of the House of Representatives and the Committee on Finance of the Senate as to whether "the major companies of the steel industry, taken as a whole, have, during the 12-month period ending at the close of an anniversary referred to in [the Act], . . . committed substantially all of their net cash flow from steel product operations for purposes of reinvestment in, and modernization of that industry through investment in modern plant and equipment, research and development, and other appropriate projects such as working capital for steel operations and programs for the retraining of workers."

2/ "Major company" is defined in the Trade and Tariff Act as an enterprise whose raw steel production in the United States during 1983 exceeded 1,500,000 net tons.

3/ In addition to these expenditures, * * * for future capital expenditures.

Table 9.--Calculation of major companies' net cash flow from steel product operations, October 1, 1986-June 30, 1987

(In thousands)

Item	Calculation
Net sales	$16,887,439
Cost of goods sold	-15,414,702
General, selling, and administrative expenses	-694,512
Other (income) or expenses:	
Interest expense	-306,875
Other (income), net	-942,452
Income taxes	-(99,975)
Depreciation, depletion and amortization	+992,721
Cash flow from operations	621,594
Increase (decrease) in reserves	+738,460
Dividends	-55,616
Payments on short and long term debts and obligations	-593,760
Net cash flow	$710,678

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

Table 10.--Calculation of major companies' net cash flow from steel product operations, October 1, 1985-September 30, 1986

(In thousands)

Item	Calculation
Net sales	$24,156,676
Cost of goods sold	-23,351,293
General, selling, and administrative expenses	-972,418
Other (income) or expenses:	
Interest expense	-535,815
Other (income), net	-2,514,348
Income taxes	-9,916
Depreciation, depletion and amortization	+1,161,491
Cash flow from operations	(2,065,623)
Increase (decrease) in reserves	+2,250,789
Dividends	-94,202
Payments on short and long term debts and obligations	-93,416
Net cash flow	$(2,452)

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

Worker retraining 1/

Expenditures by the 10 major steel companies for the retraining of workers during October 1, 1986-June 30, 1987 totaled $35.3 million, which represented 4.7 percent of adjusted net cash flow for the major steel producers. 2/ Of the eight companies that reported a positive net cash flow during the nine month period, five indicated that retraining expenditures exceeded 1 percent of net cash flow. With respect to the other companies, Rouge, which used * * * percent of its net cash flow for retraining during October 1, 1986-June 30, 1987, indicated that its retraining expenditures fell short of one percent of net cash flow because the company was reviewing its business alternatives. The company also indicated that with the settlement of a new labor contract in July, 1987, retraining will increase significantly and will be over one percent. Wheeling-Pittsburgh indicated that its expenditures on retraining were negligible due to unusual economic conditions resulting from the company's operation under Chapter 11. Nucor reported no expenditures for the retraining of workers in light of growth in employment.

For the period October 1, 1986-September 30, 1987, of the eight companies projecting positive net cash flows for the 12-month period, six indicated that expenditures for the retraining of workers are expected to exceed 1 percent of net cash flow from steel operations. Wheeling-Pittsburgh and Nucor do not expect their respective situations to change from that reported above. * * *.

1/ In addition to the determination indicated above the President is required to determine whether, "each of the major companies committed for the applicable 12-month period not less than 1 percent of net cash flow to the retraining of workers; except that this requirement may be waived by the President with respect to a major company in noncompliance, if he finds unusual economic circumstances exist with respect to that company."

2/ Retraining expenditures are treated as an expense in income statements, as either a component of cost of goods sold or a component of general, selling, and administrative expenses; in order to avoid "double-counting," they have been added back to cash flow prior to the calculation of the ratio of retraining expenditures to cash flow.

Final data for the period October 1, 1985-September 30, 1986 indicate that expenditures by eight of the major companies for the retraining of workers amounted to $53.1 million during the period. Of the six companies reporting positive net cash flows for the 12-month period, four indicated that retraining expenditures exceeded 1 percent of net cash flow. With respect to the other companies, * * *.

Table 11.—Major U.S. steel companies: Net cash flow from steel product operations, steel related expenditures and working capital, October 1, 1986–June 30, 1987

Company	Net cash flow (1)	Steel related expenditures: Plant and equipment (2)	Research and development 1/ (3)	Retraining workers 1/ (4)	Other (5)	Total expenditures (6)	Expenditures reflected in net cash flow (7)	Net expenditures (6–7) (8)	Net increase or (decrease) in working capital (9)	Adjusted net cash flow (1 + 4) (10)	Ratio of expenditures for retraining workers to adjusted net cash flow (11)
	1,000 dollars										Percent
Armco	***	***	***	***	***	***	***	***	***	***	***
Bethlehem	***	***	***	***	***	***	***	***	***	***	***
Inland	***	***	***	***	***	***	***	***	***	***	***
LTV	***	***	***	***	***	***	***	***	***	***	***
National	***	***	***	***	***	***	***	***	***	***	***
Nucor 5/	***	***	***	***	***	***	***	***	***	***	***
Rouge	***	***	***	***	***	***	***	***	***	***	***
USX	***	***	***	***	***	***	***	***	***	***	***
Weirton	***	***	***	***	***	***	***	***	***	***	***
Wheeling–Pittsburgh	***	***	***	***	***	***	***	***	***	***	***
Total	710,678	***	66,236	35,256	***	718,439	109,854	608,585	(451,312)	745,934	

1/ Included as expenses in net income calculations.
2/ * * *.
3/ * * *.
4/ * * *.
5/ * * *.
6/ * * *.
7/ * * *.
8/ * * *.

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

Table 12.--Major U.S. steel companies: Net cash flow from steel product operations, steel related expenditures and working capital, October 1, 1985-September 30, 1986

Company	Net cash flow (1)	Steel related expenditures: Plant and equipment (2)	Research and development 1/ (3)	Retraining workers 1/ (4)	Other (5)	Total expenditures (6)	Expenditures reflected in net cash flow (7)	Net expenditures (6-7) (8)	Net increase or (decrease) in working capital (9)	Adjusted net cash flow (1 + 4) (10)	Ratio of expenditures for retraining workers to adjusted net cash flow (11)
	1,000 dollars										Percent
Armco.....	***	***	***	***	***	***	***	***	***	***	***
Bethlehem.....	***	***	***	***	***	***	***	***	***	***	***
Inland.....	***	***	***	***	***	***	***	***	***	***	***
LTV.....	***	***	***	***	***	***	***	***	***	***	***
National.....	***	***	***	***	***	***	***	***	***	***	***
Nucor 5/.....	***	***	***	***	***	***	***	***	***	***	***
Rouge.....	***	***	***	***	***	***	***	***	***	***	***
USX.....	***	***	***	***	***	***	***	***	***	***	***
Weirton.....	***	***	***	***	***	***	***	***	***	***	***
Wheeling-Pittsburgh..	***	***	***	***	***	***	***	***	***	***	***
Total.....	(2,452)	***	97,847	53,114	***	1,185,491	183,181	1,002,310	(1,007,054)	50,662	

1/ Included as expenses in net income calculations.
2/ * * *.
3/ * * *.
4/ * * *.
5/ * * *.
6/ * * *.
7/ * * *.

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

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(Pages 77 to 92 contain information which is entitled to confidential treatment and have not been published.)

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Actions Taken to Maintain International Competitiveness 1/

The major companies identified a number of actions they have taken, or will take, during the period October 1, 1986 to September 30, 1987 to maintain their international competitiveness. The purpose of the actions were identified as follows: (1) to produce price-competitive and quality competitive products; (2) to control costs of production including employments costs, and (3) to improve productivity. With respect to the first element, a number of major companies identified actions taken to improve steelmaking and flat-rolled product (i.e., plates, sheets and strip) operations. These actions included installation or modifications of continuous casting equipment, improvements in computer control of operations, and modifications

1/ Under the Trade and Tariff Act of 1984, the President is required to make an annual determination as to whether "the major companies of the steel industry, taken as a whole, have, during the 12-month period ending at the close of an anniversary referred to in [The Act] . . . taken sufficient action to maintain their international competitiveness, including action to produce price-competitive and quality-competitive products, to control costs of production, including employment costs, and to improve productivity."

in electrogalvanizing equipment. Actions taken by the major companies to control costs of production and to increase productivity included reductions in the size of the workforce, company restructuring, new labor contracts, and use of lower cost raw materials and energy sources. Following is a company-by-company review of competitive actions taken, based on information reported by companies in response to Commission questionnaires, as well as information drawn from annual reports and other sources.

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(Pages 93 to 101 contain information entitled to confidential treatment and have not been published.)

Appendix A

Copy of Letter to Chairwoman Paula Stern from Ambassador William E. Brock, United States Trade Representative, Requesting an Investigation

THE UNITED STATES TRADE REPRESENTATIVE
WASHINGTON
20506

February 1985

The Honorable Paula Stern
Chairwoman
United States International
Trade Commission
701 "E" Street, N.W.
Washington, D.C. 20436

Dear Madam Chairwoman:

On September 18, the President responded to the steel industry's petition for import relief under Section 201 of the Trade Act of 1974. A copy of his decision is enclosed. It was the President's concern that U.S. steel policy should promote the continued development of a free market environment in steel trade while maintaining maximum opportunities for the domestic steel industry to recover and modernize. In order to achieve this goal the President has directed me to coordinate his steel policy decision through the implementation of a nine point comprehensive policy.

To effectuate this policy, I request, at the direction of the President and pursuant to Section 332(g) of the Tariff Act of 1930, that the Commission monitor competitive conditions in the steel industry and the industry's efforts to adjust and modernize and to prepare annual reports on those efforts during the five year period beginning October 1, 1984. Also, inasmuch as certain specific information on these efforts will be required for the administration of the enforcement authority for the national policy for the steel industry, contained in title VIII of the Trade and Tariff Act of 1984 (the Act), I request the Commission to include in its annual reports, in addition to the basic categories of information listed in the attachment to this letter, the best information it can compile for the preceding 12-month period ending September 30 of each year on the following matters.

(A) The extent to which the major companies of the steel industry have, or will have committed their net cash flow from steel product operations for purposes of reinvestment in, and modernization of, that industry through investment in modern plant and equipment, research and development, and other appropriate projects, such as working capital for steel operations and programs for the retraining of workers;

(B) Actions taken by the major companies to maintain their international competitiveness, including action to produce price-

competitive and quality-competitive products, to control costs of production, including employment costs, and to improve productivity; and

(C) Whether each of the major companies committed, or will have committed, not less than one percent of net cash flow to the retraining of workers.

If any major company did not commit at least one percent of its net cash flow to the retraining of workers, the Commission should report any unusual economic circumstances which contributed to the company's failure to do so.

For the purpose of this request the terms "steel industry", "major company", and "net cash flow" shall have the same meaning as that set forth in title VIII of the Act.

In addition to reporting on the progress on the steel industry as a whole, I request that the Commission prepare its report in such a manner that, to the extent possible, the progress of carbon steel producers in their efforts to adjust and modernize can be distinguished from that of producers of specialty steel.

Inasmuch as the President's determination called for in the Act will have to be made before the end of each annual period, the Commission is requested to begin submitting its annual reports on August 1, 1985, and on each successive August 1 through 1989.

Very truly yours,

WILLIAM E. BROCK

WEB:hcc

Enclosure

THE WHITE HOUSE

Office of the Press Secretary

For Immediate Release

MEMORANDUM FOR THE UNITED STATES TRADE REPRESENTATIVE

SUBJECT: Steel Import Relief Determination

Pursuant to Section 202(b)(1) of the Trade Act of 1974, (P.L. 93-618, 88 Stat. 1978), I have determined the actions I will take with respect to the report of the United States International Trade Commission (USITC) dated July 24, 1984 concerning carbon and alloy steel.

I have determined today under Section 203 of the Trade Act that import relief is not in the national economic interest for the following reasons:

1. In responding to this pressing import problem, we must do all we can to avoid protectionism, to keep our market open to free and fair competition, and to provide certainty of access for our trading partners. This Administration has repeatedly, and most recently at the London Economic Summit, committed itself to "resist continuing protectionist pressures, to reduce barriers to trade, and to make renewed efforts to liberalize and expand trade in manufactures, commodities and services."

2. It is not in the national economic interest to take actions which put at risk thousands of jobs in steel fabricating and other consuming industries or in the other sectors of the U.S. economy that might be affected by compensation or retaliation measures to which our trading partners would be entitled.

3. This Administration has already taken many steps to deal with the steel import problem. In 1982, a comprehensive arrangement restraining steel imports from the European Community was negotiated. This Administration has also conducted an unprecedented number of antidumping and countervailing duty investigations of steel imports, in most cases resulting in the imposition of duties or a negotiated settlement. In addition, the governments of Mexico and South Africa have unilaterally imposed voluntary restraint on exports, leading to the termination of unfair trade complaints.

However, I have decided to establish a government policy for the steel industry. I believe that this new policy is the best way to respond to the legitimate concerns of the domestic industry while maintaining access to our market for those who trade fairly.

I am directing you to coordinate and direct the implementation of this policy for the U.S. steel industry which includes the following elements:

more

(OVER)

1. The United States Trade Representative (USTR) will negotiate "surge control" arrangements or understandings and, where appropriate, suspension agreements with countries whose exports to the United States have increased significantly in recent years due to an unfair surge in imports -- unfair because of dumping subsidization, or diversion from other importing countries who have restricted access to their markets. The USTR will negotiate additional such arrangements and understandings, if necessary, to control new surges of imports that result from subsidizing, dumping or other unfair or restrictive trade practices during the next five years. If agreements cannot be reached to control new surges from countries that are guilty of unfair practices, the President will use his authority under the unfair trade laws including Section 301 of the Trade Act of 1974 to assure that these countries do not maintain unrestricted access to the United States market.

2. The United States Trade Representative will reaffirm existing measures with countries that have voluntarily restrained their exports to our market, and will take necessary steps to ensure the effectiveness of these measures. Specifically the Administration will support legislation in the Congress to make enforceable at our borders all voluntary agreements and "surge control" arrangements.

3. The United States Trade Representative will consult with our trading partners to seek the elimination of trade distortive and trade restraining practices in other markets to lead to the liberalization of steel trade around the world.

4. The Department of Commerce will continue to rigorously enforce our unfair trade laws. Further, the Department of Commerce and the United States Trade Representative will self-initiate unfair trade cases including anti-dumping, countervailing duty and Section 301 actions when appropriate.

5. The United States International Trade Commission will be asked to monitor the efforts of the steel industry to adjust and modernize, and to prepare an annual report for the President on those efforts.

6. The Secretary of Commerce will establish an interagency group to analyze all U.S. government domestic tax, regulatory and antitrust laws and policies which could hinder the ability of the steel industry to modernize.

7. The Secretary of Defense and the Federal Emergency Management Agency will analyze domestic steel plate rolling capacity in relationship to emergency needs, and to recommend to the President appropriate actions if deficiencies are found to exist.

8. The Secretary of Labor will work with state and local governments to develop a program to assist workers in communities adversely affected by steel imports.

9. The United States Trade Representative will closely monitor the trade elements of this program and the resultant import trends and report them to the President on a quarterly basis.

The Administration's hope is that this combination of actions, taken without protectionist intention or effect would enable one of the United States' most basic and vital industries to return to a level playing field, one in which steel is traded on the basis of market forces, not government intervention, and one in which the market would seek a return to a more normal level of steel imports, or approximately 18.5 percent, excluding semi-finished steel.

This determination is to be published in the Federal Register.

RONALD REAGAN

# # # # # #

Attachment

Annual data specified in section B below are requested to be reported to the maximum extent possible for each of the 21 product categories listed in section A below:

A. Product Categories

Sheet and strip

1. Hot rolled carbon and certain alloy 1/
2. Cold rolled carbon and certain alloy 1/
3. Galvanized carbon and certain alloy 1/
4. Other carbon and certain alloy 1/
5. Stainless

Plate

1. Carbon and certain alloy 1/
2. Stainless

Pipe and tube

1. Oil country tubular goods
2. Line pipe
3. Other carbon and alloy pipes and tubes
4. Stainless

Bars

1. Hot finished carbon bar and certain alloy 1/
2. Cold finished carbon bar and certain alloy 1/
3. Reinforcing carbon bar and certain alloy 1/

Structurals

1. Structural shapes (including fabricated structurals)

Rails and related railway products

1. Rails and related railway products

Wire rods

1. Carbon and certain alloy wire rod 1/

Wire and wire products

1. Carbon and certain alloy wire 1/
2. Stainless wire
3. Carbon and certain alloy 1/ wire products (including wire rope and strand)

1/ Certain alloy refers to alloy steel other than stainless and alloy tool steel.

Attachment--Con.

Semifinished

1. Semifinished

B. Data Requested

Domestic Producers

Production
Shipments
Net sales
Net profits
Orders
Inventories
Prices
Employment
Man-hours

Capital expenditures:
- For modern production techniques or facilities
- For older production techniques or facilities
- For polution control or occupational safety and health
- Other

Capacity and net change in capacity
Research and development expenditures
Other actions to adjust and modernize
Investments in activities other than steel

Importers

Total imports
Prices
Orders
Inventories

Appendix B

Notice of the Commission's Investigation

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

(332-209)

Annual Surveys Concerning Competitive Conditions in the Steel Industry and Industry Efforts to Adjust and Modernize

AGENCY: UNITED STATES INTERNATIONAL TRADE COMMISSION

ACTION: Institution of an investigation under section 332(g) of the Tariff Act of 1930 (19 U.S.C. 1332 (g)) concerning the competitive conditions in the steel industry and the industry's efforts to adjust and modernize.

EFFECTIVE DATE: March 8, 1985

FOR FURTHER INFORMATION CONTACT: Mr. Dennis Rapkins or Mr. Peter Avery, Minerals and Metals Division, United States International Trade Commission, 701 E Street NW., Washington, D.C. 20436 (telephone: 202-523-0438, 202-523-0342, respectively).

BACKGROUND AND SCOPE OF INVESTIGATION: The Commission instituted the investigation, No. 332-209, following receipt on February 12, 1985, of a request from the United States Trade Representative (USTR), at the direction of the President. In accordance with the request, the Commission will monitor competitive conditions in the steel industry and the industry's efforts to adjust and modernize, and prepare annual reports on those efforts during the 5 year period beginning October 1, 1984. In addition to collecting the information listed in the appendix, the Commission will compile the best information it can for the preceding 12-month period ending September 30 of each year on the following matters:

(1) The extent to which the major companies of the steel industry have, or will have committed their net cash flow from steel product operations for purposes of reinvestment in, and modernization of, that industry through investment in modern plant and equipment, research and development, and other appropriate projects, such as working capital for steel operations and programs for the retraining of workers;

(2) Actions taken by the major companies to maintain their international competitiveness, including action to produce price- competitive and quality-competitive products, to control costs of production, including employment costs, and to improve productivity; and

(3) Whether each of the major companies committed, or will have committed, not less than one percent of net cash flow to the retraining of workers. If any major company did not commit at least one percent of its net cash flow to the retraining of workers, the Commission will report any unusual economic circumstances which contributed to the company's failure to do so.

For the purposes of this investigation, the term "steel industry" is defined as producers in the United States of steel products; "major company" is an enterprise whose raw steel production in the United States during 1983 exceeded 1,500,000 net tons; and "net cash flow" is annual net (after-tax) income plus depreciation, depletion allowances, amortization, and changes in reserves minus dividends and payments on short-term and long-term debts and liabilities.

In addition to reporting on the progress of the steel industry as a whole, reports will be prepared in such a manner that, to the extent possible, the progress of carbon steel producers in their efforts to adjust and modernize can be distinguished from that of producers of specialty steel.

The Commission will submit its initial annual report to the President and USTR by August 1, 1985. Subsequent reports will be submitted by August 1 of each successive year through 1989. A public version of the report will be available 2 weeks later.

WRITTEN SUBMISSIONS: Interested persons are invited to submit written statements concerning the investigation. Commercial or financial information which a submitting party desires the Commission to treat as confidential must be submitted on separate sheets of paper, each clearly marked "Confidential Business Information" at the top. All submissions requesting confidential treatment must conform with the requirements of section 201.6 of the Commission's Rules of Practice and Procedures (19 CFR 201.6). All written submissions, except for confidential business information, will be made available for inspection by interested persons. To be assured of consideration by the Commission, written statements should be received at the earliest possible date, but no later than July 1, 1985 and by July 1 of each successive year through 1989. All submissions should be addressed to the Secretary at the Commission's Office in Washington, D.C.

By order of the Commission.

Kenneth R. Mason
Secretary

Attachment

Issued: March 11, 1985

Appendix

Annual data specified in section B below are requested to be reported to the maximum extent possible for each of the 21 product categories listed in section A below:

A. Product Categories

Sheet and strip

1. Hot rolled carbon and certain alloy 1/
2. Cold rolled carbon and certain alloy 1/
3. Galvanized carbon and certain alloy 1/
4. Other carbon and certain alloy 1/
5. Stainless

Plate

1. Carbon and certain alloy 1/
2. Stainless

Pipe and tube

1. Oil country tubular goods
2. Line pipe
3. Other carbon and alloy pipes and tubes
4. Stainless

Bars

1. Hot finished carbon bar and certain alloy 1/
2. Cold finished carbon bar and certain alloy 1/
3. Reinforcing carbon bar and certain alloy 1/

Structurals

1. Structural shapes (including fabricated structurals)

Rails and related railway products

1. Rails and related railway products

Wire rods

1. Carbon and certain alloy wire rod 1/

Wire and wire products

1. Carbon and certain alloy wire 1/
2. Stainless wire
3. Carbon and certain alloy 1/ wire products (including wire rope and strand)

Semifinished

1. Semifinished (carbon and certain alloy 1/; and stainless and tool steel)

1/ Certain alloy refers to alloy steel other than stainless and alloy tool steel.

Appendix--Con.

B. Data Requested

Domestic Producers

Production
Shipments
Net sales
Net profits
Orders
Inventories
Prices
Employment
Man-hours

Capital expenditures:
- For modern production techniques or facilities
- For older production techniques or facilities
- For pollution control or occupational safety and health
- Other

Capacity and net change in capacity
Research and development expenditures
Other actions to adjust and modernize
Investments in activities other than steel

Importers

Total imports
Prices
Orders
Inventories

Appendix C

Definition of Certain Terms, and Description of the Products Subject to the Investigation

DEFINITIONS

1. Steel.--An alloy of iron and carbon which is malleable as first cast. Steel may contain other elements, but iron must predominate, by weight, over each of the other elements.

2. Carbon steel.--Steel in which none of the elements listed below exceeds the quantity, by weight, respectively indicated:

1.65 percent of manganese, or
0.25 percent of phosphorus, or
0.35 percent of sulphur, or
0.60 percent of silicon, or
0.60 percent of copper, or
0.30 percent of aluminum, or
0.20 percent of chromium, or
0.30 percent of cobalt, or
0.35 percent of lead, or
0.50 percent of nickel, or
0.30 percent of tungsten, or
0.10 percent of any other metallic element.

3. Alloy steel.--Steel which contains any of the elements listed in definition 5 (above) in excess of its specified quantity.

(i) Stainless steel.--Any alloy steel which contains by weight less than 1 percent of carbon and over 11.5 percent of chromium;

(ii) Tool steel.--Alloy steel which contains the following combinations of elements in the quantity, by weight, respectively indicated:

(A) not less than 1.0 percent carbon and over 11.0 percent chromium, or

(B) not less than 0.85 percent carbon and 1.0 percent to 1.8 percent inclusive manganese; or

(C) 0.9 percent to 1.2 percent inclusive chromium and 0.9 percent to 1.4 percent inclusive molybdenum; or

(D) not less than 0.5 percent carbon and not less than 3.5 percent molybdenum; or

(E) not less than 0.5 percent carbon and not less than 5.5 percent tungsten; or

(F) not less than 0.3 percent carbon and 1.25 percent to 11.0 percent inclusive chromium.

DEFINITIONS--Continued

4. Galvanized.--Steel which has been coated or plated with zinc.

5. Hot-rolled.--Steel which has been reduced to its final thickness by heating and rolling the product at elevated temperature (usually above 2,200° F).

6. Cold rolled.--Steel which has been reduced to its final thickness by rolling the product without heating it immediately prior to the rolling operation.

7. Continuous casting.--The method of producing semifinished products in which molten steel flows evenly into a caster where it is rapidly cooled, causing it to solidify directly into semifinished products such as slabs and billets.

8. Short ton.--Two thousand (2,000) pounds.

Semifinished products include

9. (A) Ingots.--Castings resulting from the solidification of molten steel and having a columnar form suitable for working by rolling or forging. Ingots are included in American Iron and Steel Institute (AISI) product group No. 1A.

(B) Blooms and billets.--Semifinished products generally of rectangular or circular cross section, having a length several times greater than the maximum cross-sectional dimension, and, if rectangular, a width less than 4 times the thickness. A bloom is at least 36 square inches but not less than 3 square inches in cross-sectional areas. Blooms and billets are included in AISI product group No. 1B.

(C) Slabs and sheet bars.--Semifinished products of rectangular cross section, having a width of at least 4 times the thickness. A slab is not less than 2 inches in thickness; a sheet bar is less than 2 inches in thickness. Slabs and sheet bars are included in AISI product group No. 1B.

(i) Carbon and certain alloy semifinished products, as provided for in items 606.6705, 606.6710, 606.6715, 606.6720, 606.6725, 606.6730, 606.6735, 606.6740, 606.6949, 606.6951, 606.6953, 606.6955, 606.6957, 606.6959, 606.6961, 606.6963, 607.6620, and 607.7803 of the Tariff Schedules of the United States Annotated (1987) (TSUSA).

(ii) Stainless and alloy tool steel semifinished products, as provided for in items 606.6901, 606.6902, 606.6904, 606.6905, 606.6906, 606.6909, 606.6912, 606.6915, 606.6918, 606.6921, 606.6923, 607.7210, and 607.7603 of the TSUSA.

DEFINITIONS--Continued

10. Sheets and strip.--Flat rolled products whether or not corrugated or crimped, in coils or cut to length. Sheets are under 0.1875 inch in thickness and over 12 inches in width. Strip is under 0.1875 inch in thickness and, if cold rolled, over 0.50 inch but not over 12 inches in width, or, if not cold rolled, not over 12 inches in width. Sheets and strip are included in AISI product group Nos. 28, 29, 29A, 30, 31, 32, 33A, 33B, 34, 34B, 35, 36, and 37. For the purposes of this investigation, sheets and strip are classified as follows:

(i) Hot-rolled carbon and alloy steel sheets and strip; provided for in items 607.6710, 607.6720, 607.6730, 607.6740, 607.8100, 607.8342, 607.9205, 608.1920, 608.2120, and 608.2320 of the TSUSA.

(ii) Cold-rolled carbon and alloy steel sheets and strip; provided for in items 607.6200, 607.6400, 607.8350, 607.8355, 607.8360, 607.8362, 607.8366, 607.8375, 607.8378, 607.8380, 607.8385, 607.8390, 607.9210, 607.9315, 607.9320, 608.1930, 608.1940, 608.1945, 608.2130, 608.2140, 608.2145, 608.2150, 608.2160, 608.2170, 608.2330, 608.2340, 608.2345, 608.3810, 608.3820, 608.3900, 608.5510, 608.5520, 608.6710, and 608.6720 of the TSUSA.

(iii) Galvanized carbon and alloy steel sheets and strip; provided for in items 608.0730, 608.1305, 608.1310, 608.1315, 608.1320, 608.1321, 608.1325, 608.1330, 608.1331, and 608.1335 of the TSUSA.

(iv) All other carbon and alloy steel sheets and strip; provided for in items 607.9600, 607.9700, 607.9900, 608.0100, 608.1340, 608.1350, 608.1440, 609.1710, and 609.1790 of the TSUSA.

(v) Stainless steel sheets and strip; provided for in items 607.7610, 607.9010, 607.9020, 608.2600, 608.2900, 608.4300, and 608.5700 of the TSUSA.

11. Plates.--Flat rolled products whether or not corrugated or crimped, in coils or cut to length. Plates are 0.1875 inch or more in thickness and, if not cold rolled, over 8 inches in width. Plates are included in AISI product group No. 6. For the purposes of this investigation, plates are classified as follows:

(i) Carbon and certain alloy steel plate; as provided for in items 607.6610, 607.6625, 607.7806, 607.8320, 607.9100, 607.9400, 608.0710, 608.1100, 608.1420, and 609.1400 and 609.1500 of the TSUSA.

(ii) Stainless steel plate; as provided for in items 607.7606 and 607.9005 of the TSUSA.

12. Pipes and tubes and blanks therefor.--Tubular products, including hollow bars and hollow billets but not including hollow drill steel, of any cross-sectional configuration, by whatever process made, whether seamless, brazed, or welded and whether with an open or lock seam or joint. For the purposes of this investigation, pipes and tubes and blanks therefor are classified as follows:

DEFINITIONS--Continued

(i) Oil country tubular goods, conforming to American Petroleum Institute (API) specifications, as provided for in items 610.3216, 610.3219, 610.3233, 610.3249, 610.3252, 610.3256, 610.3258, 610.3264, 610.3721, 610.3722, 610.3925, 610.3935, 610.4025, 610.4035, 610.4210, 610.4220, 610.4230, 610.4240, 610.4310, 610.4320, 610.4335, 610.4942, 610.4944, 610.4946, 610.4954, 610.4957, 610.4968, 610.4969, 610.4970, 610.5221, 610.5222, 610.5226, 610.5240, 610.5242, 610.5243, 610.5244 of the TSUSA. Oil country tubular goods are included in AISI product group No. 19.

(ii) Line pipe, conforming to API specifications; as provided for in items 610.3208, 610.3209, 610.3212, 610.3213, 610.3711, 610.3712, 610.3713, 610.4931, 610.4933, 610.4936, 610.5211, 610.5214, and 610.5216. Line pipe is included in AISI product group No. 20.

(iii) Other carbon and alloy (excluding stainless) pipes and tubes, as provided for in items 610.3000, 610.3100, 610.3205, 610.3221, 610.3227, 610.3231, 610.3234, 610.3241, 610.3242, 610.3243, 610.3254, 610.3262, 610.3500, 610.3600, 610.3704, 610.3728, 610.3732, 610.3751, 610.3945, 610.3955, 610.4045, 610.4055, 610.4245, 610.4255, 610.4345, 610.4355, 610.4500, 610.4600, 610.4800, 610.4920, 610.4925, 610.4928, 610.4948, 610.4951, 610.4953, 610.4955, 610.4956, 610.4966, 610.4967, 610.4976, 610.5160, 610.5204, 610.5206, 610.5209, 610.5229, 610.5234, and 610.5236, of the TSUSA. Other carbon and alloy steel pipes and tubes are included in AISI product group Nos. 18, 21A, 21B, and 22.

(iv) Stainless steel pipes and tubes, welded or seamless, provided for in items 610.3701, 610.3727, 610.3731, 610.3741, 610.3742, 610.5130, 610.5202, 610.5230, and 610.5231. Stainless steel pipes and tubes are included in AISI product group Nos. 21C and 21D.

13. Bars.--Products of solid cross section not conforming completely to the respective specifications set forth in the TSUS for blooms, billets, slabs, sheet bars, wire rods, plates, sheets, strip, wire, rails, joint bars, or tie plates, and which have cross sections in the shape of circles, segments of circles, ovals, triangles, rectangles, hexagons, or octagons. Also, for the purposes of this investigation, the term "bars" includes hollow drill steel, which is a hollow product in any cross section suitable for use in making mining drills or mining drill rods, with the largest internal cross-sectional dimension not greater than one-third of the largest external cross-sectional dimension. For the purposes of this investigation, bars are classified as follows:

(i) Hot finished carbon and certain alloy steel bars; as provided for in items 606.8310, 606.8330, 606.8350, 606.8600, 606.9700, 607.0500, 607.0700, and 607.0900 of the TSUSA, and included in AISI product group No. 14.

(ii) Cold finished carbon steel and certain alloy steel bars; as provided for in items 606.8805, 606.8815, and 606.9900 of the TSUSA, and included in AISI product group No. 16.

DEFINITIONS--Continued

(iii) Reinforcing carbon and certain alloy steel bars; which are hot-rolled steel bars, of solid cross section, having deformations of various patterns on their surfaces; as provided for in items 606.79 and 606.81 of the TSUS and included in AISI product group No. 15.

14. Structural shapes and units include the following articles:

(i) Angles, shapes, and sections. Nontubular products not conforming completely to the respective specifications set forth in the TSUS for blooms, billets, slabs, sheet bars, bars, wire rods, plates, sheets, strip, wire, rails, joint bars, or tie plates, hot rolled, forged, extruded, or drawn, or cold formed or cold finished, whether or not drilled, punched, or otherwise advanced, and if cold formed weighing over 0.29 pound per linear foot. Angles, shapes, and sections comprise:

(A) Light structural shapes (bar-size light shapes having a maximum cross-sectional dimension of less than 3 inches; as provided for in items 609.8050, 609.8070, 609.8090, 609.8235, and 609.8240 of the TSUSA and included in AISI product group No. 14A; and

(B) Heavy structural shapes having a maximum cross-sectional dimension of 3 inches or more; as provided for in items 609.8005, 609.8010, 609.8020, 609.8025, 609.8035, 609.8041, 609.8045, 609.8225, and 609.8230 of the TSUSA and included in AISI product group Nos. 4 and 5(pt.); and

(ii) Sheet piling.--Rolled straight web, deep-arch, arch-web, and Z-sections having continuous interlocking joints on each lengthwise edge; as provided for in items 609.96 and 609.98 of the TSUS. Sheet piling is included in AISI product group No. 5 (pt); and

(iii) Fabricated structural units, which include columns, pillars, posts, beams, girders, and similar structural units; as provided for in items 609.84, 609.86, 652.94, 652.96, and 653.00 of the TSUS. These columns, pillars, etc., are included in AISI product group No. 38.

15. Rails and related railway products as defined by the following:

(i) Rails are hot-rolled steel products, whether punched or not punched, weighing not less than 8 pounds per yard, with cross-sectional shapes intended for carrying wheel loads in railroad, railway, and crane runway applications; as provided for in items 610.2010, 610.2025, 610.2030, and 610.2100 of the TSUSA. Rails are included in AISI product group Nos. 7 and 8.

(ii) Joint bars are hot-rolled steel products, usually punched or slotted, designed to connect the ends of adjacent rails in track; tie plates are hot-rolled steel products which are punched to provide holes for spikes and have one or two shoulder sections as rail guides and are used to support rails in track, to maintain track gauge, and protect the ties; all the foregoing, as provided for in items 610.25 and 610.26 of the TSUS. Joint bars and tie plates are included in AISI product group Nos. 9 and 10.

DEFINITIONS--Continued

(iii) Railway track spikes, of one piece construction, used to secure tie plates or ties; as provided for in item 646.3020 of the TSUSA. Railway track spikes are included in AISI product group No. 11.

(iv) Railroad and railway (RR) axles and wheels, parts thereof, and axle bars; as provided for in items 690.25 and 690.30 of the TSUS. These articles are included in AISI product group Nos. 12 and 13.

16. Carbon and certain alloy wire rods.--Coiled, semifinished, hot-rolled products of solid cross section, approximately round in cross section, not under 0.20 inch nor over 0.74 inch in diameter; as provided for in items 607.14, 607.17, 607.22, 607.23, 607.41, and 607.59 of the TSUS. Wire rods are included in AISI product group No. 3.

17. Wire and wire products are classified as follows:

(i) Carbon and certain alloy wire; a finished, drawn, nontubular product, of any cross-sectional configuration, in coils, and not over 0.703 inch in maximum cross-sectional dimension; the term includes a product of solid rectangular cross section, in coils, with a cold-rolled finish, and not over 0.25 inch thick and not over 0.50 inch wide. Wire is provided for in items 609.20, 609.21, 609.22, 609.25, 609.28, 609.35, 609.36, 609.37, 609.40, 609.41, 609.43, 609.70, 609.72, 609.75, and 609.76 of the TSUS, and item 609.3040, 609.3340, 609.4530, and 609.4560 of the TSUSA. Wire is included in AISI product group Nos. 23 and 27(pt.).

(ii) Stainless steel wire; as provided for in items 609.3020, 609.3320, 609.4502, 609.4504, 609.4542, and 609.4544 of the TSUSA. Stainless steel wire is included in AISI product group No. 23.

(iii) Carbon and certain alloy wire products as defined by the following:

(A) Barbed wire is a wire, or strand of twisted wires, armed with barbs or sharp points; as provided for in item 642.02 of the TSUS. Barbed wire is included in AISI product group No. 25(pt).

(B) Twisted barbless wire is a wire strand of loosely twisted double wire, suitable for fencing purposes, not fitted with fittings, not made up into articles, and not covered with nonmetallic material; as provided for in item 642.1105 of the TSUSA. Twisted barbless wire is included in AISI product group No. 25(pt).

(C) Wire strand is two or more wires which together constitute one of the parts which are twisted together to form rope, cord, or cordage, not fitted with fittings, not made up into articles, not of brass plated wire, not covered with nonmetallic material, and not including twisted barbless wire; as provided for in items 642.1120, 642.1142, 642.1144, and 642.1146 of the TSUSA. Wire strand is included in AISI product group No. 23(pt).

DEFINITIONS--Continued

(D) Wire ropes, cables, and cordage are products made by the twisting of a number of wire strands and are not covered with nonmetallic material, not fitted with fittings, not made up into articles, and, if valued 13 cents or more per pound, not of brass plated wire; as provided for in items 642.12 and 642.16 of the TSUS. Wire ropes, cables, and cordage are included in AISI product group No. 23(pt).

(E) Wire fencing is a galvanized product wholly of round wire measuring not over 0.20 inch and not under 0.075 inch in diameter, whether or not such wire is covered with plastics; as provided for in item 642.35 of the TSUS. Wire fencing is included in AISI product group Nos. 23(pt) and 26.

(F) Brads, nails, spikes, staples, and tacks are fasteners, of one piece construction, made of round wire, and not including thumb tacks, staples in strip form, corrugated fasteners, glaziers' points, hook nails, ring nails, or fasteners suitable for use in power-actuated hand tools; as provided for in items 646.25 and 646.26 of the TSUS. Brads, nails, spikes, staples, and tacks are included in AISI product group No. 24.

(G) Other wire products comprises: wire bale ties, with or without buckles or fastenings and whether or not coated with paint or other substance; as provided for in items 642.90 and 642.91 of the TSUS and included in AISI product group No. 27(pt); and milliners' wire and other wire covered with textile or other material not wholly of metal; as provided for in items 642.96 and 642.97 of the TSUS and included AISI product group No. 23.

Appendix D

Statistical Tables, July 1, 1986-June 30, 1987

Table D-1.--Certain carbon and alloy steel: U.S. producers' capacity, changes in capacity, production, and capacity utilization, July 1, 1986 -- June 30, 1987

Item	Capacity	Changes in capacity 1/	Production	Capacity Utilization
	Short tons			Percent
Carbon and certain alloy steel: 2/				
Cokemaking facilities	29,347,900	* * *	18,393,399	63
Ironmaking facilities	69,498,300	* * *	40,780,130	59
Steelmaking facilities: 3/				
Electric furnace	36,256,026	4/	26,584,121	73
Basic oxygen furnace	65,876,500	4/	* * *	* * *
Other furnaces	8,355,700	4/	* * *	* * *
Total	110,488,226	* * *	73,560,353	67
Continuous casting	60,421,681	4/	45,946,076	76
Products:				
Plates	7,868,464	* * *	2,743,133	35
Sheets and strip:				
Hot rolled	59,578,736	* * *	38,150,046	64
Cold rolled	34,111,200	* * *	21,584,232	63
Galvanized	9,629,200	* * *	7,105,398	74
Other	8,429,100	* * *	5,496,655	65
Bars:				
Hot finished	13,163,404	* * *	8,324,271	63
Cold finished	590,992	* * *	372,297	63
Reinforcing	3,871,944	* * *	3,626,523	94
Wire rod	4,532,086	* * *	3,521,747	78
Wire	1,254,340	* * *	675,480	54
Wire products	768,846	* * *	558,744	73
Structural shapes and units	6,768,000	* * *	4,259,557	63
Rails and related products	1,715,301	* * *	566,193	33
Pipes and tubes:				
Oil country tubular goods	1,864,760	* * *	244,199	13
Line pipe	2,173,615	* * *	372,753	17
Other	2,193,800	* * *	894,298	41
Certain stainless and and alloy tool steel:				
Steelmaking facilities: 3/				
Electric furnace	2,272,882	4/	* * *	* * *
Basic oxygen furnace	* * *	4/	* * *	* * *
Other furnaces	* * *	4/	* * *	* * *
Total	2,286,182	* * *	1,606,173	70
Continuous casting	1,243,295	4/	1,025,882	83
Stainless steel products:				
Plates	264,900	* * *	193,527	73
Sheets and strip	1,131,605	* * *	809,820	72
Wire	38,650	* * *	30,744	80
Pipes and tubes	30,400	* * *	13,257	44

1/ Reported changes are likely to differ from changes in capacity calculated by company annual averages, due partly to the fact that reported capacity "averages in" the effect of closures or additions over the reporting period.

2/ Certain alloy refers to alloy steel other than stainless and alloy tool steel.

3/ Including semifinished steel.

4/ Change in capacity not calculated.

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

Table M-2.--Certain carbon and alloy steels: U.S. producers' shipments, unfilled orders, and inventories, and U.S. importers' imports, unfilled orders, and inventories, July 1, 1986 -- June 30, 1987

Product	U.S. producers					U.S. importers				
	Shipments		Unfilled orders 1/	Inventories 1/	Ratio of inventories to unfilled orders	Imports		Unfilled orders 1/	Inventories 1/	Ratio of inventories to unfilled orders
	Quantity	Value				Quantity	Value			
	(short tons)	(1,000 dollars)	------Short tons-------			(short tons)	1,000 dollars	------Short tons-------		
Carbon and certain alloy steels 2/										
Semifinished	1,989,977	547,500	403,040	3/	-	824,578	205,662	56,384	12,088	0.21
Plates	2,718,314	1,101,079	762,664	153,768	0.20	404,811	143,173	112,214	22,065	0.20
Sheets and strip:										
Hot rolled	12,915,462	4,093,713	2,074,537	1,238,382	0.60	1,267,260	422,512	250,930	62,424	0.25
Cold rolled	10,559,648	4,730,057	2,230,389	1,569,265	0.70	1,381,357	689,153	257,077	70,861	0.28
Galvanized	6,833,752	3,775,794	1,553,640	801,367	0.52	1,416,763	844,607	357,204	62,334	0.17
Other	5,826,108	3,457,151	1,297,335	845,633	0.65	225,832	162,038	26,687	1,841	0.07
Subtotal, sheets and strip	36,134,970	16,056,715	7,155,901	4,454,647	0.62	4,291,212	2,118,310	891,898	197,460	0.22
Bars:										
Hot finished	7,389,685	2,693,121	* * *	* * *	0.81	159,559	73,876	32,478	4,026	0.12
Cold finished	379,367	253,711	* * *	* * *	1.01	124,750	58,916	15,095	22,124	1.47
Reinforcing	3,508,202	955,809	491,920	321,625	0.65	131,292	45,394	12,986	7,332	0.56
Subtotal, bars	11,277,254	3,902,641	1,443,885	1,108,073	0.77	415,601	178,186	60,559	33,482	0.55
Wire rod	2,603,871	780,077	292,614	151,486	0.52	386,796	165,392	68,436	7,539	0.11
Wire	346,409	189,545	28,113	38,469	1.37	149,750	151,643	22,561	4,829	0.21
Wire products	530,875	313,915	50,087	42,547	0.85	197,638	135,611	18,248	14,009	0.77
Structural shapes and units	4,129,691	1,437,713	* * *	* * *	0.82	890,895	320,564	129,341	18,341	0.14
Rails and related products	479,569	228,140	* * *	* * *	0.72	152,423	60,550	26,605	817	0.03
Pipes and tubes:										
Oil country tubular goods	295,775	181,453	55,217	47,177	0.85	121,515	92,624	42,452	112,391	2.65
Line pipe	399,896	194,522	69,675	31,108	0.45	214,626	113,044	26,559	7,473	0.28
Other	864,006	634,476	78,629	101,737	1.29	391,872	327,286	105,047	17,852	0.17
Subtotal, pipes and tubes	1,559,677	1,010,451	203,521	180,022	0.88	728,013	522,954	174,058	137,716	0.79
Total, carbon and certain alloy steel	61,770,607	25,567,776	10,994,420	6,657,031	0.61	8,441,717	4,010,045	1,560,304	448,346	0.29
Certain stainless and alloy tool steels:										
Semifinished	129,402	248,494	15,962	3/	-	4,364	6,211	721	5,621	-
Stainless steel:										
Plates	186,520	322,635	14,138	22,932	1.62	5,231	11,325	1,470	545	0.37
Sheets and strip	795,495	1,340,438	150,193	130,730	0.87	51,600	85,508	17,847	17,548	0.98
Wire	29,421	88,675	4,291	* * *	* * *	4,098	11,911	986	213	0.22
Pipes and tubes	13,816	57,636	3,696	8,274	2.24	13,838	33,665	2,278	2,842	1.25
Total, certain stainless and alloy tool steel	1,154,654	2,057,878	188,280	168,338	0.89	79,131	148,620	23,302	26,769	1.15
Grand total	62,925,261	27,625,654	11,182,700	6,825,369	0.61	8,520,848	4,158,665	1,583,606	475,115	0.30

1/ As of June 30, 1987.
2/ Certain alloy refers to alloy steel other than stainless and alloy tool steel.
3/ Inventories of semifinished steel intended for sale are estimated by the ITC staff to be negligible.

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

Table D-3.—Certain carbon and alloy steel: U.S. imports, by product, June 1984-May 1985, June 1985-May 1986, and June 1986-May 1987 1/

(In tons)

Item	Quantity		
	June 1984-May 1985	June 1985-May 1986	June 1986-May 1987
Carbon and certain alloy steel products: 2/			
Semifinished 3/	1,668,223	2,366,861	2,326,428
Plates	2,184,608	1,549,783	1,409,299
Sheets and strip:			
Hot rolled	2,618,281	2,226,887	2,174,590
Cold rolled	3,752,841	3,012,696	2,741,541
Galvanized	2,683,568	2,362,806	2,319,321
Other	734,537	687,548	764,638
Subtotal, sheets and strip	9,789,227	8,289,937	8,000,090
Bars:			
Hot finished	714,691	550,865	607,491
Cold finished	336,602	236,747	200,523
Reinforcing	423,139	409,912	449,546
Subtotal, bars	1,474,432	1,197,524	1,257,560
Wire rod	1,514,956	1,353,358	1,367,484
Wire	648,958	580,344	554,236
Wire products	707,691	646,600	649,583
Structural shapes and units	2,542,995	2,447,664	2,366,188
Rails and related railway products	388,816	344,443	237,837
Pipes and tubes:			
Oil country tubular goods	3,259,050	1,294,432	459,446
Line pipe	1,034,175	1,072,356	530,123
Other	1,061,601	1,645,554	1,357,292
Subtotal, pipes and tubes	5,354,826	4,012,342	2,346,861
Total, carbon and certain alloy steel	26,274,732	22,788,856	20,515,566
Certain stainless and alloy tool steel:			
Semifinished	12,790	23,144	46,965
Stainless steel:			
Plates	9,145	18,273	10,502
Sheets and strip	123,963	177,845	128,143
Wire	25,068	18,900	18,647
Pipes and tubes	29,010	36,652	28,090
Total, certain stainless and alloy tool steel	199,976	274,814	232,347
Grand total	26,474,708	23,063,670	20,747,913

1/ Because of a lag in reporting, official import statistics include some "carry-over" data for merchandise imported, but not reported, in prior periods (usually the previous month). Beginning in 1987, Commerce extended its monthly data compilation cutoff date by about 2 weeks in order to significantly reduce the amount of carry-over. Therefore, official statistics for January 1987 include data that would previously have been carried over to February 1987. However, in order to avoid an apparent overstatement of the January 1987 data, the carry-over data from 1986 that would have been included in January 1987 official statistics as of the previous cutoff date have been excluded. Commerce isolated these 1986 carry-over data and has not included them in official statistics for 1986 or January 1987, since their inclusion in either period would result in an apparent overstatement. With respect to imports of certain carbon and alloy steel, this carry-over amounted to 509,802 tons.

2/ Certain alloy steel refers to alloy steel other than stainless and alloy tool steel.

3/ Imports of semifinished tool steel were not specifically provided for in the TSUSA prior to April 1985. Imports prior to April are recorded under the carbon and certain alloy steel category.

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

Table D-4.--Average number of production and related workers employed in U.S. establishments producing certain carbon and alloy steel and hours worked by, wages paid to, and productivity of such employees, July 1, 1986 -- June 30, 1987

Item	Average number employed	Man-hours	Productivity	Wages	Unit hourly labor costs
		(thousands)	(man-hours per ton)	($1,000 dollars)	
Carbon and certain alloy steel: 1/					
Cokemaking facilities	9,165	18,638	1.01	288,591	$15.48
Ironmaking facilities	8,051	16,643	0.41	264,671	15.90
Steelmaking facilities 2/	31,602	65,964	0.90	1,042,876	15.81
Products:					
Plates	3,957	8,207	2.99	124,646	15.19
Sheets and strip:					
Hot rolled	18,848	39,565	1.04	616,879	15.59
Cold rolled	19,583	41,783	1.94	686,102	16.42
Galvanized	6,226	13,074	1.84	213,586	16.34
Other	9,414	19,791	3.60	323,879	16.36
Subtotal, sheets and strip	54,071	114,213	3/	1,840,446	16.11
Bars:					
Hot finished	* * *	* * *	2.86	* * *	* * *
Cold finished	* * *	* * *	* * *	* * *	* * *
Reinforcing	2,479	5,945	1.64	67,100	11.29
Subtotal, bars	14,569	30,971	3/	414,308	13.38
Wire rod	1,892	4,562	1.30	60,299	13.22
Wire	1,180	2,291	3.39	32,605	14.23
Wire products	1,366	2,725	4.88	37,141	13.63
Structural shapes and units	4,931	10,451	2.45	147,565	14.12
Rails and related products	749	1,389	2.45	18,552	13.36
Pipes and tubes:					
Oil country tubular goods	585	1,111	4.55	15,638	14.08
Line pipe	848	1,704	4.57	23,048	13.53
Other	3,975	7,622	8.52	110,554	14.50
Subtotal, pipes and tubes	5,408	10,437	3/	149,240	14.30
Total, carbon and certain alloy steel	136,941	286,491	3/	4,420,940	15.43
Certain stainless and alloy tool steel:					
Steelmaking facilities 2/	4,602	9,129	5.68	145,068	15.89
Stainless steel products:					
Plates	1,191	2,420	12.50	40,660	16.80
Sheets and strip	4,603	9,147	11.30	162,019	17.71
Wire	689	1,373	44.66	19,504	14.21
Pipes and tubes	442	722	54.46	8,836	12.24
Total, stainless and alloy tool steel	11,527	22,791	3/	376,087	16.50
Grand total	148,468	309,282	3/	4,797,027	15.51

1/ Certain alloy refers to alloy steel other than stainless and alloy tool steel.
2/ Including semifinished steel.
3/ Not applicable.

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

Table 0-5.--Certain carbon and alloy steel: U.S. producers capital expenditures, by types of expenditures, and research and development expenditures, July 1, 1986 -- June 30, 1987

(In thousands of dollars)

Item	Capital expenditures								Research and development expenditures
	For plant and equipment								
	Land and land improvement	For new facilities	For existing facilities		Total	For pollution control or occupational safety and health	Other	Total 1/	
			Placed in service during Jan 1, 1980-June 30, 1986	Placed in service prior to Jan 1, 1981					
Carbon and certain alloy steel 2/									
Cokemaking facilities	-	-	-	-	-	-	-	27,398	2,871
Ironmaking facilities	-	-	-	-	-	-	-	168,572	2,209
Steelmaking facilities 3/	* * *	* * *	* * *	* * *	* * *	* * *	* * *	594,079	27,656
Products:									
Plates	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	4,509
Sheets and strip:									
Hot rolled	* * *	* * *	* * *	* * *	* * *	* * *	* * *	91,750	4,897
Cold rolled	* * *	* * *	* * *	* * *	* * *	* * *	* * *	55,063	7,307
Galvanized	* * *	* * *	* * *	* * *	* * *	* * *	* * *	27,447	9,185
Other	* * *	* * *	* * *	* * *	* * *	* * *	* * *	22,025	12,547
Subtotal, sheets and strip	* * *	* * *	* * *	* * *	* * *	* * *	* * *	196,285	33,936
Bars:									
Hot finished	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	3,266
Cold finished	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *
Reinforcing	* * *	* * *	* * *	* * *	* * *	* * *	* * *	11,573	* * *
Subtotal, bars	* * *	* * *	* * *	* * *	* * *	* * *	* * *	113,585	4,380
Wire rod	* * *	* * *	* * *	* * *	* * *	* * *	* * *	17,627	660
Wire	* * *	* * *	* * *	* * *	* * *	* * *	* * *	2,789	* * *
Wire products	* * *	* * *	* * *	* * *	* * *	* * *	* * *	7,654	* * *
Structural shapes and units	* * *	* * *	* * *	* * *	* * *	* * *	* * *	23,225	* * *
Rails and related products	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *
Pipes and tubes:									
Oil country tubular goods	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *
Line pipe	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *
Other	* * *	* * *	* * *	* * *	* * *	* * *	* * *	8,045	* * *
Subtotal, pipes and tubes	* * *	* * *	* * *	* * *	* * *	* * *	* * *	8,455	3,815
Total, carbon and certain alloy steel	11,163	303,121	62,475	457,566	823,162	49,549	13,904	1,173,093	81,371
Certain stainless and alloy tool steel:									
Steelmaking facilities 3/	* * *	* * *	* * *	* * *	* * *	* * *	* * *	23,107	7,055
Stainless steel products:									
Plates	* * *	* * *	* * *	* * *	* * *	* * *	* * *	2,663	359
Sheets and strip	* * *	* * *	* * *	* * *	* * *	* * *	* * *	24,336	5,128
Wire	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *
Pipes and tubes	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *	* * *
Subtotal, certain stainless and alloy tool steel	124	23,087	8,128	20,555	51,770	2,186	578	56,721	14,772
Grand total	11,287	326,208	70,603	478,121	874,932	51,735	14,482	1,229,814	96,143

1/ Including nonitemized expenditures.
2/ Certain alloy refers to alloy steel other than stainless and alloy tool steel.
3/ Including semifinished steel.

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

Table D-6.--Certain carbon and alloy steel: Income-and-loss data from U.S. operations, by product, July 1, 1986 -- June 30, 1987

(In thousands of dollars)

Item	Total net sales 1/	Net profit or (loss) before taxes 2/	Net profit or (loss) as a percentage of sales
Carbon and certain alloy steel: 3/			
Semifinished	561,619	(141,479)	(25.2)
Plates	1,118,232	(48,167)	(4.3)
Sheets and strip:			
Hot rolled	4,076,284	(764,354)	(18.8)
Cold rolled	4,749,263	(503,190)	(10.6)
Galvanized	3,890,056	478,311	12.3
Other	3,526,416	(195,239)	(5.5)
Subtotal, sheets and strip	16,242,019	(984,472)	(6.1)
Bars:			
Hot finished	* * *	* * *	* * *
Cold finished	* * *	* * *	* * *
Reinforcing	1,081,211	47,282	4.4
Subtotal, bars	3,867,251	(322,547)	(8.3)
Wire rod	971,209	19,493	2.0
Wire	189,545	(4,325)	(2.3)
Wire products	188,815	8,408	4.5
Structural shapes and units	1,432,577	21,149	1.5
Rails and related products	227,633	(22,669)	(10.0)
Pipes and tubes:			
Oil country tubular goods	187,310	(46,208)	(24.7)
Line pipe	170,717	(55,947)	(32.8)
Other	646,295	(171,269)	(26.5)
Subtotal, pipes and tube	1,004,322	(273,424)	(27.2)
Total, carbon and certain alloy steel	25,803,222	(1,748,033)	(6.8)
Certain stainless and alloy tool steel:			
Semifinished	213,708	(8,017)	(3.8)
Stainless steel:			
Plates	320,520	20,152	6.3
Sheets and strip	1,364,038	173,625	12.7
Wire	88,675	1,226	1.4
Pipes and tubes	57,606	(5,074)	(8.8)
Subtotal, certain stainless and alloy tool steel	2,044,547	181,912	8.9
Grand total	27,847,769	(1,566,121)	(5.6)

1/ Includes intracompany and intercompany transfers, less discounts, returns, and allowances.

2/ Net profit is defined as the total net sales, less the cost of goods sold, general, selling and administrative expenses, and other expenses (such as net interest expense (or income)).

3/ Certain alloy refers to alloy steel other than stainless and alloy tool steel.

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

Table D-7.--Certain carbon and alloy steel: Financial experience of U.S. producers, July 1, 1986 - June 30, 1987

(In thousands of dollars)

Item	All carbon and certain alloy 1/ steel products subject to the investigation 2/	All stainless and alloy tool steel products subject to the investigation 2/	Total 2/
NET SALES:			
Excluding intracompany and intercompany transfers	26,613,000	2,064,093	28,677,093
Intracompany and intercompany transfers	2,486,401	49,333	2,535,734
Total net sales	29,099,451	2,179,350	31,278,801
COST OF GOODS SOLD (including intracompany and intercompany transfers):			
Raw Materials	7,644,554	430,691	8,075,245
Direct labor	3,125,381	210,990	3,336,371
Other factory costs, including depreciation and amortization	7,785,290	459,281	8,244,571
Total cost of goods sold 3/	27,447,450	2,433,507	29,880,957
GROSS PROFIT OR (LOSS)	1,652,000	328,843	1,980,843
GENERAL, SELLING, AND ADMINISTRATIVE EXPENSES	1,216,214	105,263	1,321,477
NET OPERATING PROFIT OR (LOSS)	388,244	262,582	650,826
OTHER INCOME OR (EXPENSE):			
Net interest income or expense	(343,196)	(32,291)	(375,487)
All other income or (expense)	(3,298,074)	(34,267)	(3,332,341)
Total other income or expense 4/	(3,564,238)	(69,296)	(3,633,534)
NET PROFIT OR (LOSS) BEFORE TAXES	(3,239,864)	192,724	(3,047,140)
Depreciation and amortization	1,414,835	47,242	1,462,077

1/ Certain alloy refers to alloy steel other than stainless and alloy tool steel.
2/ Certain respondents included financial information on related products.
3/ Including nonitemized costs.
4/ Including nonitemized expenses.

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

Table D-8.--Certain carbon and alloy steel: Weighted average net prices for the three largest sales by product, by specified period, July 1986 -- June 1987

(Per ton)

Product 2/	Weighted average net price							
	U.S. producers				U.S. importers			
	1986		1987		1986		1987	
	July-September	October-December	January-March	April-June	July-September	October-December	January-March	April-June
Carbon and certain alloy steel: 3/								
Semifinished	$255.26	$279.23	$302.97	$268.38	$214.20	* * *	$202.44	$213.01
Plates	352.49	352.81	358.63	367.83	331.25	346.82	356.95	395.25
Sheets and strip:								
Hot rolled	286.29	283.74	289.42	295.69	316.80	323.26	328.76	344.78
Cold rolled	414.51	395.91	427.07	427.06	443.81	437.51	448.66	449.40
Galvanized	513.29	525.15	538.29	544.46	546.37	560.68	559.17	564.02
Other	668.93	669.63	640.65	617.71	566.22	595.94	624.56	642.74
Bars:								
Hot finished	327.16	325.53	321.57	328.16	402.77	399.73	431.70	454.01
Cold finished	* * *	* * *	* * *	* * *	553.33	545.52	535.47	523.83
Reinforcing	271.63	263.64	257.04	262.79	293.94	276.79	247.84	271.41
Wire rod	282.18	276.92	274.15	276.75	305.42	295.67	281.94	314.04
Wire	573.37	606.80	1388.21	1588.50	506.24	487.93	525.42	520.20
Wire products	1500.00	1600.00	1222.22	1500.00	602.65	610.08	610.30	607.18
Structural shapes and units	329.24	303.84	311.15	339.83	408.34	377.72	377.84	410.44
Rails and related products	452.87	449.78	448.54	476.97	* * *	* * *	* * *	* * *
Pipes and tubes:								
Oil country tubular goods	4/	* * *	* * *	* * *	452.46	640.00	* * *	764.43
Line pipe	* * *	434.38	* * *	* * *	544.75	391.34	447.13	426.16
Other	4/	4/	4/	4/	531.60	522.50	574.14	578.04
Certain stainless and alloy tool steel:								
Semifinished	1375.00	1375.00	1407.41	1379.31	4/	4/	4/	4/
Stainless steel:								
Plates	1918.60	1845.93	1843.85	1850.90	1801.53	1822.22	1805.56	1925.00
Sheets and strip	1668.30	1634.06	1673.13	1690.43	1697.67	1606.71	1695.40	1770.99
Wire	3761.90	3125.00	3277.78	3000.00	4/	4/	4/	4/
Pipes and tubes	* * *	* * *	* * *	* * *	2991.07	2729.17	3106.87	3119.76

1/ Prices are net of all discounts and allowances (including freight allowances) and excluding U.S. inland freight. Producers' prices are f.o.b. mill; importers' prices are f.o.b. warehouse, or, if shipped directly to customs, c.i.f., ex-dock, port of entry, duty paid. Prices represent the total industry value of reported sales divided by the total quantity sold, based on the 3 largest sales of each firm.

2/ See Appendix E for decription of products.

3/ Certain alloy refers to alloy steel other than stainless and alloy tool steel.

4/ No data reported.

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

Appendix E

Specifications of the Products Referenced in Pricing Section

The products identified below are those used by the Commission to collect pricing information in its questionnaires.

Semifinished

Product 1.--Carbon steel slabs for drawing applications, AISI 1008 rimmed steel or AISI 1008 aluminum killed, fine grain, 6 inches-10 inches thick, 30 inches-80 inches wide, 20 feet to 40 feet long.

Product 2.--Stainless steel billets, Grade 304, round cornered square, 8 inches by 8 inches.

Sheets and strip

Product 3.--Hot-rolled carbon steel bands, in coils, mill edge, commercial quality, 0.25 percent carbon maximum, not pickled, 0.1210 inches through 0.1875 inch in thickness, over 36 inches through 72 inches in width.

Product 4.--Cold-rolled carbon steel sheets, in coils, commercial quality, class 1, 0.0280 inch through 0.0630 inch in thickness, 45 inches through 60 inches in width.

Product 5.--Galvanized carbon steel sheet, in coils, commercial or lock forming quality, G-40 coating, regular or minimum spangle, 0.028 inch through 0.035 inch in thickness, 24 inches through 72 inches in width.

Product 6.--Electrolytic tin plate, S.R. 80-lb., .25 coating.

Product 7.--Stainless steel cold-rolled sheets, AISI grade 304, 2B finish, 16 gauge in thickness, 36" (914 mm) exact through 48" (1,218 mm) exact in width, and coiled.

Plate

Product 8.--Hot-rolled carbon steel plate, in cut lengths, A-36 or equivalent, sheared edge, not heat treated, not cleaned or oiled, 3/8 inch to under 1/2 inch in thickness, over 90 inches through 100 inches in width.

Product 9.--Stainless steel plate, HRAP, AISI grade 304, 1/4" (6 mm) thick, 72" (1,827 mm) exact through 96" (2,437 mm) exact in width X 240" (6,091 mm) to 290" (7,360 mm) long, cut to length.

SECTION D.--PRICES--Continued

Pipes and tubes

Product 10.--Oil-country tubular goods, API 5A, Grade K-55, 7 inches outside diameter, 0.317 inch wall thickness, 23 pounds per foot, PE.

Product 11.--Line pipe, API 5L, Grade X42, 8-5/8 inches outside diameter, 0.322 wall thickness, 28.55 pounds per foot.

Product 12.--Round fence tubing, light wall, galvanized, 1.315 inch outside diameter.

Product 13.--Stainless steel pipe, Grade 304, 1-1/2 inches-4 inches outside diameter, 1/8 inch-3/4 inch wall thickness.

Bars

Product 14.--Hot-rolled carbon steel,bars, in cut lengths or coils, 1/2 inch through 6-1/8 inches in diameter/thickness, all shapes except flats, 1000 series, not thermal treated.

Product 15.--Cold-formed carbon steel bars, in cut lengths or coils, 1/2 inch through 6 inches in diameter/thickness, all shapes including flats, 1000 series, not thermal treated.

Product 16.--Deformed reinforcing bars, ASTM 615, Grade No. 40.

Structural shapes and units

Product 17.--Wide-flange carbon steel beams, A-36 or equivalent, 8 inches by 8 inches, 31 through 67 pounds per foot, 40 through 60 feet in length, item order of 5 tons and over.

Rails and related railway products

Product 18.--Carbon steel rails, standard quality, 39 feet in length, 115 lbs. through 140 lbs. per yard.

Wire rods

Product 19.--Hot-rolled carbon steel wire rod, in coils, standard quality, AISI specifications C-1008 through C-1022, 7/32 inch in diameter.

PRICES--Continued

Wire and wire products

Product 20.--Galvanized wire, 12 gauge, soft industrial quality.

Product 21.--Cold-drawn stainless steel round wire, Grade 304, 1/8 inch in diameter.

Product 22.--Steel wire rope, IPS, 5/8 inch, 6 x 19, IWRC.

Appendix F

Description of Actions Taken by the Steel Industry to Adjust and Modernize

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(Pages 140 to 152 contain information entitled to confidential treatment and have not been published.)

Appendix G

Description of Actions Taken by Major Companies to Maintain International Competitiveness

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(Pages 154 to 178 contain information entitled to confidential treatment and have not been published.)

Appendix H

Revised Statistical Tables, July 1, 1985-June 30, 1986

Table H-1.--Certain carbon and alloy steel: U.S. imports, by product, June 1984-May 1985 and June 1985-May 1986

(In tons)

Item	Quantity	
	June 1984-May 1985	June 1985-May 1986
Carbon and certain alloy steel products: 1/...		
Semifinished 2/	1,668,223	2,366,861
Plates	2,184,608	1,549,783
Sheets and strip:		
Hot rolled	2,618,281	2,226,887
Cold rolled	3,752,841	3,012,696
Galvanized	2,683,568	2,362,806
Other	734,537	687,548
Subtotal, sheets and strip	9,789,227	8,289,937
Bars:		
Hot finished	714,691	550,865
Cold finished	336,602	236,747
Reinforcing	423,139	409,912
Subtotal, bars	1,474,432	1,197,524
Wire rod	1,514,956	1,353,358
Wire	648,958	580,344
Wire products	707,691	646,600
Structural shapes and units	2,542,995	2,447,664
Rails and related railway products	388,816	344,443
Pipes and tubes:		
Oil country tubular goods	3,259,050	1,294,432
Line pipe	1,034,175	1,072,356
Other	1,061,601	1,645,554
Subtotal, pipes and tubes	5,354,826	4,012,342
Total, carbon and certain alloy steel	26,274,732	22,788,856
Certain stainless and alloy tool steel:		
Semifinished 2/	12,790	23,144
Stainless steel:		
Plates	9,145	18,273
Sheets and strip	123,963	177,845
Wire	25,068	18,900
Pipes and tubes	29,010	36,652
Total, certain stainless and alloy tool steel	199,976	274,814
Grand total	26,474,708	23,063,670

1/ Certain alloy steel refers to alloy steel other than stainless and alloy tool steel.

2/ Imports of semifinished tool steel were not specifically provided for in the TSUSA prior to April 1985. Imports prior to April are recorded under the carbon and certain alloy steel category.

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

Table H-2.--Certain carbon and alloy steel: Income-and-loss data from U.S. operations, by product, July 1, 1985 -- June 30, 1986

(In thousands of dollars)

Item	Total net sales 1/	Net profit or (loss) before taxes 2/	Net profit or (loss) as a percentage of sales
Carbon and certain alloy steel: 3/			
Semifinished	429,759	(116,090)	(27.2)
Plates	1,471,992	(142,380)	(9.7)
Sheets and strip:			
Hot rolled	4,530,747	(552,728)	(12.2)
Cold rolled	5,185,155	(91,644)	(1.8)
Galvanized	3,375,164	(201,253)	6.0
Other	* * *	* * *	4.5
Subtotal, sheets and strip	* * *	* * *	(1.6)
Bars:			
Hot finished	* * *	(242,512)	* * *
Cold finished	* * *	(28,049)	* * *
Reinforcing	1,193,523	42,336	3.5
Subtotal, bars	3,571,239	(228,225)	(6.4)
Wire rod	974,312	(8,697)	(0.9)
Wire	185,835	(4,214)	(2.3)
Wire products	273,924	3,252	1.2
Structural shapes and units	1,576,190	(43,942)	(2.8)
Rails and related products	334,834	(13,805)	(4.1)
Pipes and tubes:			
Oil country tubular goods	621,473	(109,290)	(17.6)
Line pipe	345,417	(83,820)	(24.3)
Other	695,416	(99,692)	(14.3)
Subtotal, pipes and tube	1,662,306	(292,802)	(17.6)
Total, carbon and certain alloy steel	* * *	* * *	(4.1)
Certain stainless and alloy tool steel:			
Semifinished	160,115	(5,352)	(3.3)
Stainless steel:			
Plates	* * *	* * *	(12.7)
Sheets and strip	* * *	* * *	7.4
Wire	95,996	3,898	4.1
Pipes and tubes	* * *	* * *	(7.2)
Subtotal, certain stainless and alloy tool steel	* * *	* * *	2.7
Grand total	* * *	* * *	(3.7)

1/ Includes intracompany and intercompany transfers, less discounts, returns, and allowances.

2/ Net profit is defined as the total net sales, less the cost of goods sold, general, selling and administrative expenses, and other expenses (such as net interest expense (or income)).

3/ Certain alloy refers to alloy steel other than stainless and alloy tool steel.

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

Table M-3.--Certain carbon and alloy steel: U.S. producers' capacity, changes in capacity, production, and capacity utilization, July 1, 1985 -- June 30, 1986

Item	Capacity	Changes in capacity 1/	Production	Capacity utilization
		Short tons		Percent
Carbon and certain alloy steel: 2/				
Cokemaking facilities	31,353,400	* * *	22,767,801	73
Ironmaking facilities	72,813,500	* * *	47,879,208	66
Steelmaking facilities: 3/				
Electric furnace	39,668,773	4/	27,042,481	68
Basic oxygen furnace	70,410,628	4/	49,864,957	71
Other furnaces	12,460,700	4/	6,268,505	50
Total	122,540,101	* * *	83,175,943	68
Continuous casting	50,456,545	4/	38,788,305	77
Products:				
Plates	8,488,864	* * *	3,299,877	39
Sheets and strip:				
Hot rolled	57,665,784	* * *	38,446,653	67
Cold rolled	31,567,304	* * *	23,318,439	74
Galvanized	7,966,536	* * *	6,365,103	80
Other	8,628,760	* * *	6,014,905	70
Bars:				
Hot finished	12,191,852	* * *	7,316,713	60
Cold finished	* * *	* * *	* * *	* * *
Reinforcing	5,772,044	* * *	4,391,925	76
Wire rod	5,432,519	* * *	3,912,335	72
Wire	740,940	* * *	370,293	50
Wire products	756,306	* * *	460,605	61
Structural shapes and units	6,853,102	* * *	4,550,827	66
Rails and related products	1,915,301	* * *	779,564	41
Pipes and tubes:				
Oil country tubular goods	2,776,090	* * *	840,493	30
Line pipe	2,244,460	* * *	639,980	29
Other	2,228,700	* * *	978,404	44
Certain stainless and and alloy tool steel:				
Steelmaking facilities: 3/				
Electric furnace	* * *	4/	* * *	* * *
Basic oxygen furnace	* * *	4/	* * *	* * *
Other furnaces	* * *	4/	* * *	* * *
Total	2,227,014	* * *	1,447,935	65
Continuous casting	1,098,595	4/	945,660	86
Stainless steel products:				
Plates	257,300	* * *	167,100	65
Sheets and strip	1,067,505	* * *	746,716	70
Wire	35,950	* * *	28,342	79
Pipes and tubes	37,700	* * *	19,275	51

1/ Reported changes are likely to differ from changes in capacity calculated by company annual averages, due partly to the fact that reported capacity "averages in" the effect of closures or additions over the reporting period.

2/ Certain alloy refers to alloy steel other than stainless and alloy tool steel.

3/ Including semifinished steel.

4/ Change in capacity not calculated.

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