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The United States-Japan Semiconductor Accord of 1986: the Shortcomings of High-Tech Protectionism

Dorinda G. Dallmeyer

THE UNITED STATES-JAPAN SEMICONDUCTOR ACCORD OF 1986: THE SHORTCOMINGS OF HIGH-TECH PROTECTIONISM

DORINDA G. DALLMEYER*

I. INTRODUCTION 179
II. THE STATE OF THE U.S. SEMICONDUCTOR INDUSTRY ... 180
III. U.S. TRADE CASES AGAINST JAPAN 182
A. *Section 301* 182
B. *Antidumping* 187
1. *64K DRAMs* 191
2. *DRAMs of 256K and Above* 192
3. *Erasable, Programmable Read Only Memories* 193
IV. THE SEMICONDUCTOR ACCORD 195
A. *Antidumping* 195
B. *Market Access* 196
V. ENFORCING THE ACCORD 197
VI. THE ACCORD AND GATT 200
VII. THE TRADE SANCTIONS OF 1987 201
VIII. THE FAILURE TO LEARN FROM THE PAST 205
A. *Automobiles* 208
B. *Steel* 212
IX. IN THE AFTERMATH OF THE ACCORD 218

I. INTRODUCTION

Imagine the typical industry in dire need of government intervention to spare it from the onslaught of foreign imports. Perhaps the image which entered your mind is that of an antique industrial throwback languishing somewhere in the Rust Belt. Probably your last thought would be of the gleaming clean-rooms of Silicon Valley, the stronghold of the American semiconductor industry. Yet it is precisely that sector, often touted as America's high-tech hope for prosperity into the next century, which has become the latest recipient of government protection from foreign competition.

This article explains how such an event has come about. It explores the state of the U.S. semiconductor industry and its attempt to ward off foreign competitors through the use of U.S. trade laws. It ex-

* Research Director, Dean Rusk Center for International and Comparative Law, University of Georgia School of Law, Athens, Georgia.

amines how, through allegations of semiconductor dumping and closed Japanese markets, the government was able to negotiate a bilateral agreement with Japan to essentially cartelize the world semiconductor market. This agreement could hardly live up to expectations, both in terms of enforcing the agreement and in providing the relief actually desired by the U.S. industry. This experience is compared with previous attempts to protect the automobile and steel sectors from foreign competition by means of similar agreements. Finally, alternative responses are suggested which may offer better solutions for maintaining U.S. leadership in the world semiconductor sector.

II. THE STATE OF THE U.S. SEMICONDUCTOR INDUSTRY

While the United States was once the undisputed leader in state-of-the-art microelectronics technology, it is now clinging to a precipitously declining share of the $30 billion world market in mass-manufactured semiconductors. Since 1978, Japan has increased its market share from 28 to 50 percent, while the United States' share has dropped from 55 to 44 percent.[1] In 1985 and 1986, during a worldwide recession in semiconductors, U.S. companies lost more than $1 billion, putting more than 60,000 employees out of work.[2]

The United States has lost ground particularly in key sectors of the semiconductor market. In 1975, U.S. companies controlled 90 percent of the world market for dynamic random access memory "DRAM" chips, the ubiquitous integrated circuits that allow computers to store, remember and change data. By 1986, that share had shriveled to 5 percent as U.S. companies faced stiff competition from Japan, other Pacific Rim countries, and even European countries.[3]

The implications of a downturn in the semiconductor industry reach deeply into the entire U.S. economy. Semiconductors are an integral part of the electronics industry, which in 1986 accounted for 15 percent of the U.S. industrial output.[4] The semiconductor industry's economic importance has enabled it to appeal to Washington for help in dealing with foreign competitors, and the U.S. industry has no stronger competitor than the Japanese. In 1983 the Japanese began to penetrate

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1. Dallmeyer, *National Security and the Semiconductor Industry*, 90 TECHNOLOGY REV. 47 (1987).

2. *See* Financial Times, Oct. 29, 1986, at 22.

3. *See* U.S. DEPT. OF DEFENSE, UNDER SECRETARY OF DEFENSE FOR ACQUISITION, REPORT OF THE DEFENSE SCIENCE BOARD TASK FORCE ON DEFENSE SEMICONDUCTOR DEPENDENCY 5 (1987) [hereinafter DSB REPORT].

4. FORTUNE, Apr. 13, 1987, at 89. This percentage amounted to $250 billion.

the U.S. market for semiconductors while rapidly expanding their manufacturing capacity.[5] Even the basic internal structure of the industry favors Japan, where vertically integrated companies predominate.[6] Japanese manufacturers design and fabricate massive quantities of semiconductors not only for export but also for their affiliates to incorporate into finished products.[7] In contrast the U.S. industry is fragmented into high-volume merchant companies that sell semiconductors to other manufacturers, a few Japanese-style vertically integrated companies, semi-custom manufacturers, and design or process specialists.[8] This diversity may appeal to American pride in independence but impedes the large-scale research and development necessary to compete in this high technology field.

Aside from this diversity, fundamental differences between the Japanese and U.S. economies have contributed to the decline of the domestic semiconductor industry. One major factor is the high cost of investment capital in the United States which occurs in part because Americans save only about 5 percent of their income compared with the Japanese average of 15 percent.[9] In addition, Japanese semiconductor companies belong to huge conglomerates. The major banks that head these organizations are ready sources of low interest research and development ("R & D") funds. Japanese semiconductor companies reinvest twice as much as a percentage of sales in manufacturing technology[10] as their U.S. counterparts and about ten percent more on semiconductor research and development.[11]

A second and related structural difference is that Japanese investors accept a much lower and slower return on investments. During industry reversals, stockholder demands mean that U.S. companies strive to maintain short-term profitability, while Japanese companies preserve market share for future recovery.[12]

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5. U.S. CONGRESS, CONGRESSIONAL BUDGET OFFICE, THE BENEFITS AND RISKS OF FEDERAL FUNDING FOR SEMATECH 11 (1987). This study of proposed funding for semiconductor manufacturing technology presents an excellent overview of the U.S. and Japanese semiconductor industry [hereinafter CBO REPORT].

6. *See* DSB REPORT, *supra* note 3, at 76-78. For an excellent overview of the differences between the U.S. and Japanese semiconductor industries, see ELECTRONICS, Apr. 2, 1987, at 62-68, 76-78.

7. *See* CBO REPORT, *supra* note 5, at 12-14.

8. *See id.* at 16.

9. DSB REPORT, *supra* note 3, at 73 (based on Commerce Department statistics).

10. *Id.* at 46.

11. *Id.* at 57.

12. *Id.* at 87.

III. U.S. TRADE CASES AGAINST JAPAN

As Japanese firms began to make inroads into the U.S. semiconductor industry in the early 1980's, U.S. producers responded to this competition with a spate of actions before the Department of Commerce ["Commerce"] and the International Trade Commission ["ITC"]. The opening salvo in the trade war came with the filing by the Semiconductor Industry Association ["SIA"] of a complaint under section 301 of the Trade Act of 1974 to stop Japan's alleged discrimination against U.S. suppliers. Shortly thereafter SIA and other industry petitioners followed up with allegations that the Japanese were dumping semiconductors, selling chips at less than fair market value in the United States and in third countries. This section will examine the industries' decision to pursue relief through the United States trade laws.

A. Section 301

Section 301 of the Trade Act of 1974 authorizes the President to act to end unfair trade policies of foreign governments.[13] For relief to be granted, the unfair practices must fall outside the antidumping and countervailing duty laws and must be attributable to government, not private, actions.[14] Additionally, section 301 applies to actions of all countries regardless of whether they are signatories to the General Agreement on Tariffs and Trade ("GATT").[15]

Examples of unfair practices actionable under section 301 include import restrictions, unfair tariff preferences to third countries, subsidization of product sales in third-country markets where U.S. goods also compete, and prohibition of export sales to the U.S. of the foreign product.[16] The list also includes failure to allow the establishment of, or failure to protect U.S. intellectual property rights and the denial of national or most-favored-nation treatment.[17] Section 301 is also used to enforce U.S. rights under existing trade agreements or to respond to

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13. *See* 19 U.S.C. §§ 2411-2416. (1982 & Supp. IV 1986). For general descriptions of § 301, see Horlick *et al.*, *A Manual of U.S. Trade Laws*, INT'L BUS. LAW. 257-58 (1985); [Reference File] INT'L TRADE REP. (BNA) 49:0101-49:0105 (June 28, 1988). Section 301 was substantially altered by the Omnibus Trade and Competitiveness Act of 1988, Pub.L. No. 100-418, Title I, §§ 1301-1307 (1988) [hereinafter "1988 Act"].

14. *See* INT'L TRADE REP. 49:0101.

15. *See* Horlick, *supra* note 13 at 257.

16. *See* INT'L TRADE REP., *supra* note 13, at 49:0101.

17. *See* 19 U.S.C. § 2411(e)(3) (Supp. IV 1986).

practices by foreign countries which deny benefits under such agreements.[18] Where agreements exist, the statute calls such unfair practices "unjustifiable," meaning those that are inconsistent with international legal rights of the United States.[19] In the absence of an agreement, the President may still act to remedy any unreasonable or discriminatory practice which burdens or restricts U.S. commerce.[20] This language has been interpreted to mean any inequitable practice that is at least normatively wrong in some sense.[21] Although this language is somewhat vague, the drafters prevented section 301 from being overly broad by requiring that the unfair practice also place some burden on commerce.[22] On the other hand, there is no opportunity for review of the President's determination that a practice is "unreasonable."[23]

Although a section 301 complaint may be initiated on the President's own motion,[24] most investigations commence upon petition by a private party.[25] Some commentators note that this petition process allows private citizens to directly enforce GATT dispute settlement rights normally reserved to governments.[26] Apparently, by adding the right of private petition, Congress indicated that the Executive Branch had not protected U.S. interests as extensively as it might have.[27]

The office of the U.S. Trade Representative ("U.S.T.R.") administers section 301 investigations.[28] In the case of a private petition for relief, if the U.S.T.R. goes forward with the investigation involving an existing trade agreement, it must also pursue concurrently a consultation with the foreign government in an attempt to resolve the dispute.[29] If the conflict is not resolved, the U.S.T.R. must then request the initiation of formal dispute resolution procedures either under the GATT or alternatives named in the agreement.[30] The investigation in-

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18. *See* 19 U.S.C. § 2411(e)(3) (Supp. IV 1986).

19. *See* 19 U.S.C. §§ 2411(a)(1)(B)(ii) and 2411(e)(4)(A) (Supp. IV 1986).

20. *Id.*

21. For an extensive discussion of the meaning of these terms in § 301, *see* Hudec, *Retaliating Against "Unreasonable" Foreign Trade Practices: The New Section 301 and GATT Nullification and Impairment*, 59 MINN. L. REV. 461, 518-22 (1975).

22. *See* 19 U.S.C. § 2411(a)(1)(B)(ii) (Supp. IV 1986).

23. *See* Hudec, *supra* note 21, at 521-22.

24. *See* 19 U.S.C. § 2411(d)(1) (Supp. IV 1986).

25. *See id.* at § 2412(a); Horlick *et al.*, *supra* note 13, at 57.

26. 26.*See* GREY, UNITED STATES TRADE POLICY LEGISLATION: A CANADIAN VIEW 75 (1982).

27. *Id.*; Hudec, *supra* note 21, at 510-11.

28. 19 U.S.C. §2412 (Supp. IV 1986). The role of the U.S. Trade Representative has been expanded significantly by the 1988 Act. *See* 1988 Act, *supra* note 13.

29. 19 U.S.C. § 2413(a) (Supp. IV 1986).

30. *Id.*

cludes the opportunity for a public hearing.[31] The statute also specifies time limits for investigation in order to ensure prompt settlement of the dispute.[32]

Following the investigation, the U.S.T.R. makes recommendations to the President for his final action.[33] The President often seeks the advice of private sector representatives.[34] He may also request the advice of the ITC regarding the probable economic impact of a decision to grant relief under section 301.[35]

If the President determines that there is an unfair trade practice, he must act to remedy it.[36] Under the statute he is authorized to take all appropriate and feasible action to permanently remedy the situation.[37] The President may suspend, withdraw or prevent the application of benefits due under any existing agreement for trade concessions with the foreign country.[38] He may impose duties or other import restrictions on the products and services of that country.[39] With respect to services, the President may prospectively restrict the terms and conditions or deny the issuance of access authorization such as licenses or permits for the U.S. market.[40] He may take this action on a most-favored-nation basis or may restrict the remedy to a specified foreign country.[41]

The unfair trade practice which triggered the section 301 action by SIA was the alleged industrial targeting of the semiconductor industry by the Japanese government. Industrial targeting consists of coordinated government actions which direct productive resources toward selected industries to increase production and improve competitiveness.[42] Targeting should not be confused with industrial policy. Industrial policy generally confers benefits on a wide range of industries; in contrast,

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31. 19 U.S.C. § 2412(b)(2) (Supp. IV 1986).

32. 19 U.S.C. § 2414(a) (1982 & Supp. IV 1986). Time limits range from 7 months for investigations of export subsidies up to one year for other types of investigations. *Id.*

33. *Id.*

34. 19 U.S.C. § 2414(b)(2) (Supp. IV 1986).

35. 19 U.S.C. § 2414(b)(3) (1982).

36. 19 U.S.C. § 2411(a) (Supp. IV 1986).

37. 19 U.S.C. § 2411(a)(1)(B)(ii) (Supp. IV 1986).

38. 19 U.S.C. § 2411(b)(1) (Supp. IV 1986).

39. 19 U.S.C. § 2411(b)(2) (Supp. IV 1986).

40. *Id.*

41. *See* 19 U.S.C. § 2411(a)(2) (Supp. IV 1986).

42. For an exhaustive treatment of Japanese targeting practices, *see* U.S. Int'l Trade Comm'n, Foreign Industrial Targeting and its Effects on U.S. Industries — Phase 1: Japan, U.S.I.T.C. publ. no. 1437 (Oct. 1983).

targeting focuses on a narrow range of interests.[43]

The government helps targeted industries by providing preferential tax treatment, outright subsidies, loans to finance activities such as research and development or export sales, special legal treatment such as antitrust exemptions, preferences in government procurement, and import restrictions.[44] These practices are used to increase market share in domestic sales or to increase export sales in foreign markets. Since section 301 is designed to enforce U.S. access to foreign markets, it applies directly to unfair practices which seek to restrict U.S. competition abroad. Thus section 301 allows the United States to threaten to retaliate against targeting practices before U.S. products are injured in the marketplace.[45]

The Japanese semiconductor industry is one sector which has benefited from government targeting. In its efforts to build its domestic computer industry, the Japanese government used high tariffs, restrictive quotas, and foreign investment restrictions until 1976 when these restrictions were ended.[46] Since the repeal of these tactics, the main targeting activity has been government-funded cooperative research and development.[47]

In 1983, the SIA released a report which called for U.S. intervention to end targeting practices of the Japanese government in the semiconductor sector.[48] The SIA report charged that the Japanese government sanctioned unfair subsidies, granted improper tax advantages, and restricted the domestic market.[49] The report called for the termination of preferential treatment for Japanese companies in the Japanese domestic market, enforcement of U.S. rights under GATT, and new legislation covering targeting.[50] In response to the U.S. report, the Electronic Industries Association of Japan replied that the U.S. Department of Defense had supported the infant U.S. semiconductor industry with research expenditures that dwarfed the money given by the Japanese government to its domestic producers.[51] It found that U.S. tax exemptions were even more favorable than those granted by the

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43. It should be noted, however, that there is no absolute dividing line between the two practices. *See id.* at 17-18.

44. *See id.* at 17.

45. *See id.* at 42.

46. *See id.* at 133-34.

47. *See id.* at 148-50 (description of research projects).

48. *See* 7 U.S. IMPORT WKLY. (BNA) 601-02 (Feb. 9, 1983).

49. *Id.*

50. *Id.*

51. *See* JAPAN INST. FOR SOCIAL AND ECON. AFFAIRS, KEIZAI KOHO CENTER BRIEF No.6 (Apr. 1983).

Japanese.[52] It also noted that the United States spends three times as much in total research and development.[53] It attributed the sluggish sales of U.S. products in Japan to price competitiveness problems and failure to promote U.S. products in Japan.[54]

In an attempt to resolve the conflicts over Japanese subsidies and restriction of market access, the United States and Japan formed a bilateral working group on high technology.[55] Negotiations resulted in a mutual agreement to eliminate the 4.2 percent duty on semiconductors in order to encourage increased trade in the high technology sector. Both countries agreed to provide information for potential foreign investors and to discourage unfair copying of semiconductor products.[56] The suspension of the tariff, however, was not implemented until 1985.[57]

Meanwhile, the Japanese rapidly increased their semiconductor production capacity.[58] This increase in capacity along with a worldwide downturn in demand raised fears among American producers that Japan was about to flood the market with low-priced products. To forestall this threat, in June 1985 the SIA filed a section 301 complaint which alleged that, despite negotiations, the Japanese government's anticompetitive measures had restricted U.S. entry into the Japanese market.[59] The SIA charged that the Japanese government had extended preferential treatment to firms in that country and that Japanese companies themselves continued to relegate U.S. suppliers to positions as back-up sources only, adopting a de facto "buy national" stance.

In response to the complaint, Japanese semiconductor producers asserted that the SIA petition amounted to a request for a guaranteed share of the Japanese market.[60] Additionally Japanese respondents faulted the market share figures in the petition for failing to include sales of semiconductors made by large U.S. firms located in Japan and

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52. *Id.*

53. *Id.*

54. *See* JAPAN INST. FOR SOCIAL AND ECON. AFFAIRS, KEIZAI KOHO CENTER BRIEF NO. 6 (Apr. 1983); also *id.*, BRIEF NO. 8 (June 1983) (statement of Masaya Miyoshi, managing director of Keidanren). *See also* 20 U.S. EXPORT WKLY. (BNA) 912-13 (May 1, 1984) (U.S. inflation and tax policy the real problem).

55. *See* Wall St. J., Oct. 21, 1983, at 31; 8 U.S. IMPORT WKLY. (BNA) 630-31 (July 20, 1983).

56. The Japan Times, Nov. 9, 1983, at 7.

57. *See* Christian Science Monitor, Feb. 12, 1985, at 24.

58. *See* 2 INT'L TRADE REP. (BNA) 606 (May 1, 1985).

59. *See id.* at 807-08 (June 19, 1985).

60. *Id.* at 1070 (Aug. 28, 1985).

production of semiconductors by so-called "captive" firms in the United States, who manufacture chips for their own internal use.[61]

B. Antidumping

The governmental negotiations called for by section 301 were further complicated by the filing of three antidumping complaints alleging sales of Japanese semiconductor components at less than fair market value. While the negotiations regarding the allegations in the section 301 petition were difficult enough, the push for a comprehensive solution that encompassed these new complaints greatly increased the problems.

In general, the antidumping laws encompass a set of procedures designed to make two determinations.[62] The first question is whether merchandise is being "dumped," meaning sold at less than fair value ("LTFV").[63] Second, the dumped goods must be causing or threatening to cause "material injury" to a United States industry.[64] If these two requirements are met, a duty is imposed to offset the LTFV sales.[65] The International Trade Administration ("ITA") determines whether or not merchandise is being dumped, and the ITC, an independent federal agency composed of six commissioners, determines material injury.[66]

An antidumping proceeding may be initiated by an interested party who files a petition simultaneously with the ITA and ITC.[67] Additionally, the ITA may initiate an investigation on its own.[68] Normally an investigation proceeds in five stages. Within twenty days of the receipt of the petition, the ITA decides whether or not to initiate an investigation.[69] The basis for its decision is whether or not the dumping

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61. *See id.*

62. *See* Horlick, *Summary of Procedures Under the United States Antidumping and Countervailing Duty Laws*, 58 ST. JOHN'S L. REV. 828 (1984).

63. 19 U.S.C. § 1673(1) (1982 & Supp. IV 1986).

64. 19 U.S.C. § 1673 (2)(1982 & Supp. IV 1986). In the case of the imposition of countervailing duties, the injury requirement applies only to subsidized exports from countries that have accepted the GATT Subsidy Code. Nonsignatories of the code are treated more harshly in that their exports can be countervailed with a finding only that the product receives a subsidy. *See* 19 U.S.C. § 1303(a) (1982).

65. *See* Horlick, *supra* note 62.

66. The ITC is the successor of the U.S. Tariff Commission with extensive responsibilities administering the United States import relief and trade laws. It was created under the authority of the Trade Act of 1974, 19 U.S.C. § 2231 (1982).

67. 19 U.S.C. § 1673a(b)(2) (1982).

68. 19 U.S.C. § 1673a(a) (Supp. IV 1986); 19 C.F.R. § 353.35 (1987).

69. 19 U.S.C. § 1673a(c) (1982). *See* 19 C.F.R. § 353.37(a) (1987).

allegations in the petition are supported by information reasonably available to the petitioner.[70] In the instance of a self-initiated petition, the standard is "the information available" to the ITA.[71] Should the ITA decide not to proceed, the ITC investigation also is terminated.[72]

If the ITA admits the petition, the ITC has 45 days to determine whether there is a "reasonable indication" that a domestic industry is materially injured or is threatened with material injury.[73] The ITC bases its preliminary finding upon questionnaires sent both to importers and domestic interests, public hearings, and other sources.[74] The first element in its injury determination is to identify and define the domestic industry.[75] The statute defines industry as "the domestic producers as a whole of a like product."[76] "Like product" is defined as a product which is "like, or in the absence of like, most similar in characteristics and uses" to the product in the petition.[77]

Having defined the like product, the ITC then must define "domestic industry." The domestic industry may be national, regional, or even composed of individual producers, and may include firms which import components or which manufacture abroad, as long as the firm has "sufficient" production facilities within the United States.[78]

Following the definition of "like product" and "domestic industry," the ITC then determines whether there is material injury or threat thereof. Among other indicators the ITC considers are price and profitability declines, lost sales, reduced levels of employment, and growth of imports both in absolute and relative terms.[79]

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70. 19 U.S.C. § 1673a(c)(1) (1982).

71. 19 U.S.C. § 1673a(a)(1) (Supp. IV 1986). *See* United States v. Roses, Inc., 706 F.2d 1563, 1566 (D.C. Cir. 1983).

72. 19 U.S.C. §§ 1673a(c)(3), 1673b(a) (1982).

73. 19 U.S.C. § 1673b(a) (1982).

74. The regulations provide for the maintenance of confidentiality in antidumping and countervailing duty cases. 19 C.F.R. §§ 202.21, 207.4 and 207.7 (1987). *See* Anthony & Byrne, *Safeguarding Confidential Information in ITC Injury Proceedings: Proposals to Reduce the Risks of Disclosure*, 17 LAW & POL'Y IN INT'L BUS. 1 (1985). Confidentiality with reference to ITA proceedings is regulated by 19 C.F.R. §§ 353.27, 355.17 (1987).

75. 19 U.S.C. § 1673b(a)(1) (Supp. IV 1986).

76. 19 U.S.C. § 1677(4)(A) (Supp. IV 1986).

77. 19 U.S.C. § 1677(10) (1982).

78. The ITC, however, has discretion to include a firm that both produces and imports the like product. Melamine in Crystal Form from Austria and Italy, final determination, 2 I.T.R.D. (BNA) 5105 (1980). High Capacity Pagers from Japan, final determination, 5 I.T.R.D. (BNA) 721 (1983).

79. *See e.g.*, High Capacity Pagers from Japan, 5 I.T.R.D. (BNA) 1721; The Maine Potato Council v. United States, 613 F.Supp. 1237 (Ct. Int'l Trade), *appeal*

The final step in the injury finding is for the ITC to determine a causal link between the material injury and the dumped merchandise.[80] Imports need not be the sole cause or even the major cause of injury as long as they are "more than a de minimis cause," which is a very low threshold of proof.[81]

If its preliminary finding is negative, the ITC terminates the investigation.[82] If the ITC does find reasonable indication of injury, the investigation enters its third phase. Within 160 days of the filing of the petition, the ITA must determine in a preliminary fashion whether there is a "reasonable basis to believe or suspect" that the merchandise is being sold at LTFV or is likely to be sold at LTFV.[83] If this preliminary finding is in the affirmative, liquidation of duties is suspended and bonds must be posted for the merchandise.[84] On the other hand, while a negative preliminary determination by the ITA prevents the imposition of these provisional remedies, it does not terminate the investigation.

The fourth stage of the investigation is the ITA's final determination of sales at less than fair value. This determination must be made within 75 days of its preliminary finding.[85] If the ITA finds in the negative, the investigation is terminated.[86] If the ITA finds in the affirmative, the investigation proceeds to its fifth stage. At this point the ITC must make a final determination of material injury.[87] This will be based on all relevant technical and economic testimony gathered at a trial-like hearing only if such a hearing is requested by a party to the

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after remand, 617 F.Supp. 1088 (Ct. Int'l Trade 1985).

80. 19 U.S.C. § 1673d(b)(1)(B) (Supp. IV 1986).

81. 19 U.S.C. § 1677(7)(C)(iv) (Supp. IV 1986). When effects are cumulated any individual country's effort need only be "more than de minimis." Maine Potato Council v. United States, 613 F. Supp. at 1243. *See also*, Bingham & Taylor v. United States, 627 F. Supp. 793 (Ct. Int'l Trade 1986), *aff'd*, 815 F. 2d 1482 (Fed. Cir. 1987).

82. 19 U.S.C. § 1673b(a) (1982).

83. 19 U.S.C. § 1673b(b)(1) (1982). This period may be extended to 210 days. 19 U.S.C. § 1673b(c)(1) (1982).

84. 19 U.S.C. §§ 1673b(d)(1),(2).

85. 19 U.S.C. § 1673d(a)(1) (1982). This period is subject to an extension of up to 135 days. 19 U.S.C. § 1673d(a)(2) (1982).

86. 19 U.S.C. § 1673d(c)(2) (1982).

87. 19 U.S.C. § 1673d(b)(1) (1982 & Supp. IV 1986). If the ITA preliminary determination is in the affirmative, the ITC's final determination must be made within 120 days of that ITA determination or within 45 days of ITA's final determination, whichever is later. *Id.* § 1673d(b)(2) (1982). If the ITA's preliminary determination was in the negative, the ITC's final determination must be made within 75 days of any affirmative determination of the ITA. 19 U.S.C. § 1673d(b)(3) (1982).

investigation.[88] The investigation is terminated if the ITC makes a negative determination.[89] If the ITC does find material injury or threat of injury by LTFV sales, the ITA issues an antidumping order and duties are assessed.[90]

Neither the ITA nor the Executive Branch may terminate an antidumping investigation by fiat. The ITA also may not refuse to initiate an investigation if the petition meets the statutory requirements.[91] Once begun, an investigation may be terminated only by a negative determination which meets statutory criteria or by the withdrawal of the petition by the petitioning party.[92] Additionally, antidumping cases may be suspended by the ITA if the exporter revises prices upward to eliminate the dumping margin or ceases its exports.[93] However, even if a suspension agreement is entered into, the ITA must continue its investigation upon the request of the exporter, the domestic industry, or any other interested party.[94] These provisions which limit the ITA's discretion to enter into suspension agreements or terminate investigations reflect the view that suspension agreements between government and exporter may not necessarily serve the interests of the domestic industry.[95] Consequently, the U.S. antidumping laws are less conducive to suspension agreements than the GATT Code.

Any negative preliminary determination[96] or any final determination[97] may be appealed to the Court of International Trade which bases its review on whether the agency's determination is arbitrary, capricious, or an abuse of discretion with reference to preliminary determinations, and supported by substantial evidence with reference to final determinations.[98] Thus, the agency's view need not be the only reasona-

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88. 19 U.S.C. § 1677c (1982 & Supp. IV 1986).

89. 19 U.S.C. § 1673d(c)(2) (1982).

90. *Id.*

91. *See* Roses, Inc. v. United States, 538 F.Supp. 418 (Ct. Int'l Trade 1982) *aff'd in part, rev'd in part*, 706 F.2d 1563 (Fed. Cir. 1983).

92. 19 U.S.C. § 1673c(a)(1) (Supp. IV 1986). Additionally, the ITC can only terminate an investigation after the ITA has completed its preliminary determination. 19 U.S.C. § 1673c(A)(3) (Supp. IV 1986). For an example of a withdrawal agreement, see the 1982 steel settlement, 47 Fed. Reg. 49,058 (1982). *See also* Lightweight Polyester Filament Fabrics from Japan, 49 Fed. Reg. 4021 (1984).

93. 19 U.S.C. § 1673c(b) (1982).

94. 19 U.S.C. § 1673(c)(g) (1982 & Supp. IV 1986).

95. *See* H.R. Rep. No. 317, 96 Cong., 1st Sess. 53-55 (1979). The House report refers to the need to weigh the benefits of early settlement against the possible relief resulting from a completed investigation.

96. 19 U.S.C. § 1516a(1)(c) (Supp. IV 1986).

97. 19 U.S.C. § 1516a(a)(1)(2)(B) (Supp. IV 1986).

98. 19 U.S.C. § 1576a(b)(1) (1982).

ble construction nor must it be the one the court would have chosen if the matter had arisen before it.[99]

1. 64K DRAMs

Within a month of the SIA's section 301 petition, Micron Technology, Inc. filed an antidumping complaint against seven Japanese firms making 64K dynamic random access memories (DRAMs).[100] DRAMs of various memory capacities are used extensively in computer memories; a so-called 64K DRAM can store approximately 65,000 bits of information. In its petition, Micron alleged that because of sales at less than fair value, U.S. market prices had been depressed, resulting in layoffs and loss of profits for the domestic industry.[101]

In its preliminary determination, the ITC considered "like product" to be all 64K DRAMs produced in the United States.[102] By the final investigation, however, they expanded the "like product" category to include all capacities of DRAMs, because of interchangeability of memory capacity, as well as unassembled DRAMs.[103] Similarly, the ITC expanded its definition of the domestic industry from the time of the preliminary investigation to the final investigation. Initially the ITC included in the domestic industry merchant producers selling in the commercial market, captive producers manufacturing for their own consumption, and firms producing wholly or partly abroad.[104] By the final investigation the ITC had broadened "domestic industry" to include U.S. subsidiaries of Japanese companies.[105]

In its preliminary assessment of the condition of the domestic industry, the ITC was influenced by the growth of inventory coupled with rapidly declining prices which yielded overall losses for the industry.[106] It attributed this injury to increasing imports from Japan with an ac-

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99. American Lamb v. United States, 785 F. 2d 994, 1001 (Fed. Cir. 1986); Republic Steel Corp. v. United States, 591 F. Supp. 640, 650 (Ct. Int'l Trade 1984); Jeannette Sheet Glass Corp. v. United States, 607 F. Supp. 123, 129 (Ct. Int'l Trade (1985).

100. 2 INT'L TRADE REP. (BNA) 865 (July 3, 1985).

101. *Id.*

102. U.S. Int'l Trade Comm'n, 64K Dynamic Random Access Memory Components from Japan, Investigation no. 731-TA-270 (prelim.), U.S.I.T.C. publ. no. 1735 (Aug. 1985), at 4 [hereinafter "64K prelim."].

103. U.S. Int'l Trade Comm'n, 64K Dynamic Random Access Memory Components from Japan, Investigation no. 731-TA-270 (final), U.S.I.T.C. publ. no. 1862 (June 1986), at 8-11 [hereinafter "64K final"].

104. 64K prelim., *supra* note 102, at 4-7.

105. *See* 64K final, *supra* note 103, at 13.

106. *See* 64K prelim., *supra* note 102, at 9-11.

companying price drop.[107] The large fraction of the market occupied by imports at less than fair value, plus evidence of lost sales and revenues, led to their preliminary finding of injury due to sales of imports at less than fair value.[108] In their final determination, the ITC found material injury based on the poor financial condition of the domestic industry, the adverse impact of imports on prices during the period of the investigation, and the particular sensitivity of the industry to decreasing profitability because of high R & D expenses and the need for extensive capital investment.[109] Upon this finding, dumping duties of 11.87 percent to 35.34 percent were assessed against DRAM importers from Japan.

2. *DRAMs of 256K and Above*

While the 64K DRAM investigation was proceeding through its preliminary stages, in December 1985 Commerce initiated an antidumping investigation into imports of DRAMs with capacities of 256K up to 1 megabyte. This was one of the first unfair trade investigations ever initiated by Commerce.[110]

In its preliminary finding the ITC defined the like product as all DRAMs of 256K capacity and above.[111] By including "and above" in the petition, Commerce and the ITC could prevent an exporter from circumventing subsequent restrictions on imports by soldering two 256K DRAMs together to produce a "512K" DRAM falling outside the scope of the order.[112] Thus it defined the like product as all DRAMS, just as it had in the 64K DRAM case. Similarly, the ITC defined domestic industry as it had in the 64K DRAM case, to include not only purely domestic entities but also those who import DRAMs for final assembly and those companies related to Japanese importers and exporters.[113] In assessing the condition of the domestic industry, the ITC found there was a net operating loss as well as a decline in domestic shipments and capacity utilization.[114] Supporting its determination of injury by LTFV sales, the ITC pointed to imports of Japanese

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107. *See id.* at 12.

108. *See id.* at 15.

109. *See* 64K final, *supra* note 103, at 17-20.

110. *See* 2 INT'L TRADE REP. (BNA) 1543-45 (Dec. 11, 1985).

111. U.S. Int'l Trade Comm'n, Dynamic Random Access Memory Semiconductors of 256 Kilobytes and Above from Japan, Investigation no. 731-TA-300 (prelim.), U.S.I.T.C. publ. no. 1803 (Jan. 1986), at 13.

112. *Id.* at n. 29.

113. *Id.* at 13-16.

114. *Id.* at 16-19.

256K DRAMs increasing from 3.7 percent for 1984 to 16.9 percent for 1985 as well as dramatic price declines.[115] While Commerce assessed dumping duties ranging from 19.80 percent to as much as 108.72 percent,[116] the ITC never completed its final investigation due to the signing of a semiconductor trade accord between the United States and Japan.[117]

3. *Erasable, Programmable Read Only Memories*

In September 1985, three U.S. semiconductor companies opened a fourth front in the effort to bring pressure to bear on unfair competition by the Japanese. In this case the commodities in question were erasable, programmable read-only memories ("EPROMs"), used to store programs in computers. Initially the United States was the technology and market leader for these semiconductors; however, with increasing Japanese activity in the market, by the end of October 1985 the Japanese held 60 percent of the U.S. market for 64K and 128K EPROMs,[118] and per-unit prices for 256K EPROMs had plummeted from $17 to $4 within the space of an eight month period.[119]

In its preliminary finding the ITC declared that the like product was EPROMs of all capacities.[120] It defined the domestic industry to include both the U.S. producers as well as companies who assembled EPROMs in the United States from imported components.[121] In describing the state of the domestic industry, the ITC's characterization of EPROM producers sounds a more positive note than its characterization of the DRAM industry. While there was a decline in consumption of lower capacity EPROMs, consumption was increasing for higher capacity versions.[122] Likewise there was an overall increase in production capacity, actual production, domestic shipments, and employment.[123] On the negative side, there had been a dramatic decline in

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115. *Id.* at 21.

116. *See* 3 INT'L TRADE REP. (BNA) 372 (Mar. 19, 1986).

117. See discussion *infra* at text accompanying notes 136-138.

118. *See* 2 INT'L TRADE REP. (BNA) 780 (June 12, 1985).

119. *See id.* at 1233 (October 2, 1985). One stimulus for this action was a memo obtained from the Hitachi company urging its distributors to aggressively undersell its competitors, even if it required offers far below cost. The memo promised distributors a 25% profit regardless of their selling price. *See id.* at 780 (June 12, 1985).

120. U.S. Int'l Trade Comm'n, Erasable Programmable Read Only Memories from Japan, Investigation no. 731-TA-288 (prelim.), U.S.I.T.C. publ. no. 1778 (Nov. 1985), at 8.

121. *Id.* at 12.

122. *Id.* at 14.

123. *See id.* at 14-16.

income for U.S. producers during the period of January to June 1985 compared with the same period a year earlier.[124] In 1984 eight U.S. firms, accounting for 95 percent of U.S. shipments, reported a ratio of operating income to net sales of 31.9 percent. By 1985 this ratio had dropped to -3.9 percent.[125]

As preliminary evidence of injury from sales at less than fair market value, the ITC pointed to dramatic increases in EPROM imports from Japan, especially in the higher capacity sector.[126] Additionally, the ITC confirmed the practice of aggressive price undercutting by Japanese producers as well as rapid growth in their EPROM manufacturing capability.[127] The accumulation of large inventories in the United States and the great decline in profitability compounded the existing injury with the continuing threat of future material injury to the U.S. EPROM industry.[128]

Before the ITC could complete its final investigation, the United States and Japan concluded negotiations resulting in the semiconductor accord, which covered EPROMs.[129] Nevertheless, the petitioners requested the ITC to proceed to a final determination. By proceeding to a final determination, the dumping finding could be revived immediately and duties determined and assessed if the accord was terminated.[130]

In its final determination, the ITC decided to exclude Fujitsu from the domestic industry category because it was the only company to assemble EPROMs from imported Japanese components, and it did not conduct R & D or initial fabrication of EPROMs in the United States.[131] Nevertheless, this exclusion had no effect on trends of performance indicators for the domestic industry.[132] The ITC's characterization of the state of the domestic industry did not change markedly from its earlier analysis. The ITC found the financial performance data to be the strongest indicator of material injury to the industry. The domestic industry had suffered losses across the board, consisting of declines in sales and operating income. Indeed, for 1985 as a whole, the

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124. *Id.* at 17.

125. *Id.*

126. *Id.* at 19.

127. *See id.* at 20-22.

128. *See id.* at 22-23.

129. See discussion *infra* at text accompanying notes 136-138.

130. *See* INT'L TRADE REP. (BNA) 1519 (Dec. 17, 1986).

131. U.S. Int'l Trade Comm'n, Erasable Programmable Read Only Memories from Japan, Investigation no. 731-TA-188 (final) U.S.I.T.C. publ. no. 1927 (Dec. 1986), at 12 [hereinafter "EPROM final"].

132. *Id.* at n. 25.

ratio of operating income to net sales registered 45 percent,[133] dramatically lower than the ITC's preliminary figures.[134] The ITC attributed these losses to increasing Japanese import volumes and to market penetration by the higher capacity chips, as well as price undercutting.[135]

IV. THE SEMICONDUCTOR ACCORD

The ITC investigations, along with threats of congressional action,[136] added momentum to the negotiations begun under section 301. Facing a June 1986 time limit on the section 301 investigation, each party had its own negotiating positions to work out. In the weeks leading up to the accord, Japan was rumored to have offered to set up a floor-price system on semiconductors sold in the United States, although it was not clear how criteria for the floor prices would be set. The U.S. negotiators apparently were bargaining for a guaranteed market share in Japan for U.S. manufacturers.[137]

By mid-year, the two countries had reached an agreement. While the negotiating record of the Semiconductor Accord has never been made public, much information is available.[138] The Accord, which will be in effect through June 1991, has two main provisions. First, the United States and Japan agreed to work together to prevent dumping of semiconductors both in the United States and in third country markets. Second, Japan agreed to promote the expansion of the U.S. share of the Japanese semiconductor market.

A. Antidumping

In exchange for the suspension of the antidumping investigations on EPROMs and 256K DRAMs, the Japanese government agreed to require their producers to sell DRAMs and EPROMs at or above their average fair market value as calculated by Commerce.[139] Under the Accord, Japan's Ministry of International Trade and Industry

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133. *See id.* at 16.

134. *See supra* text accompanying note 125.

135. *See* EPROM final, *supra* note 131, at 18-19.

136. By August 1985, 57 bills concerning U.S.-Japan trade awaited action before House Ways and Means Trade Subcommittee alone. *See* 2 INT'L TRADE REP. (BNA) 1030 (Aug. 14, 1985).

137. For background on the negotiations, see 3 INT'L TRADE REP. (BNA) 310 (Mar. 5, 1986); *id.* 428 (Apr. 2, 1986); *id.* 735 (June 4, 1986).

138. *See* 25 Int'l Leg. Mat. 1408-27 (1986). *See also* JAPAN ECON. J., July 12, 1986, at 1; Wall St. J., Aug. 1, 1986, at 1; 3 INT'L TRADE REP. (BNA) 994-95 (Aug. 6, 1986).

139. *See* 25 INT'L LEG. MAT. 1427 (1986).

("MITI") monitors costs and prices of Japanese semiconductors in the United States as well as collects company and product-specific costs and export data for Japanese producers.[140] Commerce uses MITI's statistics to determine if sales at less than fair market value occur on a company-specific basis.[141] If dumping is suspected, then the United States and Japan would enter into negotiations lasting no longer than 14 days to correct the problem.[142] Additionally, if dumping occurs in violation of the EPROM and 256K DRAM suspension agreement, Commerce may terminate that agreement and immediately impose antidumping duties.[143] The negotiations under section 301 were also suspended, although the Accord provides for periodic meetings to assess progress.[144]

B. Market Access

The Accord does not state a specific percentage of the Japanese market which the United States is guaranteed to have by 1991. Rather, U.S. producers are to have a "steady" increase in the market.[145] To accomplish this, the Japanese government agreed to establish a Japanese organization to assist foreign producers in increasing sales.[146] Additionally, foreign producers will receive research and development tax breaks and opportunities to compete for government grants on an equal basis with Japanese producers.[147] Also, foreign producers will have equal access to patents generated by government-sponsored research.[148] Because the United States is the main semiconductor producer other than Japan, it naturally stands to gain the most from this market share liberalization feature.

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140. *Id.*

141. *Id.*

142. *Id.*

143. *See id.* at 1413. *See also* 3 INT'L TRADE REP. (BNA) 994-95 (Aug. 6, 1986).

144. 25 INT'L LEG. MAT. at 1414.

145. *Id.* at 1410; Wall St. J., Aug. 1, 1986, at 1. Although it has never been released officially, the two governments signed a side letter to the agreement in which Japan "recognizes the U.S. semiconductor industry's expectation" of a 20 percent market share by foreign companies 5 years after the Accord was signed. *See* New York Times, Aug. 2, 1988, D7.

146. 25 INT'L LEG. MAT. at 1410; 3 INT'L TRADE REP. (BNA) 994-95 (Aug. 6, 1986).

147. *Id.* at 1414

148. *See id.*; Wall St. J., Aug. 1, 1986, at 1.

V. ENFORCING THE ACCORD

In agreeing to end semiconductor dumping in the United States, Japan also agreed to stop LTFV sales in third countries. From the outset this pledge was seen as presenting a formidable enforcement problem. How was Japan to accomplish the required changes in semiconductor purchasing by private industry in a free market, especially transactions in the so called "grey market," third countries outside its jurisdiction?

Before the agreement, 256K DRAMs sold for an average of $2.25.[149] In the month following the Accord, the price of 64K and 256K DRAMs produced in Japan increased 50 to 600 percent because of new fair market values set by Commerce.[150] By October, based on new statistics available to Commerce, the fair market value had dropped considerably to the $2.00-5.00 range for 256K DRAMs. Nevertheless, the price in third countries hovered around $2.00.[151] The higher prices for Japanese products provided an opportunity for Asian and European competitors not bound by the agreement. For example, while certain DRAMs were selling for $5 to $10 in Japan according to Commerce's floor price, equivalent DRAMs produced in South Korea cost less than $2.00.[152]

These high prices drove users not only to third country suppliers such as Hong Kong, Singapore, and South Korea, but also created a thriving "grey market" of unauthorized sales of Japanese semiconductors at less than the floor price.[153] Only individual chips, not semiconductors wired into circuit boards, were controlled under the Accord. As a way to get around the increased prices, U.S. firms began to import not the individual EPROMs and DRAMs but rather to import them assembled into circuit boards. Upon receipt, the semiconductors could be unplugged from "dummy" boards and then incorporated into functional circuit boards in electronic equipment.[154]

Because prices for sales within Japan were not covered by the agreement, market prices for EPROMs and DRAMs remained very low. The semiconductor manufacturers needed to get rid of huge inventories of these components so that prices would begin to rise again. This need to reduce inventory, along with a desire to maintain good cus-

149. Wall St. J., Feb. 12, 1987, at 1.
150. *Id.*, Sept. 11, 1986, at 7.
151. *Id.*, Nov. 24, 1986, at 6.
152. *Id.*, Aug. 4, 1986, at 21.
153. Wall St. J., Feb. 12, 1987, at 6.
154. *See* JAPAN ECON. J., Dec. 13, 1986, at 18.

tomer relations and to maintain market share, led to widespread smuggling of low-cost semiconductors from Japan to third countries.[155] Generally, Japanese firms would sell semiconductors to brokers or private exporters who either smuggled them out by suitcase or by means of falsified prices on export licenses. In the third country, suppliers would repackage the components and ship them to U.S. customers who paid 20 to 40 percent less than the prices set by Commerce under the Accord.

As these types of sales obviously do not proceed through normal channels, MITI had problems in monitoring circumvention of the floor prices. Once the extent of the problem became clear, MITI instituted a requirement that Japanese companies charge at least 90 percent of the Commerce price for sales outside Japan.[156] While it could do little to control smuggling by suitcase, MITI moved to tighten export controls. It significantly lowered the threshold value triggering the need for an export license from 1 million yen (approximately $6850) to 50,000 yen (approximately $342).[157] It began to require MITI approval of the price quoted on the license,[158] and extended the waiting period for a license from two to three days to two to three weeks.[159] As a result, MITI rapidly became buried in its own paperwork.

In spite of very creative efforts on the part of determined suppliers and users, the Japanese government was able to exercise at least some control over LTFV sales of semiconductors. At the same time it was faced with the prospect of opening the Japanese market to foreign products. A number of formidable obstacles stood in the way of enforcing the market access portion of the Accord. First, the Japanese market was glutted with its own semiconductors, making U.S. penetration of the market more difficult. This overcapacity and oversupply carried over into the U.S. market as well.[160] In the United States, the demand for computers and telecommunications equipment continued to be sluggish, maintaining the huge inventories of semiconductors.

Another major problem preventing an increase in U.S. market share in Japan was that U.S. merchant firms specialize in making and

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155. For extensive descriptions of the "grey market," see N.Y. Times, Mar. 25, 1987, at D1, col. 1; Wall St. J., Feb. 12, 1987 at 1.

156. Wall St. J., Feb. 12, 1987, at 1.

157. N.Y. Times, Apr. 7, 1987, at D9, col. 1.

158. Note that a determined grey market exporter could get around this requirement by selling at a price lower than the one specified on the export license. N.Y. Times, Feb. 16, 1987, at 44, col. 1.

159. Wall St. J., Feb. 12, 1987, at 1.

160. *Id.*

selling semiconductors for use in the automotive, telecommunications, and computer industries. In Japan, however, similar fabricators are part of vertically integrated companies which buy their electronic components from different divisions of the same company.[161] In Japan the major customer buying from merchant-type operations is the consumer electronics industry, which accounts for 40 percent of the Japanese demand for semiconductors.[162] In the United States there is very little production of consumer electronics; consequently, U.S. firms do not make the kinds of semiconductors in the quantities needed by Japanese customers. Because of this disparity, it may be difficult to ever reach the 20 percent market share in Japan that many in the U.S. industry hoped to achieve by 1991.[163]

In the first year following the signing of the Accord, the market share figures indicated either moderate improvement or nearly none, depending upon which government supplied the statistics. According to MITI's figures, by mid-1987 the U.S. market share in Japan had risen from 8 percent to 11 or 12 percent.[164] On the other hand, the U.S. data indicated a rise from an 8.4 percent share for April-September 1986 to only 8.6 percent for January-March 1987.[165]

If little was happening for U.S. producers in the Japanese market, Japanese companies selling in the U.S. market responded quickly to the Accord. Because the Accord placed no controls on prices of semiconductors made in the United States, many Japanese companies began to buy into U.S. industry, negotiating joint ventures and technology licensing agreements and expanding their U.S. production facilities.[166] Japanese companies shifted their focus to selling semiconductors not covered by the Accord, especially higher capacity memories such as the 1 megabyte DRAM, and challenging the U.S. lead in state-of-the-art electronics such as application-specific integrated circuits ("ASIC"s) and microprocessors.[167] In perhaps the most bizarre twist, Intel, an American company, announced that rather than increase its domestic manufacturing capacity, it would now sell Mitsubishi EPROMs, made in Japan, and Samsung DRAMs, made in Korea, under the Intel brand

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161. JAPAN ECON. J., Dec. 13, 1986, at 15.

162. *Id.*

163. Another frequent complaint heard from Japanese buyers is that the U.S. companies' commitment to customer service lags behind that of their Japanese counterparts. *See id.*; ELECTRONICS, Apr. 2, 1987 at 62-63, 65.

164. Wall St. J., Feb. 12, 1987, at 6.

165. JAPAN ECON. J., Aug. 1, 1987, at 5.

166. Wall St. J., Feb. 12, 1987, at 1.

167. Wall St. J., May 26, 1987, at 2.

name.[168] Ironically, Intel had been one of the original petitioners in the EPROM dumping complaint.

VI. THE ACCORD AND GATT

Not surprisingly, the Accord, by virtue of carving up 80 percent of the world production of semiconductors,[169] caused consternation among semiconductor consumers outside the United States and Japan. In October 1986 the European Community requested a formal GATT consultation on the legality of the Accord.[170] Semiconductor production in the EC had been dropping rapidly, leaving the EC particularly vulnerable to the drastic increase in prices brought about by the Accord.[171] While the most immediate effect was the price increase, the Accord, conceived as a bilateral agreement outside the GATT framework, was seen to weaken the GATT structure as a whole.

In the complaint[172] the EC alleged that MITI's control of export prices by means of administrative guidance violated Article XI of GATT, which prohibits quantitative restrictions on the import or export of goods. The agreement was seen as an attempt to circumvent the GATT antidumping procedures and to exclude the EC from deciding the dumping issue for itself; in other words, the United States and Japan presented their determination as *fait accompli* to the rest of the world. In effect, the arrangement excluded the EC from the decision-making process while forcing them to pay higher prices to assist U.S. industries. Regarding market access, the EC complaint alleged that the Accord, by improving market access for U.S. products, violated the principle of most-favored-nation treatment required by GATT.

The panel's findings, issued in March 1988, were approved by the GATT council in May 1988.[173] The panel found that the monitoring of export prices by the Japanese government, the creation of *de facto* floor

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168. *See* N.Y. Times, July 30, 1987, at D4, col. 1.

169. *See* 4 INT'L TRADE REP. (BNA) 347 (Mar. 11, 1987) (quoting Jean-Pierre Derisbourg of the EC who described the semiconductor accord as "effectively giv[ing] the two giants of the industry, with 80 percent of world production, the right to organize the world market as they wish").

170. For general descriptions of the EC complaint, see 3 INT'L TRADE REP. (BNA) 1244-45 (Oct. 15, 1986); New York Times, Nov. 21, 1986, at 33; 3 INT'L TRADE REP. (BNA) 1429 (Nov. 26, 1986). The EC was supported in its request for an investigation by Hong Kong, Canada, Sweden, Singapore, Switzerland, Malaysia, and Nigeria.

171. *See* 3 INT'L TRADE REP. (BNA) 1245 (Oct. 15, 1986) (EC must import two-thirds of its requirements in 1985 with that percentage expected to increase).

172. *See* 5 INT'L TRADE REP. (BNA) 452-54 (Mar. 30, 1988).

173. *See* Wall Street Journal, May 5, 1988, at 6, col. 2.

prices by means of administrative guidance and third-country export restrictions, constituted measures contrary to principles underlying Article XI:1.[174] On the issue of market access, the panel found that those provisions of the Accord did not violate the GATT because they did not provide preferential treatment for U.S. products.[175] The panel suggested that Japan change its rules regarding third-country sales to conform with GATT and that it should revise its rules for export licenses, as MITI had been denying licenses which failed to meet threshold prices set by administrative guidance.[176] The panel also took note of Japan's promise to improve market access for semiconductors produced by all GATT members.[177]

In response to the ruling, Japan stated that it would change its procedures although it did not specify how it would go about this.[178] Government and industry spokespersons in the United States indicated their agreement with the findings, often with an air of detachment which seemed to imply that the GATT findings somehow did not involve the United States but rather was a matter between the EC and Japan. The United States denied that the panel ruling undermined the Accord itself. Rather, in its view the only aspect affected was how Japan had chosen to implement it. According to U.S. Trade Representative, Clayton Yeutter, "what we have been saying since the agreement went into effect" was that some of the implementation methods were not legal under GATT.[179] Yet it was the United States which pressured the Japanese with the threat of sanctions to set up the export monitoring scheme. Government and industry spokespersons, however, offered no suggestions as to how Japan should go about this in spite of the fact that Japan has very few legal or statutory ways to control exporters except by administrative guidance.[180]

VII. THE TRADE SANCTIONS OF 1987

Depending upon which party supplied the data, the U.S. market share had either risen by more than one percent, dropped three percent, or held steady in the year following the Accord.[181] The dumping statis-

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174. GATT Panel findings, paragraph 132A (from a restricted copy of GATT proceedings).

175. *Id.*, paragraph 132C.

176. *Id.*, paragraph 132B.

177. *Id.*, paragraph 132C.

178. *Wall Street Journal*, May 5, 1988, at 6.

179. 5 INT'L TRADE REP. (BNA) 453 (Mar. 30, 1988).

180. *Wall Street Journal*, Mar. 8, 1988, at 12.

181. *See* 4 INT'L TRADE REP. (BNA) 622 (May 6, 1987).

tics were no less confusing, even with Commerce using MITI's own data. For example, most American and Japanese semiconductor companies calculate the cost of an item on the date of its shipment.[182] Commerce, however, decided to calculate fair market value not at the time of shipment but at six months prior to shipment.[183] In doing so, the agency was introducing a pricing aberration into a sector characterized by rapidly falling prices with time; in other words, many inefficiencies can be worked out of a semiconductor manufacturing process over a six-month time span so that identical products may have very different costs of production.[184] In August 1988, the Commerce Department responded to U.S. industry requests to alter its LTFV calculations.[185] By easing its formula for calculating dumping margins, Commerce sought to encourage additional exports of semiconductors from Japan to U.S. users.[186]

With so little apparent progress on dumping and market access, the United States began to pressure Japan by threatening to impose trade sanctions or even to terminate the Accord if third country dumping was not controlled.[187] To help raise prices and cut off supplies to the grey market, in April 1987 MITI may have ordered a 30 percent cutback in production to head off tariff sanctions.[188] Unfortunately, this decision came just as an upturn in orders for computers began to drive up U.S. semiconductor prices.[189] The production cuts, coupled with delays in the export license process, created fears of shortages among U.S. semiconductor users because U.S. manufacturers did not have the increased production capacity to replace the Japanese sources.[190]

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182. *See id.* at 556 (Apr. 22, 1987).

183. *Id.*

184. *Id.*

185. 5 INT'L TRADE REP. (BNA) 1162 (Aug. 17, 1988). *See also id.* at 1178-79 (SIA requests and Commerce responses).

186. *See id.* at 1162.

187. *See* Wall St. J., Nov. 13, 1986, at 4; 4 INT'L TRADE REP. (BNA) 312 (Mar. 4, 1987)(Japan given until the end of February 1987 to solve third-country dumping; until the end of March 1987 to improve market access).

188. N.Y Times, Apr. 7, 1987, at 34. Both MITI and the U.S. government deny this action took place. MITI would have an incentive to deny such an order because it has been clear since the oil cartel dispute of the early 1980s that such orders would violate Japan's Antimonopoly Law. Nevertheless, "administrative guidance" remains a potent force in regulating the Japanese economy.

189. Wall St. J., Apr. 1, 1987, at 2.

190. Japanese production of 256K DRAMs had been cut by 32% for April-June 1987 compared to October-December 1986. This cutback resulted in a supply shortage as Japan controls 90% of the world market in 256K DRAMs. The impact was bigger yet for 1 megabyte DRAMs where Japan's market share was even greater. *See* JAPAN

Despite MITI's action, Washington moved forward with planning trade sanctions. One option was to terminate the suspension agreements covering EPROMs and DRAMs and to institute duties already assessed by Commerce.[191] This option would hurt U.S. semiconductor users, however, because there was not enough domestic supply to make up for Japanese semiconductors which would now carry higher prices. A preferable option would be to increase tariffs on Japanese products containing Japanese electronics or made by Japanese companies who dump.[192] Another consideration in applying tariffs to imports is to choose products which have U.S. competitors or to select those industrial sectors where Japan enjoys little market share and wants to expand.[193]

On March 31, 1987, Commerce released a list of $900 million worth of Japanese products comprising the candidates for the ultimate institution of $300 million in compensatory tariffs.[194] Of the figure of $300 million in damages, $135 million was attributed to semiconductor dumping since the Accord and $165 million to lost sales resulting from lack of market access in Japan.[195] Two weeks later, 100 percent tariffs were imposed on imports of laptop and desk top computers, 18-inch and 20-inch color televisions, and power hand tools.[196] The sanctions

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ECON. J., June 27, 1987, at 20.

191. *See* N.Y. Times, Mar. 23, 1987, at 21.

192. *Id.*

193. *See id.*, Mar. 24, 1987, at 33.

194. 52 Fed. Reg. 10,275 (Mar. 31, 1987). This list included hard-disk drives; computer central processing units; 18-inch and 19-inch color televisions; small color televisions; black-and-white televisions; monochrome computer display terminals; combination radio and tape players; combination phonograph and tape players; communications satellites and parts; small electric motors; computer tapes; window air-conditioners; electric measuring devices, power hand tools; pumps and parts; refrigerators, and commercial photographic film. In hearings before Commerce, computer makers argued that it would be unwise to include computer components in the final sanctions because U.S. manufacturers were already having to pay more for components and semiconductors because of the Accord. 4 INT'L TRADE REP. (BNA) 504 (Apr. 15, 1987). The representative from Makita power tools argued that imposing tariffs on imported power hand tools would cause workforce cutbacks at Makita's U.S. manufacturing plants. *Id.* at 505.

195. *Id.*

196. 4 INT'L TRADE REP. (BNA) 537 (Apr. 22, 1987). In 1986, $600 million worth of Japanese laptop and desktop computers were sold in the United States. In the same year approximately one million 18- and 20-inch color televisions were imported. By imposing 100% tariffs, the Administration estimated that there would be $180 million in lost sales of computers, $190 million in lost sales of televisions, and $30 million in lost sales of power hand tools, yielding the total of $300 million sought by the sanctions. *Id.*

were taken under the authority granted to the President by section 301 to impose duties as a way of enforcing U.S. rights under a trade agreement.[197]

The Japanese reaction was swift. Even before the final list of tariff targets was announced, Japan warned it would appeal any tariff sanction to GATT.[198] It followed through on this threat by bringing an Article XXIII(1) complaint under the GATT dispute settlement provision.[199] According to Article XXIII, the parties must have bilateral talks in an attempt to settle the dispute before the agreement may be suspended or tariffs instituted.[200] Failing that, one or both sides may request that a GATT panel be appointed to adjudicate the dispute.[201]

Meanwhile in the United States, nearly as soon as the sanctions were announced, speculation began over how long the tariffs would last. Within six weeks after the sanctions began, President Reagan announced his intention to lift the 100 percent tariff on 20-inch color televisions.[202] Commerce statistics indicated that Japanese DRAMs had increased to within 85 percent of fair market value. This rise had eliminated the unfair trading advantage by $51 million, equal to the value of their exports of 20-inch sets.[203] Nevertheless, there was strong opposition in Congress to the Reagan Administration's decision to reward Japan for partial compliance with the Accord.[204]

The SIA also urged the continuance of sanctions, but for different reasons. The SIA wanted sanctions continued until the Japanese government agreed to remove floor prices and to end production limits.[205] Of course, the floor prices originally were instituted to meet fair market value calculations of the U.S. government. The production limits were instituted to get rid of huge inventories of less than fair market value semiconductors glutting the Japanese market as a way of improving access for U.S. products. Apparently, in the SIA's opinion the cure had become worse than the disease.

Sanctions were again eased in November 1987. According to Commerce evaluations, by that time all dumping of EPROMs and

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197. *See* 52 Fed. Reg. 10,275 (Mar. 31, 1987).

198. *See* 4 INT'L TRADE REP. (BNA) 505 (Apr. 15, 1987).

199. *See* General Agreement on Tariffs and Trade, Art. XXIII(1) October 30, 1947, 61 Stat (5) A5, A64-65, T.I.A.S. No. 1700, 55 U.N.T.S. 188.

200. *Id.*

201. *Id.*, Art. XXIII (2).

202. *See* 4 INT'L TRADE REP. (BNA) 754 (June 10, 1987).

203. *Id.*

204. *See id.* at 796-97 (June 17, 1987).

205. *See id.* at 1115 (Sept. 16, 1987); *id.* at 1142 (Sept. 23, 1987).

DRAMs in the United States and in third countries had ceased. Further, shortages of semiconductors were due not to any official restrictions on supply but rather to growing demand exceeding available production.[206] Thus, President Reagan suspended the remaining $84 million in tariffs imposed for dumping violations, leaving intact the remaining $165 million imposed for lack of market access.[207] The market access sanctions remain in effect.[208]

VIII. The Failure to Learn From the Past

What have been the major effects of the Accord thus far? The higher prices for semiconductors have benefited U.S. producers, but Japanese producers benefited as well from production cutbacks which drove up prices and increased profits.[209] Additionally, the floor prices brought an end to the intense price war among Japanese companies which had severely cut into profits.[210] Yet even with increased prices, U.S. companies did not increase production capacity. Without increased capacity, especially in semiconductors for consumer electronics, it seemed unlikely that U.S. producers would be able to make significant gains in market share in Japan. Indeed, with the upturn in demand, especially from the domestic computer industry, U.S. producers seemed more interested in selling to their U.S. customers than in expanding into Japan.[211]

The semiconductor agreement stimulated Japanese firms to shift their production to facilities within the United States, where the prices were not controlled.[212] If these facilities were able to achieve the same level of productivity as they experienced in Japan, their greater efficiency would allow them to out-produce U.S. manufacturers, and thus drive down prices.[213]

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206. *See id.* at 1348 (Nov. 4, 1987).

207. *See id.* at 1382 (Nov. 11, 1987).

208. *See* 6 Int'l Trade Rep. (BNA) 145-46 (Feb. 1, 1989) (Senator Domenici urging President Bush to retain sanctions).

209. Japan Econ. J., May 8, 1987, at 10.

210. Wall St. J., Nov. 6, 1987, at 1.

211. *Id.* On the other hand, there are a number of companies who have increased their market share in Japan, even succeeding in supplying chips to Japanese automakers who had been viewed as "notorious holdouts" against buying American. See Yoder, *U.S. Chips are Quietly Cracking the Japanese Market*, Wall St. J., Mar. 22, 1989 at B-4.

212. *See supra* text accompanying note 166.

213. NEC expanded its 256K DRAM production in the United States. In Japan NEC is able to produce 20-30 percent higher yields than most U.S. manufacturers. Thus NEC would be able to provide DRAMs at lower prices, essentially defeating U.S.

The United States has experience beyond the semiconductor agreement in managing the consequences of restricting entry of Japanese products into the American market. Previous attempts have included import restrictions on Japanese automobiles and steel. These actions were not brought because Japanese producers were selling autos and steel at less than fair market value in violation of U.S. antidumping laws. Rather, under section 201 of the Trade Act of 1974,[214] U.S. industries and their employees may obtain temporary relief from injuries brought about by increased, *fairly traded* imports, thus providing industries some breathing space to adjust to the changed circumstances. Under section 201 the President is given the authority to impose duties or to withdraw or modify trade concessions when the domestic industry suffers or is threatened with serious injury caused by increased imports.[215] So, unlike many other provisions of U.S. trade law, section 201 provides relief from fair, rather than unfair, trade practices.

The ITC conducts section 201 investigations. The investigation may be initiated by petition of "an entity, including a trade association, firm, . . . union, or group of workers, which is representative of an industry."[216] Additionally, the President, the U.S.T.R., the House Committee on Ways and Means, the Senate Finance Committee, or the ITC on its own motion may initiate a section 201 investigation.[217]

The ITC must determine whether or not increased imports of a product into the United States are a substantial cause of or pose a threat of serious injury to the domestic industry that produces a like or directly competitive product.[218] The ITC considers a variety of factors in its investigation, including whether there is a "significant idling of productive facilities in the industry, the inability of a significant number of firms to operate at a reasonable level of profit and significant unemployment or underemployment within the industry."[219] The ITC also looks for declining sales, growing inventory, and downward trends

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producers in their own backyard. Wall St. J., Nov. 24, 1986, at 6.

214. 19 U.S.C. §§ 2251-2253, as amended by §§ 248-249 of the Trade and Tariff Act of 1984, Pub. L. No. 98-473.

215. The President may raise duties, establish import quotas, and negotiate orderly marketing agreements with foreign exporting countries. *See* 19 U.S.C. § 2251 (1982).

216. *Id.* § 2251(a)(1).

217. *Id.* § 2251(b).

218. *See id.* § 2251(b)(1). The ITC also must define the domestic industry and what articles of foreign origin are competing directly with the domestically produced articles. 19 U.S.C. § 2251(b)(3).

219. *Id.* § 2251(b)(2)(A).

in production, profits, wages or employment in the domestic industry.[220] Most of this information is gathered from questionnaires to importers, U.S. industry and from a mandatory public hearing.[221] Thus, the fact-finding portion of a section 201 investigation is very similar to an antidumping investigation.

For relief to be granted under section 201, the ITC must find that increased imports have caused "serious injury" to the domestic industry.[222] This "serious injury" test is more stringent than the "material injury" test embodied in the antidumping statutes.[223] Under those statutes there need only be some material injury to the domestic industry caused by unfair trade practices, even though there may be other factors which have caused greater harm.[224] In contrast, section 201 requires a greater showing of harm as it deals with fair trade practices on the part of the exporting countries; increased imports must be the substantial cause of serious injury to the domestic industry,[225] a standard which is often difficult to meet.

If the ITC finds that the domestic industry is threatened by or is suffering from a serious injury due to increased imports, its affirmative decision is sent to the President.[226] In its report the ITC must recommend the form of relief to be granted to the industry.[227] This relief can take the form of increased duties, import restrictions, or adjustment assistance to the affected industry.[228] If the ITC makes a negative determination or recommends only the provision of adjustment assistance to the affected industry, the President has no discretion to alter the ITC's recommendation.[229] Alternatively, the President may establish quotas or tariff-rate quotas, increase duties up to 50 percent, negotiate orderly marketing agreements, provide adjustment assistance, or decide to provide no relief at all.[230]

The variety of policy choices available to the President is an outgrowth of the fact that the section 201 import restrictions must be applied across the board to all exporting countries regardless of whether

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220. *See id.* § 2251(b)(2)(B).
221. *Id.* § 2251(c).
222. *Id.* § 2251(b)(1).
223. *See id.* §§ 1303, 1671.
224. *Id.* § 2251(b)(2)(D).
225. Substantial cause is defined as "a cause which is important and not less than any other cause." *Id.* § 2251(b)(4).
226. *Id.* § 2251(d).
227. *Id.* § 2251(d)(1).
228. *Id.* § 2251(d).
229. *Id.* § 2252.
230. *See id.* § 2253(a).

the countries have increased their exports of the product to the United States.[231] Although the President retains the option to pursue selective orderly marketing agreements with individual exporting countries, this remaining form of relief can trigger the suspension of substantially equal trade concessions by other exporting countries under Article XIX of the GATT. In response to this possibility, section 201 requires the President to consider a number of domestic and international economic factors in choosing the form of relief for the domestic industry.[232]

Regardless of the form of relief chosen, it may be granted for a period not to exceed five years.[233] The temporary nature of the relief is seen as a way of encouraging adjustment by the industry to increased competition. The relief must be phased down during the final three years, although the President may reduce or terminate the relief if it is in the national interest to do so.[234]

In keeping with its pro-free trade stance, the Reagan Administration generally was hostile to the filing of section 201 cases. However, it must be recalled that the Administration had to balance free trade against the devastating impact of the 1981-1983 recession on U.S. industrial output.

A. Automobiles

The late 1970s saw a significant increase in the market share of imported automobiles sold in the United States.[235] From 1978 to 1981 retail sales of Japanese autos rose from 11.9 percent of the market to 22.0 percent.[236] This increase in market share led the Ford Motor Company and the United Auto Workers Union to file a joint petition for import relief under section 201. According to the petition, the U.S. auto industry was being seriously injured by foreign car imports, especially those from Japan.[237]

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231. *Id.* § 2253.

232. *See* 19 U.S.C. § 2252(c). Other factors the President must consider include the likelihood of adjustment assistance for workers and firms, efforts being made by the industry to improve competitiveness, the effect of import relief on consumers, and the economic and social costs absent relief.

233. *See supra* note 18. The President may extend the relief for a further three years at no higher level than existed at the end of the five-year term.

234. *Id.* § 2253(h)(3).

235. For an extensive discussion of the status of the U.S. auto industry, see U.S. Int'l Trade Comm'n, The Internationalization of the Automobile Industry and its Effects on the U.S. Automobile Industry, U.S.I.T.C. publ. no. 1712 (1985) [hereinafter "Auto Report"].

236. *Id.* at 8.

237. *See Certain Motor Vehicles and Certain Chassis and Bodies Therefor*, 2

Late in 1980, the ITC held by a 3-2 margin that increased imports of passenger vehicles were not a substantial cause of injury to the industry.[238] Rather, the ITC found the domestic economic recession to be more significant than any other factor in causing injury to the domestic industry.[239] The majority characterized the loss of market share as being a symptom of the general downturn in the economy resulting in a decline in demand.[240] Rather than analyze factors such as higher gasoline prices, reduced income of the unemployed, and higher interest rates separately, the ITC grouped them into one overriding factor: decline in demand.[241] Although the ITC recognized that increased imports were an important cause of injury to the U.S. auto industry, it found that imports did not qualify, under the strict criteria of section 201, as the "substantial cause."[242]

The majority also recognized that while Japanese automakers had been able to capitalize early on the shift in consumer preference for smaller vehicles, American producers were making progress in adapting product lines to meet this need.[243] Therefore, it refused to provide section 201 relief because it found that increased imports did not pose a substantial threat to the domestic industry.[244] The majority expected that the recovery from the recession would restore the industry and thereby obviate any need for interim import remedies.[245]

The majority recognized that this interpretation of section 201's causation criteria with regard to relief during a recession could meet strong opposition. Chairman Alberger described the decision as being in "an area of legal policy that is by its very nature controversial and subjective."[246] Shortly thereafter, legislation was introduced in Congress to restrict Japanese car imports.[247] President Reagan stated that he would be hard-pressed to veto such a bill.[248] Thus, despite the ITC's negative determination, the President announced that the administration would negotiate directly with Japan to establish a voluntary re-

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INT'L TRADE REP. Dec. (BNA) 5241-5301, 5260 (1982).

238. *Id.* at 5243 (views of Chairman Alberger).

239. *Id.* at 5249-52.

240. *Id.* at 5250-51.

241. *See id.* at 5271-73 (views of Vice Chairman Calhoun).

242. *See id.* at 5254-55 (views of Chairman Alberger).

243. *See id.* at 5252-54 (views of Chairman Alberger).

244. *Id.* at 5243.

245. *See id.* at 5249-55 (views of Chairman Alberger).

246. *See id.* at 5254.

247. *See* Seaberry, *Japan Links Auto Cut to Concessions*, Wash. Post, Apr. 18, 1981.

248. *Id.*

straint agreement on auto imports.[249]

Ignoring the objection of Japanese automakers, MITI announced that it would adhere to a voluntary restraint agreement on auto exports to the United States.[250] The Japanese agreed to limit exports to 1.68 million units for 1981, a restraint level which ultimately was in effect through March 1984.[251] The voluntary export limit increased to 1.85 million for the 1984-1985 model year. Finally in March 1985, President Reagan announced his intention not to renew the voluntary restraint agreement because administration officials felt that the domestic industry had recovered its competitive ability against the Japanese.[252] Although the agreement was terminated, the Japanese government unilaterally has limited exports to 2.3 million autos per year since that time.[253]

What was accomplished by proceeding with a voluntary restraint agreement when the ITC had determined that no import relief was necessary? In the absence of a restraint agreement, certainly there would have been greater sales of Japanese cars and a corresponding reduction in domestic sales. Yet even with the agreement in place, the Japanese automakers increased their market share from 17 percent before 1981 to 21 percent by 1983.[254] Although demand for small Japanese cars climbed steeply during the oil price increase during the late 1970s, the

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249. *See* 71 U.S. IMPORT WKLY. (BNA) A-16 (April 1, 1981). By pursuing voluntary restraints the Administration indicated a willingness to go around the procedural safeguards of section 201. Indeed, one Japanese commentator described the pursuit of voluntary restraints as a "game without ground rules." 76 U.S. IMPORT WKLY. (BNA) A-3 (May 3, 1981) (quoting former Japanese Ambassador to the United States Nobuhiko Ushiba).

250. Announcement reprinted in 76 U.S. IMPORT WKLY. (BNA) N-1 (May 6, 1981).

251. *See* Auto Report, *supra* note 235, at 64.

252. *See* Auto Report, *supra* note 235, at 10.

253. *See* 6 INT'L TRADE REP. (BNA) 62 (Jan.1, 1989) (restrictions in force for ninth consecutive year). For the 1985-86 and 1986-87 model years, this decision amounted to a 24 percent increase, yet it was less than it might have been had the Japanese automakers been given free rein. *See also* 2 INT'L TRADE REP. (BNA) 476 (April 3, 1985). White House spokesman Larry Speakes referred to the new limit as in reality not any restraint at all. Congress also was upset by the apparent surge in imports. *Id.* Indeed Prime Minister Nakasone admitted that it might have been better to have informally observed the rate of Japanese exports over a period of time rather than to have announced numerical limits at the outset. *See id.* at 540 (Apr. 17, 1985). Japanese automakers also fought bitterly among themselves for shares of the new export quota. *See* Lehner, *Japanese Auto Concerns Are Fighting Over How Many Cars to Ship to the U.S.*, Wall St. J., Mar 21, 1985, at 17. *See also* Wall St. J., Feb. 13, 1986, at 3 (decision to renew restrictions for 1986-87 model year).

254. *See* H.R. Export Task Force, The Year in Trade - 1983, at 11 (1984).

subsequent decline in oil prices should have led to a decline in consumer preference for smaller autos. Additionally, the introduction of smaller American-made cars during the term of the restraint agreement should have enhanced competition for more of this segment of the market.[255] The ITC staff concluded that without the restraint Japanese cars would have captured approximately 28 percent of the market in 1984.[256]

Consumer prices for cars also increased during the term of the restraint agreement. This increase was due in part to a growing preference for larger cars as a result of declining oil prices and a tendency for Japanese automakers to export larger cars, which support a higher profit margin, to the American market.[257] During this period of time the dollar strengthened on the international market; consequently any gains in auto industry employment probably were offset by losses in employment by exporting industries.[258]

Thus, while the voluntary restraint agreement helped profits, employment, investment, and productivity to increase in the United States, Japanese plants still remained twice as productive as American plants in 1984.[259] Japanese automakers also opened plants in the United States as a way of avoiding import restrictions.[260] They also began to move away from the production of small cars toward mid-size models which compete more directly with U.S. products.[261] It appears that the only positive aspect of the agreement was to allow the U.S. automakers some breathing space in which they could improve their production facilities and investments.[262] According to then Acting U.S.T.R. Michael Smith, the estimated economic costs of the restraints to U.S. consumers were modest until 1983 when the economy began to recover strongly.[263] This statement implies that the recession was indeed the problem as the ITC had stated rather than competition from Japanese imported automobiles.

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255. *See* Auto Report, *supra* note 235, at 64.

256. *See id.* According to the staff report, demand for Japanese cars would have remained low during the recession but would have increased as the economy recovered.

257. *See id.* at 65-67. The average price for Japanese cars increased 39% over the course of the restraint agreement, from $6,709 in 1980 to $9,300 in 1984.

258. *See id.* at 70-71.

259. *See* H.R. Export Task Force, The Year in Trade - 1983 at 36 (1985).

260. 2 INT'L TRADE REP. (BNA) 840 (June 26, 1985).

261. *Id.* at 840-41 (quoting statement of auto analyst Maryann Keller before the Congressional Joint Economic Committee).

262. *See id.* at 841 (statement of then Acting U.S. Trade Representative Michael Smith).

263. *Id.*

B. Steel

Despite the strengthening economy and post-recessionary improvements in other manufacturing sectors, the U.S. steel industry was still suffering huge losses, layoffs, and plant closings in 1983.[264] Steel imports into the U.S. market had risen from two percent in the 1950s to a record high of 22 percent by 1983, a 1100 percent increase in market share.[265] Naturally, the domestic industry viewed these increased imports as the source of many of its problems. Unlike other sectors of the steel industry, U.S. specialty steel firms are export-oriented, generally more efficient, and have modern facilities.[266] Their products sell for much higher prices than ordinary steel and the specialty steel producers tend to enjoy higher profits than the domestic industry as a whole and individual foreign competitors.[267] Despite this circumstance, perceived subsidization of foreign steel producers led U.S. specialty steel interests to file two petitions for relief from imported steel.

Because these petitions alleged unfair trade practices in the form of subsidies by foreign governments, they were filed originally under section 301.[268] ITC investigation indicated that the scope of the inquiry should be broadened to include not only the alleged offending countries named in the petitions but also specialty steel producers throughout the world.[269] To increase the scope of the investigations, both cases were altered to include section 201 proceedings.[270]

The first case involving Japan originally began as a complaint against specialty steel producers in Austria, Brazil, and Sweden, and four member countries of the European Community ("EC"): Belgium, France, Italy, and the United Kingdom.[271] Following the filing of the then section 301 petition on December 2, 1981, the U.S.T.R.'s office initiated an investigation into subsidy practices in these countries.[272]

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264. U.S. steel plants lost $3.2 billion in 1982 and $2 billion in 1983. *See* H.R. EXPORT TASK FORCE, The Year in Trade — 1983, *supra* note 254, at 8.

265. *See id.* Steel imports rose from 2% in the 1950s, to 10% in the 1960s, to 15% through most of the 1970s. *Id.*

266. *See* President's Section 301 Determination on Specialty Steel, reprinted in 7 U.S. IMPORT WKLY. (BNA) 239 (Nov.17, 1982).

267. *See id.* For detailed description of the plight of the industry, see U.S, IMPORT WKLY. (BNA) at 637-38 (Feb. 16, 1983).

268. 5 INT'L TRADE REP. Dec. (BNA) 1414 (1984).

269. *See* 47 Fed Reg. 10,107 and 36,387 (1982).

270. *See* 47 Fed. Reg. 51,717 (1982).

271. 5 INT'L TRADE REP. Dec. (BNA) 1414 (1984).

272. The investigation did not begin until March, 1982. *See* U.S. IMPORT WKLY. (BNA) 503 (Mar. 3, 1982).

After a lengthy investigation, the U.S. Trade Representative recommended that the President request the ITC to conduct an expedited section 201 investigation into specialty steel imports.[273] Recognizing that Presidential action could not control the potential suppliers not named in the petition, President Reagan followed this recommendation and the section 201 investigation began in December 1982.[274]

During the following March the ITC made affirmative determinations of injury in four segments of the specialty steel industry.[275] The ITC found that the decline in production and capacity utilization, the decline in wages, and the sustained operating losses of these producers indicated that each was seriously injured.[276] In finding that increased imports were the substantial cause of serious injury to the domestic industry, the ITC relied on the fact that there had been a decline in the domestic demand corresponding to sales lost to imports.[277]

To remedy the effects of increased imports, the ITC recommended that the President institute quotas on foreign specialty steel for three years.[278] In a compromise with industry forces, President Reagan awarded the specialty steel producers four years of import relief so that they might complete investment projects and improve profitability.[279] This relief took the form of quotas on bar, rod, and alloy tool steel, and digressive tariffs on stainless sheet, strip, and plate.[280] The President

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273. The U.S.T.R. also recommended that the President begin negotiations to reduce the problem of imports and begin monitoring European imports for possible action under § 301. *See* 7 U.S. IMPORT WKLY. (BNA) 215 (Nov. 17, 1982).

274. For the text of President Reagan's recommendation, *see supra* note 266.

275. The Commission determined that producers of stainless steel strip and sheet, stainless steel plate, stainless steel bar and rod, and alloy tool steel were injured by increased imports. *See Stainless Steel and Alloy Tool Steel*, 5 INT'L TRADE REP. Dec. (BNA) 1412 (1984).

276. For a description of the losses incurred by each of the four industry segments, *see id.* at 1419-21.

277. *See id.* at 1422-24.

278. *See* 2 INT'L TRADE REP. Dec. (BNA) 1426-32 (1984). The Commission recommended an 8% quota for sheet and strip, a 10% quota for plate, a 17% quota for bars, a 42% quota for rods, and a 20% quota for alloy tool steel.

279. Domestic industry representatives had requested even lower quotas to extend for a five-year period. *See* 8 U.S. IMPORT WKLY. (BNA) 158 (May 4, 1983); *id.* at 254-55 (May 18, 1983). Some senators also pressured the President to decrease quotas and extend the length of relief to the maximum of five years. *See id.* at 455 (June 22, 1983).

280. *See* President's memorandum on specialty steel import relief, *reprinted*, 8 U.S. IMPORT WKLY. (BNA) 551-52 (July 6, 1983). The President followed the quotas recommended by the ITC with a provision for a 3% increase per annum in the quota limits.

also directed the U.S.T.R. to begin negotiations of orderly marketing agreements for rod, bar, and alloy tool steel with any country who wished to participate.[281]

The President's decision was poorly received by both the European producers targeted by the original complaint and Japanese producers.[282] The EC and the Japanese government announced their intention to seek compensation under GATT Article XIX to offset the losses due to U.S. import restrictions.[283] After negotiations failed to resolve the dispute, the EC imposed tariffs and instituted quotas for imports of U.S. chemicals, plastics, alarm devices, and sporting goods.[284] The U.S. and Japan negotiated an orderly marketing agreement to cover specialty steel products.[285]

The second case affecting Japanese steel imports also began as a section 301 unfair trade practice petition. In December 1982, a coalition of U.S. steel producers filed a complaint which charged that Japan and the European Community had violated the GATT by agreeing to impose minimum prices and/or quotas for Japanese steel shipped to the EC.[286] According to the petition, these arrangements violated most-favored-nation obligations of Japan toward the United States and other bilateral treaty provisions.[287] The producers were seeking relief in the form of import quotas, import surcharges, enforcement of Japan's obli-

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281. *Id.*

282. *See id.* at 658-59 (July 27, 1985) (response of European Community); JAPAN INST. FOR SOCIAL AND ECON. AFFAIRS, KEIZAI KOHO CENTER BRIEF NO. 10 (Aug. 1983) (response of Japan Iron and Steel Foundation).

283. *See* 8 U.S. IMPORT WKLY. (BNA) 683-84 (Aug. 3, 1983) (European Community); *id.* at 778 (Aug. 17, 1983) (Japan).

284. *See* H.R. Export Task Force, The Year in Trade - 1984 10 (1985).

285. *See* 9 U.S. IMPORT WKLY. (BNA) 9 (Oct. 19, 1983).

Although this case was conducted as a section 201 proceeding, that is, investigating increased imports resulting from fair trade practices, it contained a heavy dose of the rhetoric of unfair trade. For example, during a news conference following President Reagan's decision, U.S. Trade Representative William Brock stated, "I think hopefully we have used a sufficient two-by-four this time to indicate that we just can't continue to tolerate a world system that is totally trade distortive, where governments intervene at will without any consideration of international rule." Quoted in Cunningham et al., *Relief from Imports under Section 201 ("The Escape Clause") and Section 406 of the Trade Act of 1974* at 180, in THE TRADE AGREEMENT ACT OF 1979 — FOUR YEARS LATER (Practicing L. Inst. Handbook No. 425, 1983). Some commentators have suggested that both the President and the Commission realized that much of the requested relief had already been supplied under previous quota regimes. Nevertheless the Administration viewed this case as an opportunity to change long-term behavior of the exporting countries. *See id.* at 163, 179-81.

286. *See* 7 U.S. IMPORT WKLY. (BNA) 401-02 (Dec. 22, 1982).

287. *Id.*

gations to the United States, and an end to the EC-Japan agreements.[288]

In response, Japan pointed out that its exports to the U.S. had fallen by 30 percent during 1982.[289] Simultaneously, however, Japan was planning to renew its agreement to limit shipments to the EC, the practice which the American producers had cited as creating an influx of steel on the American market.[290] In its rebuttal before the Commission, Japanese spokespersons analogized the EC agreement to voluntary restraint agreements used by the United States.[291] Additionally, they denied that government control over valuation of the yen had been used to subsidize the industry.[292]

The U.S. producers conditionally withdrew their section 301 petition when it was announced that the United States would pursue negotiations with the Japanese to resolve the problem.[293] These negotiations resulted in an agreement to hold consultations to maintain "unrestricted and free" bilateral steel trade.[294] This outcome did not satisfy the domestic steel producers who reopened their section 301 complaint. When the U.S.T.R. rejected the industry's petition as failing to show any impact on U.S. domestic steel, producers turned to Congress for relief.[295]

As impetus for steel legislation grew in Congress, the news that steel imports had reached a two-year high led Bethlehem Steel and the United Steelworkers of America to file a section 201 petition in early 1984 for relief from increased imports of foreign carbon and alloy steel products.[296] They filed their complaint under section 201 so that all potential steel suppliers could be considered in the investigation. The petitioners requested that the administration limit imports of these products to no more than 15 percent of domestic demand for a five-year period.[297]

In hearings before the ITC, the petitioners argued that increased

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288. *Id.*

289. *Id.* at 484 (Jan. 19, 1983).

290. *Id.* at 485.

291. *Id.* at 525-26 (Jan. 26, 1983) (statement of the Japan Iron & Steel Exporters' Ass'n).

292. *Id.* at 526.

293. *Id.* at 560 (Feb. 2, 1983).

294. *Id.* at 635 (Feb. 16, 1983).

295. *Id.* at 679-80 (Mar. 2, 1983). The House Steel Caucus proposed a bill which would limit imports to 15% of the domestic market. *See* 9 U.S. IMPORT WKLY. (BNA) 568 (Jan. 25, 1984).

296. *See* 9 U.S. IMPORT WKLY. (BNA) 568 (Jan. 25, 1984).

297. *Id.*

imports had prevented the industry from completing its modernization program and had forced the layoff of thousands of steelworkers.[298] On the other hand, steel importers attributed the problem to a decline in domestic demand, high wages, the strong dollar, and obsolete plants.[299] Even some domestic producers opposed the filing of the petition on the basis of its potential to undermine an existing formal agreement between the U.S. and the EC and the informal import arrangement with Japan.[300]

By a 3-2 majority, the ITC made affirmative determinations of injury with reference to a number of steel industry sectors.[301] It recommended that the President institute a mixture of tariffs, tariff-rate quotas, and quotas for a period of five years to give the domestic steel industry the opportunity to adjust to increased imports.[302]

The Reagan Administration faced choices between the interests of domestic producers and consumers, as well as between political interests at home and our allies abroad. President Reagan did not follow any of the ITC recommendations. Instead he directed the U.S.T.R. to negotiate voluntary restraint agreements with countries responsible for increased imports and to reaffirm agreements previously made with the EC and Japan.[303] His decision to pursue restraint agreements ran

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298. *Id.* at 990 (May 16, 1984).

299. *Id.*

300. *Id.* at 568 (Jan. 25, 1984). The Federal Trade Commission estimated that consumers would have to pay $768 million more per year if the ITC imposed import relief. The ITC recommended the provision of adjustment assistance or tariffs instead of quotas. *See id.* at 990-91 (May 16, 1984).

301. *See* Carbon and Certain Alloy Steel Products, U.S.I.T.C. Publ. no. 1553 (July, 1984) [hereinafter "Steel 1984"].

302. The ITC recommended tariff-rate quotas for ingots, blooms, billets, slabs and sheet bars; it recommended quotas on plates, hot-rolled and cold-rolled sheets and strips, galvanized sheets and strips, all other further worked sheets and strips, structural shapes and units, wire, and wire products. It also recommended a tariff on wire products. In all cases the tariffs and quotas were to be held stable during the first three years of the relief period. All tariff components would be decreased during the last two years. All other quotas would be increased during these final two years of relief. *See* Steel 1984, *supra* note 301, at 2-3, 72.

Although the majority considered declining demand, intra-industry competition, and discretionary decisions (such as labor contracts, raw materials sourcing) as factors contributing to the injury of the domestic producers, the Commission did not cumulate these factors to be weighed against the injury due to imports. Rather they based their finding on the observation that imports were no less an important cause of injury than any of the other factors. *See e.g., id.* at 60-61 (injury to sheet and strip producers).

303. *See* White House statement on steel import relief decision, reprinted in 1 INT'L TRADE REP. (BNA) 330-31 (Sept. 19, 1984). The U.S.T.R. also was directed to negotiate surge controls and to consult with U.S. trading partners to eliminate imbal-

counter to an earlier expressed sentiment against negotiating a voluntary restraint agreement with Japan.[304] Following several months of negotiations, the Administration concluded voluntary agreements with seven countries, including Japan.[305] However, several more months passed before the U.S. and Japan were able to agree on the details of the proposal.[306]

Commentators decried these new agreements as simply forestalling the necessary adjustment which the U.S. steel industry will have to undergo to become competitive in the world market.[307] Others, including the Federal Trade Commission, have predicted that consumers will bear added costs because of higher prices and transfer of production offshore.[308]

Government protection for the U.S. steel and automotive industries has done little to reverse their drop in market share. Indeed, the voluntary export restraints on automobiles cost American consumers nearly $18 billion in higher prices.[309] Although the stated purpose of the VRA was to allow American automakers with low production rates an opportunity to become more competitive, General Motors used the four years to diversify out of the auto industry by investing in one Korean and two Japanese auto firms, abandoning its plans for developing its own small car, forming a joint venture with Toyota, and purchasing Hughes Aircraft and Electronic Data Systems.[310] Fortunately, the five-year Steel Import Stabilization Act of 1984 is an improvement over the auto VRA in that it requires the President to annually affirm that the industry is taking measures to improve its competitiveness.[311] However, despite restructuring, shipments of the two most important commodi-

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ances in trade. *See id.* at 331.

304. *See* 8 U.S. IMPORT WKLY. (BNA) 731 (Aug. 10, 1983).

305. *See* 2 INT'L TRADE REP. (BNA) 5 (Jan. 2, 1985). The other six countries concluding agreements were Korea (1.9%); Brazil (0.8%); Mexico (0.3%); Spain (0.67%); Australia (0.18%); and South Africa (0.42%).

306. *See id.* at 705 (May 22, 1985). The Japanese agreed to limit exports of six classes of steel for five years.

307. *See id.* at 261 (Feb. 20, 1985) (statement of Fred Lamesch, president of the American Inst. for Imported Steel); Pine, *Steel Import Quotas: Try Now, Pay Later*, Wall Street J., June 17, 1985, at 1.

308. *See* 9 U.S. IMPORT WKLY. (BNA) 990-91 (May 16, 1984) (FTC estimates of $768 million per year increase in consumer costs).

309. COLLYNS & DUNAWAY, THE COST OF TRADE RESTRAINTS: THE CASE OF JAPANESE AUTOMOBILE EXPORTS TO THE UNITED STATES 150 (Int'l Monetary Fund Staff Papers, Mar. 1987).

310. *See* Wall St. J., Sept .25, 1985, at 30; Fortune, July 8, 1985, at 22.

311. *See* Trade and Tariff Act of 1984, Pub. L. No. 98-573, § 806(b), 98 Stat. 3046 (1984).

ties, carbon and specialty steel, have declined, as have profits and employment.[312] President Bush has extended protection for the steel industry through March 1992.[313]

The Semiconductor Accord also may diminish the usefulness of VRAs in the future. Although the GATT ruling on the EC complaint may be limited in its overall effect on the Accord, it may not bode well for attempts to construct voluntary restraint agreements in the future. Both the United States and the EC have pursued VRAs with Japan to cover a variety of commodities. In the past, enforcement of these agreements has relied heavily on MITI's administrative guidance mechanism. Following the ruling in the EC complaint, administrative guidance may be foreclosed for enforcement and future VRAs may be vulnerable to challenges before the GATT council by third countries harmed by export restrictions and pricing arrangements.

On the other hand, the EC recently began its own negotiations with Japan to reach an agreement similar to the Semiconductor Accord.[314] Reportedly the pact would set uniform floor prices for exports from all Japanese suppliers, although it will not include reciprocal market access provisions as found in the U.S.-Japan accord.[315] The EC-Japan pact, which also refrains from imposing third-country controls, thus may withstand scrutiny by GATT, unlike the earlier Accord.[316]

IX. In the Aftermath of the Accord

An examination of the record accumulated since the Accord went into effect indicates that the results are mixed at best. While the United States should never abandon its right to pursue those who violate the antidumping laws, it remains unclear in this instance whether LTFV semiconductor sales were cured by the Accord and the subsequent imposition of tariff sanctions or by the worldwide upturn in demand.

Although the Accord was not a major stimulus for the changes embodied in the Omnibus Trade and Competitiveness Act of 1988,[317] changes in section 201 and section 301 will affect future approaches to correct problems in semiconductor trade. Amendments to section 203

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312. *See* Dallmeyer, *supra* note 1, at 50.

313. *See* 6 Int'l Trade Rep. (BNA) 1146 (Sept. 13, 1989) (also calling for steel producing nations to reach consensus on ending steel subsidies).

314. *See* Japan Econ. J., Mar. 4, 1987, at 1.

315. *See id.*, at 4.

316. *Id.*

317. *See* Pub. L. No. 100-418, tit. I, Aug. 3, 1988.

formally incorporate negotiation of international agreements as a statutory option available to the President.[318] Adjustment assistance now may extend for eight years,[319] instead of just five, on the condition that industry make positive adjustments to foreign competition.[320] Section 202 now holds the opportunity for provisional relief in "critical circumstances,"[321] i.e., when there is a substantial increase in imports over a relatively short period of time.[322] Thus, interim relief may be granted in the form of new or increased duties pending the outcome of the investigation.[323] Given the volatility of the semiconductor industry, section 202 may become a popular avenue to gain immediate relief from fairly traded imports.

While the President was given more statutory choices to meet increased competition, Presidential discretion was curbed. Amendments to section 203[324] curbed the President's discretion to reject all ITC recommendations for relief in favor of providing no relief at all. Now, by passing a joint resolution, Congress can implement the ITC recommendations regardless of the President's decision.[325]

In terms of Presidential discretion, the 1988 amendments to section 301 have an even more dramatic effect. The 1988 Act completely transferred the section 301 authority from the President to the U.S. Trade Representative.[326] The Act also makes it mandatory for the U.S.T.R. to act to remedy the denial of rights under a trade agreement.[327] To underscore Congressional concern that U.S. trade interests are pursued vigorously, the new section 310 requires the U.S.T.R. to report annually on the office's trade liberalization objectives.[328] This report must describe major barriers and trade distorting practices which impair U.S. exports and the countries which engage in these practices.[329] Following the submission of the report, the U.S.T.R. must investigate each of the cited countries to determine the impact of their unfair trade practices. This investigation is designed to lead to the

318. *See id.*, § 1401 at § 203(a)(3)(G) (amending 19 U.S.C. § 2253).

319. *See id.*, § 203(e)(1)(B).

320. *See id.*, § 204(a). The ITC must report to Congress at two-year intervals on the progress made toward adjustment. *See id.*, § 202(a)(2).

321. *See id.*, § 202(b)(2)(A).

322. *See id.*, § 202(b)(3)(B).

323. *See id.*, § 202(d)(3).

324. *See id.*, § 203(c).

325. *See id.*

326. *See* Pub. L. No. 100-418, title I, Aug. 3, 1988, § 1301 at § 301.

327. *See id.*, § 301(a)(1).

328. *Id.*, § 310.

329. *Id.*, § 310(a)(1).

elimination of these practices, or compensation for them, over a three-year period.[330]

As far as remedies are concerned, imposition of duties is preferred to other forms of import restrictions.[331] While this approach might benefit semiconductor producers, it will have little beneficial effect for semiconductor users; the result will still be higher prices for finished products.

It remains to be seen how well the Act's emphasis on mandatory responses to protect what is perceived as distinctly national industries will mesh with reality. National boundaries are beginning to blur and lose significance in the high technology sectors. From 1985 to 1987, Japanese semiconductor companies signed more than one hundred agreements with foreign counterparts to create joint ventures, technology or marketing agreements, and equity partnerships.[332] The growing internationalization of the semiconductor industry is beginning to make the country of origin relatively unimportant.

While appealing to Washington for help, the industry has also been pursuing alliances with its rivals overseas, simply as a measure of good business. For example, Motorola and Toshiba have a joint venture based on the former's lead in microprocessor technology and the latter's lead in memory chips.[333] National Semiconductor designs, makes, and sells semiconductors in Japan with NMB Semiconductor; Honeywell, Compagnie des Machines Bull of France, and NEC cooperate on supercomputers; and Advanced MicroDevices has a marketing and technology agreement covering Sony digital chips as well as a sourcing agreement with the West German Siemens Corp.[334]

Furthermore, the semiconductor pact has reinforced the need for both U.S. and Japanese companies to have plants in each other's country. With plants in the United States, the Japanese get tariff-free sales of their U.S.-produced semiconductors. With joint ventures in Japan, U.S. producers get access to Japanese manufacturing technology. Indeed, because the pact increased the price of semiconductors, many manufacturers have been driven out of both the United States and Japan and into other markets beyond the reach of the U.S. and Japanese regulators.[335] Despite this growing internationalization, U.S. firms still

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330. *See id.*, § 310(c).
331. *See id.*, § 301(c)(5)(A).
332. *See* JAPAN. ECON J., *supra* note 165, at 69-90.
333. *See* Dallmeyer, *supra* note 1, at 52.
334. *Id.*
335. *See supra* note 153.

hold 80 percent of the U.S. semiconductor market.[336]

If the real goal is to make the U.S. semiconductor industry competitive again, government and industry must first accept the internationalization of high technology. Industry should not complain about foreign investment when it is key to its development. One government report suggests that the U.S. industry's market share problems are self-inflicted.[337] At the time that Japanese industry, with government and academic support, adopted a long-term strategy to target and dominate certain markets, the approach was equally available to U.S. industry. The United States was once in a position to enforce virtually any semiconductor market strategy it chose, having invented the technology, controlled the leading-edge research, dominated the relevant education, held the largest world market share, and consumed the majority of the product.[338]

More important, rather than relying on a series of ad hoc handouts, government and industry should begin a coherent effort to develop an integrated strategy that will address future structural problems. Both must recognize that the semiconductor industry is inherently cyclical, with booms and busts that out pace government attempts to reorder the situation. Additionally, both sides must realize that the attrition of semiconductor firms is not necessarily bad if it yields a more efficient industry.

The U.S. industry is slowly restructuring and consolidating to become more competitive and vertically integrated like its overseas rivals. Congress has taken some steps to facilitate cooperative research among U.S. companies by easing antitrust restrictions. In October 1984, the National Cooperative Research Act became law.[339] Now the legality of research and development cooperation is evaluated on a case-by-case basis under a "rule of reason," a definite improvement on the former *per se* illegality of such cooperative ventures.[340] The potential liability of the consortium is limited to actual damages, rather than treble damages assessed for other forms of anticompetitive practices.[341] Additionally, if a challenge to the legality of the research consortium fails, the losing challenger must pay the defendant's litigation expenses.[342] In the first year since its passage, more than forty consortia had filed with the

336. Washington Post, Mar. 5, 1987, at E1.
337. DSB REPORT, *supra* note 3, at 75.
338. *Id.*
339. 98 Stat. 1815, Pub. L. No. 98-462, 15 U.S.C. §§ 4301-4305.
340. *See id.* at 1816, § 3, 15 U.S.C. § 4302.
341. *See id.*, § 4(a), 15 U.S.C. § 4303.
342. *See* Davis, *R&D Consortia*, HIGH TECHNOLOGY, Oct. 1985, at 42-43.

office of the Attorney General and the FTC for protection under the Act.[343]

It is apparent that the government has a stake in the health of the U.S. electronics industry. By the year 2000, this semiconductor-dependent sector of the economy will account for 25 percent of the gross national product.[344] In 1986 alone, Congress allocated approximately $400 million to support semiconductor R&D in Defense Department laboratories and agencies, by defense contractors, and through National Science Foundation grants for basic research in universities.[345] Additionally Congress allocated $500 million to support semiconductor manufacturing technology R&D over the next five years.[346]

Problems in obtaining R&D funding at reasonable interest rates, however, turn on the potential of substantial reduction of the federal budget deficit. Another long-term problem that must be faced is the decline in technical education in the United States. The effort underway to support centers of excellence in semiconductor science at U.S. universities is a step in the right direction, but it must go beyond engineering students and reach the labor force who must cope with increasingly technical manufacturing plants.

These long-term issues are not easy to solve, nor do they offer flashy political gratification in the short run, but they must be dealt with and dealt with soon. Otherwise, the United States faces the prospect of endless repetitions of failed attempts to halt the inevitable internationalization and restructuring of the world high-technology sectors.

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343. *Id.* at 45. For further discussions of the Chip Consortium Concept, see Pollack, *Big Goal and Hurdles for New Chip Maker*, New York Times, July 13, 1989, at 21; Melloan, *Chipping Away at Good Old-Fashioned Competition*, Wall St. J., July 11, 1989 at A-21; Shaffer, *Let a Thousand Companies Fight*, New York Times, July 9, 1989, at F-2; Noyce, *Cooperation is the Best Way to Beat Japan, id.*

344. Sumney & Burger, *Revitalizing the U.S. Semiconductor Industry*, ISSUES IN SCIENCE & TECHNOLOGY, Summer 1987, at 32-41, 33.

345. *See* CBO, *supra* note 5, at 59-72.

346. *See* Wall St. J., Jan. 27, 1988, at 8; ELECTRONICS NEWS, Dec. 21, 1987, at 1.