FROZEN CONCENTRATED ORANGE JUICE FROM BRAZIL

Determination of the Commission in Investigation No. 731-TA-326 (Final) Under the Tariff Act of 1930, Together With the Information Obtained in the Investigation

USITC PUBLICATION 1970

April 1987

United States International Trade Commission / Washington, DC 20436

UNITED STATES INTERNATIONAL TRADE COMMISSION

COMMISSIONERS

Susan Liebeler, Chairman
Anne E. Brunsdale, Vice Chairman
Alfred E. Eckes
Seeley G. Lodwick
David B. Rohr

Staff assigned:

Stephen A. Vastagh, Investigator
Stephen Burket, Industry Analyst
Kristian Andersen, Attorney Advisor
Terry Planton, Economist
Debbie VonBeulen, Financial Analyst
Lynn Featherstone, Supervisory Investigator

Address all communications to
Kenneth R. Mason, Secretary to the Commission
United States International Trade Commission
Washington, DC 20436

CONTENTS

CONTENTS

Tables

CONTENTS

Tables—continued

CONTENTS

Tables—continued

CONTENTS

Tables—continued

CONTENTS

Tables—continued

Figures

Note.—Information which would disclose confidential operations of individual concerns may not be published and therefore has been deleted from this report.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

UNITED STATES INTERNATIONAL TRADE COMMISSION
Washington, DC

Investigation No. 731-TA-326 (Final)

FROZEN CONCENTRATED ORANGE JUICE FROM BRAZIL

Determination

On the basis of the record 1/ developed in the subject investigation, the Commission determines, 2/ pursuant to section 735(b) of the Tariff Act of 1930 (19 U.S.C. § 1673d(b)), that an industry in the United States is materially injured or threatened with material injury 3/ 4/ by reason of imports from Brazil of frozen concentrated orange juice, provided for in item 165.29 of the Tariff Schedules of the United States, that have been found by the Department of Commerce to be sold in the United States at less than fair value (LTFV).

Background

The Commission instituted this investigation effective October 23, 1986, following a preliminary determination by the Department of Commerce that imports of frozen concentrated orange juice from Brazil were being sold at LTFV within the meaning of section 731 of the Act (19 U.S.C. § 1673). Notice of the institution of the Commission's investigation and of a public hearing to be held in connection therewith was given by posting copies of the notice in the Office of the Secretary, U.S. International Trade Commission, Washington, DC, and by publishing the notice in the Federal Register of November 26, 1986 (51 F.R. 42945). The hearing was held in Washington, DC, on March 12, 1987, and all persons who requested the opportunity were permitted to appear in person or by counsel.

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

2/ Chairman Liebeler and Vice Chairman Brunsdale dissenting.

3/ Commissioners Eckes and Lodwick find that the domestic industry is threatened with material injury. They also find that the domestic industry would not have been materially injured but for the suspension of liquidation during this investigation.

4/ Commissioner Rohr finds that the domestic industry is materially injured.

VIEWS OF COMMISSIONER ECKES AND COMMISSIONER LODWICK

We determine that an industry in the United States is threatened with material injury by reason of imports of frozen concentrated orange juice (FCOJ) from Brazil which the Department of Commerce determined to be sold at less than fair value (LTFV). We further determine that even without the suspension of liquidation during this investigation, the domestic industry would not have been materially injured by reason of the LTFV imports at this time.

Our determination is based on the fact that the domestic industry is experiencing financial difficulties due, in part, to the series of recent freezes which have affected the Florida orange crop. It is against that background that the LTFV imports achieved an increasing market penetration, suppressed and depressed prices, and maintained significant inventories in both the U.S. and Brazil. These trends are now having an adverse effect upon the domestic industry. Moreover, the capacity of the Brazilians to produce an increasing amount of FCOJ ensures continued, significant levels of imports, and increasing adverse effects caused by such imports. These facts support a finding of a threat of material injury to the domestic industry.

Like product and domestic industry

In title VII investigations, the Commission must determine if the domestic industry is materially injured or threatened with material injury by reason of the imports subject to investigation. 1/ To make its

1/ The imported products subject to investigation is frozen concentrated orange juice for manufacturing. 51 Fed. Reg. 20321 (1986).

determination the Commission must define the like product and domestic industry. 2/

Like Product — The imported article subject to this investigation is frozen concentrated orange juice for manufacturing (FCOJM). 3/ FCOJM is a highly concentrated form of FCOJ. 4/ Domestic extractors 5/ manufacture FCOJM by extracting orange juice from oranges, removing water from the orange juice, and then freezing the remaining concentrate. 6/ The resulting concentrate can be reconstituted into orange juice by adding water. To form reconstituted orange juice, between six to seven units of water must be added to each unit of FCOJM. 7/ FCOJM is stored in bulk, either in 55 gallon drums or in tanks which can hold up to 100,000 gallons or more. 8/

2/ Section 771(4)(A) of the Tariff Act of 1930 defines "industry" as the "domestic producers as a whole of a like product, or those producers whose collective output of the like product constitutes a major proportion of the total domestic production of that product." 19 U.S.C. § 1677(4)(A). "Like product", in turn, is defined as a "product which is like, or in the absence of like, most similar in characteristics and uses with, the article subject to an investigation . . . ." 19 U.S.C. § 1677(10).

3/ 51 Fed. Reg. 20321 (June 4, 1986).

4/ See also Report of the Commission (Report) at R-10, and R-12-13 (listing various definitions used in the Commission report to describe the different types of FCOJ and orange juice).

5/ The term "extractors" is used throughout this opinion to mean the companies which extract the orange juice from the oranges and process it further into FCOJM, retail strength FCOJ, single strength orange juice, or some other orange juice product. In previous Commission determinations, the term "processor" was used instead of the term extractor. In the orange juice business, however, the term "processor" is also used to refer to those companies which reconstitute the FCOJM into retail strength FCOJ and into single strength orange juice. In order to avoid any confusion about which segment of the industry we are discussing, we will use the terms "extractors" and "reconstitutors" respectively rather than the term "processor."

6/ The manufacturing process is more fully described in the report. See Report at R-14-17.

7/ By comparison, retail FCOJ only requires that three units of water be added to it in order to form reconstituted orange juice.

8/ The large storage tanks make up "tank farms" which can store the FCOJM until it is further processed or shipped.

In the previous investigations involving FCOJM from Brazil, the Commission defined the like product to be "FCOJ". 9/ In this final investigation, all of the parties have argued that the Commission should change that like product definition.

The petitioners 10/ argue that the like product in this investigation should be defined as FCOJM. 11/ Petitioners argue that the Commission should not include retail FCOJ (FCOJR) or single strength orange juice (SSOJ) in the definition of the like product, since only FCOJM is imported from Brazil.

The domestic respondents 12/ argue that the like product should include

---

9/ See Frozen Concentrated Orange Juice from Brazil, Inv. No. 701-TA-184 (Preliminary), USITC Pub. 1282 at 4 (1982); Frozen Concentrated Orange Juice from Brazil, Inv. No. 701-TA-184 (Final), USITC Pub. 1406 at 3 (1983) (views of Chairman Eckes); id. at 18 (views of Commissioner Stern); Frozen Concentrated Orange Juice from Brazil, Inv. No. 751-TA-10, USITC Pub. 1623 at 11 (1984) (views of Commissioners Eckes, Lodwick, and Rohr); id. at 28 (views of Chairwoman Stern); id. at 44 (views of Vice Chairman Liebeler); Frozen Concentrated Orange Juice from Brazil, Inv. No. 731-TA-326, USITC Pub. 1873 at 5 (1986) (views of Vice Chairman Brunsdale and Commissioners Eckes, Lodwick, and Rohr); id. at 20 (views of Chairman Liebeler); id. at 35 (views of Commissioner Stern).

For convenience, the four previous FCOJ investigations will hereinafter be referred to as: FCOJ(CVD) (P), FCOJ(CVD) (F), FCOJ Review, and FCOJ(AD) (P) respectively.

10/ The petitioners include Florida Citrus Mutual (FCM), an association of citrus growers, and six domestic extractors.

11/ Post-hearing brief of the Petitioners at 1-2 (March 19, 1987) (hereinafter "Petitioners posthearing brief"). See also Hearing Transcript (Tr.) at 92.

12/ The term "domestic respondents" refers to the domestic extractors that oppose the present petition. These respondents include the National Juice Products Association (NJPA), an association of fruit juice manufacturers, and six domestic extractors.

all orange juice, including FCOJM, FCOJR, and SSOJ. [13/] In making that argument, they state that the only major difference between FCOJM, FCOJR, and SSOJ is the level of concentration of the orange juice. [14/] The Brazilian respondents [15/] have also argued that the like product should be defined to include "orange juice of all concentrations." [16/]

All of the subject Brazilian imports enter the United States in the form of FCOJM. Domestic FCOJM is thus the product which is "identical" to the imported product. [17/] Moreover, FCOJM differs in significant respects from FCOJR and SSOJ.

Extractors make very little SSOJ or FCOJR directly from oranges, while all FCOJM is made directly from oranges. [18/] FCOJM is easier to store and

---

13/ Prehearing Brief of the National Juice Products Association et al. at 3-6 (March 9, 1987) (hereinafter "Domestic respondents prehearing brief"); Posthearing Brief of the National Juice Products Association et al. at 7 (March 19, 1987) (hereinafter "Domestic respondents posthearing brief"); and Post-Hearing Brief of the Proctor & Gamble Company and the Citrus Hill Manufacturing Company at 3-4 (March 19, 1987) (hereinafter "P&G's posthearing brief"). See also Tr. at 146.

14/ We note that in the preliminary investigation, the domestic respondents apparently believed that the like product should be defined as FCOJ. See Comments of the National Juice Products Association at 3 (June 5, 1986) (arguing that growers should not be included in the domestic industry since they do not produce the like product, i.e. FCOJ).

15/ As used throughout this opinion, the term "Brazilian respondents" or "Brazilians" refers to the Brazilian companies that export FCOJM which is sold at LTFV, as well as those American companies which have corporate ties to those Brazilian companies and act only as reconstitutors of imported FCOJM rather than as extractors of round oranges.

16/ See Prehearing Brief on behalf Sucocitrico Cutrale, S.A. et al. at 9-14 (March 9, 1987) (hereinafter "Brazilian respondents' prehearing brief"). We note, however, that in the preliminary investigation the Brazilian respondents argued that the like product should be defined as including only FCOJM. Transcript of the staff conference (Conference Tr.) at 124; see also Post-Conference Brief on Behalf of Cargill Citro-America, Inc. et al. at 3 (June 5, 1986).

17/ The products are "identical" in their concentration levels. A given quantity of either domestic or Brazilian FCOJM, however, may differ in color, flavor (brix acid ratio), and defects. Report at R-15-R-16. Such differences, however, do not appear to have a measureable effect on prices. Id. at R-87-88.

18/ Id. at R-11.

transport than SSOJ or FCOJR. [19/] FCOJM can be stored for up to three years; [20/] SSOJ cannot be stored for extremely long periods of time. FCOJM is traded on the future's market; SSOJ and FCOJR are not. FCOJM is imported from Brazil; SSOJ and FCOJR are not. FCOJM is sold in bulk; SSOJ and FCOJR are sold at the retail level. [21/]

The Commission's like product determination is based on the facts of each investigation. Therefore, the Commission may refine its like product definition when it gathers further information in its investigation and when the parties have advanced new arguments not addressed in prior Commission determinations.

As noted above, in previous investigations the Commission defined the like product to be simply "FCOJ". It does not appear, however, that the Commission was asked in those investigations to differentiate between FCOJM and FCOJR for purposes of its like product definition. Based on the concerns raised by the parties in this investigation, however, the Commission examined whether it should refine its like product definition in light of its continuing investigation into the nature of the domestic industry.

FCOJM is the only product imported from Brazil. As noted above, FCOJM differs in many respects from FCOJR and SSOJ. Thus, domestic FCOJM is the product which is "like" the imported product. Therefore, we have determined that the like product in this investigation is FCOJM.

Domestic Industry — In the previous FCOJ investigations, the Commission defined the domestic industry to include both growers of

---

19/ Id. at R-13.
20/ Id. at 96.
21/ Moreover, FCOJM must have water added to it before it can be consumed; SSOJ can be consumed directly.

"round oranges" [22/] and extractors involved in the production of FCOJ. [23/] The Commission's definition of the domestic industry is a determination which is based upon the record developed in each investigation.

In the present investigation, both the Brazilian and domestic respondents argue that the Commission should not include any orange growers within the definition of the domestic industry. The petitioners, on the other hand, have argued that the Commission should again define the domestic industry as including both growers and extractors.

Petitioners argue that the Commission should define the industry to include both extractors and growers of round oranges, since there is a single, continuous line of production from round oranges (excluding navel oranges) to FCOJM and there is a commonality of economic interest between the growers and

---

22/ "Round oranges" are the oranges that are primarily used to make orange juice. Report at R-3. These oranges differ from "specialty" oranges, such as temples, tangelos, tangerines, and mandarins, which are primarily eating oranges. Id. at R-3-4. Specialty oranges have different physical characteristics, such as their ease of peeling, which makes them better suited for eating than some other types of oranges. Under Florida regulations "orange juice" cannot contain have more than 10 percent of its juice from specialty oranges. Id. at R-3.

The term round oranges refers to both "juice oranges" and navel oranges. Juice oranges are primarily grown to be processed into FCOJM. Id. at R-5. Navel oranges, although considered to be round oranges, are primarily grown for eating. Only the navel oranges which cannot be sold on the fresh market are processed into FCOJM.

23/ See FCOJ(CVD) (P) at 7; FCOJ(CVD) (F) at 3 (views of Chairman Eckes); id. at 20 (views of Commissioner Stern); FCOJ Review at 11 (views of Commissioners Eckes, Lodwick, and Rohr); id. at 30 (views of Chairwoman Stern); id. at 45 (views of Vice Chairman Liebeler); FCOJ(AD) (P) at 9, id. at 20 (views of Chairman Liebeler); id. at 35 (views of Commissioner Stern). The Commission, however, used the term processors rather than the term extractors.

In reaching those decisions, the Commission relied on such facts as: the vast majority of round oranges were used to make FCOJ; there was a single, continuous line of production from round oranges to FCOJ; 60-80 percent of all round oranges were sold on a non-priced basis through grower-owned cooperatives or through "participation plans"; and there was a high degree of interlocking ownership.

the extractors. 24/

The domestic respondents argue that the Commission should define the industry to include all aspects of the industry that actually produces and sells orange juice. 25/ They argue that extractors and reconstitutors should be included within the domestic industry. 26/ but the growers should not. 27/ The domestic respondents contend that there is not a single, continuous line of production from oranges to FCOJM. 28/ Further, they state that there is not a commonality of economic interests between the growers and the extractors, because more oranges were sold on the cash market in 1985/86 than were sold on the cash market during the period of previous FCOJ investigations. 29/ The domestic respondents also note that there are a significant number of extractors that oppose the petition. 30/

The Brazilian respondents have also argued that the domestic industry consists only of extractors. 31/ They argue that growers should be excluded from the definition of the domestic industry because there is no single continuous line of production and because there is no commonality of economic

---

24/ See Petitioners' posthearing brief at 2-3; Tr. at 9-12. Petitioners also argue that reconstitutors do not make FCOJM, and so should not be included within the industry. They further argue that growers of navel oranges should not be included within the domestic industry because navel oranges are not primarily juice oranges. See, e.g., Tr. at 8, 90.

25/ Domestic respondents' posthearing brief at 7-8.

26/ Id. at 8.

27/ Domestic respondents' prehearing brief at 6-18.

28/ Id. at 11.

29/ Id. at 13. They argue that the partial participation plans (i.e., participation plans with a guaranteed floor price) are not real participation plans because the growers and extractors do not share all of the risks. P&G's posthearing brief at 5.

30/ P&G's posthearing brief at 5; Domestic respondents' prehearing brief at 15-18.

31/ Brazilian respondents' prehearing brief at 15-22.

interests between the growers and the extractors. 32/

At the outset of our analysis, we note that the domestic industry includes the extractors which extract orange juice from oranges and process it into FCOJM, since such extractors produce the like product. The domestic industry, however, does not include reconstitutors, since they further process FCOJM but do not manufacture FCOJM.

In prior investigations involving imports of a processed agricultural product, the Commission has defined the domestic industry to include not only processors of the like product, but also the growers of the unprocessed agricultural product in those instances where the growers function effectively as part of the processing industry. 33/

In analyzing whether the growers of the raw agricultural product should be included within the definition of the domestic industry producing the processed product, the Commission has looked at two factors. 34/ The

---

32/ Id.

33/ See, e.g., Certain Red Raspberries from Canada, Inv. No. 731-TA-196 (Preliminary), USITC Publication 1565 (August 1984); Lamb Meat from New Zealand, Inv. No. 701-TA-80 (Preliminary), USITC Publication 1191 (November 1981). See also Tomato Products from Greece, Inv. No. 104-TAA-23, USITC Publication 1594 (October 1984).

The Commission's analysis regarding agricultural products is based on the language used in the legislative. The Senate report accompanying the Trade Agreements Act of 1979 states in pertinent part:

> Because of the special nature of agriculture . . . . special problems exist in determining whether an agricultural industry is materially injured. For example, in the livestock sector, certain factors relating to the state of a particular industry within that sector may appear to indicate a favorable situation for that industry when in fact the opposite is true. Thus, gross sales and employment in the industry producing beef could be increasing at a time when economic loss is occurring, i.e., cattle herds are being liquidated because prices make the maintenance of the herds unprofitable.

S. Rep. No. 249, 96th Cong., 1st Sess. 88 (1979).

34/ See, e.g., Certain Fresh Atlantic Groundfish from Canada, Inv. No. 701-TA-257 (Final), USITC Pub. 1844 at 6 (May 1986).

Commission has looked to see (1) whether the raw agricultural product enters a single, continuous line of production resulting in the like product, and (2) whether there is a commonality of economic interests between the growers and processors.

In the present investigation, the Commission found that an average of 73 percent of all U.S. round oranges are processed in some way. 35/ The Commission also found that 84 percent of all juice oranges 36/ are processed. Of the oranges that are processed in 1985/86, the vast majority of them were processed into FCOJM. 37/ Thus, the growers of both juice oranges and round oranges satisfy the single, continuous line of production criterion. 38/ Having found that the first factor in our analysis is

---

35/ Report at R-5. The report also shows that 96 percent of all oranges processed are round oranges. We note that only about 3 percent of all processed oranges are specialty oranges. Id. at R-6, table 1. Moreover, although specialty oranges can be used to make orange juice, Florida regulations state that juice cannot be classified as "orange juice" if juice from specialty oranges accounts for more than 10 percent of the juice. Id. at R-3.

The domestic respondents argued the Commission should look at all orange growers when examining the issue of including growers within the industry. While we have considered this argument, we believe that it would be inappropriate to include the growers of non-round oranges within the ranks of the growers we examine. Specialty oranges are grown primarily for the fresh market, and so can be distinguished from juice oranges. Id. at R-4, figure 1; see also FCOJ(CVD) (P) at 3-4. Because the focus of growers producing specialty oranges is on the fresh market, including those growers within the scope of the growers we examine would inappropriately divert attention away from growers who are primarily interested in producing oranges for FCOJM.

36/ The report defines juice oranges as all round oranges except navel oranges. Report at R-3. Only about 20 percent of navel oranges are processed.

37/ Id. at R-11, figure 4.

38/ We note that the figures regarding the number of oranges processed into FCOJM are confidential. However, we are satisfied that given the nature of the FCOJM industry, the figures are sufficient to lead us to conclude that there is a single, continuous line of production. We also note that although the figures for all round oranges are lower than for juice oranges, we have determined to include the growers of round oranges (i.e., juice oranges and navel oranges) in the industry. To exclude the growers of navel oranges from the industry would exclude almost all of the growers of round oranges located in California.

satisfied, we now examine whether there is a commonality of economic interests between the growers and the extractors.

In previous investigations, the Commission found that the extractors and the growers had common economic interests because of the purchasing arrangements that exist between them. In those investigations, the Commission found that the majority of round oranges were sold either through cooperatives, through "participation plans", or through intracompany transfers rather than through the cash market. All of those arrangements tie the returns of the growers and the processors together.

Growers that are members of a cooperative deliver their oranges to a cooperative-owned extracting plant for processing and marketing. 39/ As payment for their oranges, the grower-members receive the net proceeds obtained by the cooperative from the FCOJM. The share of the proceeds obtained by each grower-member is determined by the amount of oranges delivered to the cooperative. In a cooperative, the return received by the grower is thus directly connected with the cooperative-extractor's return from the FCOJM produced.

Under a participation plan a grower agrees to sell his oranges to an extractor in exchange for a return based on the final amount received by the extractor from the FCOJM manufactured from the grower's oranges. 40/ There are two types of participation plans, "full" participation plans and "partial" participation plans. 41/ The return received by growers involved in a full participation plan is determined almost solely by the final price received by

39/ Report at R-19.
40/ Both cooperative extractors and corporate extractors may purchase oranges through participation plans.
41/ Report at R-19.

the returns generated from the FCOJM produced from the grower's oranges. Growers in a partial participation plan receive a guaranteed "floor" price for their oranges, and receive at least part of any additional amount received by the extractors from the FCOJM. In both full and partial participation plans, the growers return is tied to the extractors' return, and both growers and extractors share some of the risk involved in the manufacture and sale of the FCOJM.

Additionally, many of the large extractors own their own groves. These extractors not only purchase oranges through a cooperative arrangements or through participation plans from other growers, but also process the oranges grown in their own groves. In the case of extractor-owned groves, there is again a direct connection between the extractor and the grower.

In this investigation, the Commission was able to gather further information from both growers and extractors regarding how oranges are purchased. Questionnaire responses from large growers [42/] indicate that in 1985/86 9 percent of their oranges were sold in the cash market. [43/] The remainder of the processed oranges were sold through cooperatives (25 percent), full participation plans (23 percent), partial participation plans

---

42/ The large growers that answered the questionnaire represented 21 percent of the round orange acreage and 19 percent of the oranges processed in 1985/86. Id. at R-21, table 4 n.1. The medium and small growers that responded to the Commission's questionnaires represent less than one percent of both acreage and processed oranges. Id. at R-22, table 5 nn. 1-2. Because the information from the small and medium growers represents such a small amount of the production of round oranges, we will only discuss the information from the large growers. We also note that although the information involved was supplied by large growers representing only about 20 percent of the round orange production, it is the best information the Commission has regarding this aspect of the growers' operations. Moreover, much of the information gathered in this investigation regarding growers' operations is new and is not available from any other source.

43/ Id. at R-21, table 4.

(27 percent), and through intracompany transfers (16 percent). Thus, information on sales by the large growers indicates that over 90 percent of their sales were made using some non-cash arrangement.

The report also contains information from the extractors on this issue. In 1985/86 the figures for all extractors indicates that 29 percent of processed oranges were purchased on the cash market. 44/ These figures also show that the remainder of the processed oranges were sold through cooperatives (18 percent), full participation plans (19 percent), partial particpation plans (26 percent), and through intracompany transfers (9 percent). The figures also indicate that the volume of oranges purchased on the cash market varied over the period of investigation from 30 percent in 1982/83 to 36 percent in 1983/84 to 45 percent in 1984/85. Thus, while the amount of cash market purchases rose during part of the period under investigation, that rise appears to have been caused by the most recent series of freezes which caused extractors to buy a large amount of the oranges on the cash market to guarantee continued sources of supply and to maintain the capacity utilization of their extracting equipment. The lower cash market sales figures for 1985/86, however, indicate that the extractors and growers are returning to the closer economic links that characterized the industry in prior years.

The commonality of economic interests between the growers and the extractors is also illustrated by the fact that prices for oranges and prices for FCOJM have shown quite similar patterns of increases and decreases over the last ten years. 45/ The "on-tree" orange prices, spot market orange

44/ Id. at R-23, table 6. We note that these figures differ from the figures for the growers because of their differing coverages.
45/ Id. at R-81, figure 5.

prices, and FCOJM drum prices all rose through 1984/85 before dropping sharply in 1985/86.

Moreover, over 80 percent of the cost of domestic FCOJM can be attributed to the cost of oranges. 46/ That fact provides cooperatives and other buyers of fruit with the incentive to help growers lower production costs through higher yields and better management. Evidence that the cooperatives are economically linked to the growers in this manner can be found in the fact that cooperatives provide grove care, maintanence, and harvesting services to grower-members. 47/

We note that a significant number of extractors have expressed their opposition to the present petition. 48/ We find, however, that after weighing the various information regarding the commonality of economic interest between the growers and the extractors that the opposition of certain extractors does not indicate that the growers should not be considered to be part of the domestic industry. 49/ Moreover, we find that a proper

---

46/ Tr. at 12; Petitioners' prehearing brief at 7-8. Cf. Brazilian respondents' prehearing brief at Exhibit 3 (showing that oranges account for about 58 percent of the value of FCOJR made from only U.S. oranges).

47/ Report at R-19.

48/ In the past, the Commission has found that such information is evidence that the growers and processors of an agricultural product have divergent economic interests. See Certain Fresh Atlantic Groundfish from Canada, Inv. No. 701-TA-257 (Final), USITC Pub. 1844 at 8 (1986). We note, however, that the processors expressing opposition in Groundfish represented a greater amount of the production of the processed product than does the extractor opposition expressed in the present investigation. Id. at 18.

49/ The extractors in opposition are more dependent on Brazilian imports than are those supporting the petition. See, e.g., Report at R-26, table 8. Additionally, they sell most of their production as FCOJR and SSOJ rather than as FCOJM — the like product. Id. In our analysis regarding the inclusion of the growers within the domestic industry, we therefore determine that the extractors in opposition do not adequately reflect the economic interests of all the extractors and so their opposition should not be given undue emphasis in deciding the issue of the commonality of economic interests between growers and extractors. Cf. Certain Fresh Atlantic Groundfish from Canada, supra, at 18 (overwhelming processor opposition).

understanding of the FCOJM industry requires that we analyze the information gathered regarding both extractors and growers.

Therefore, we conclude that the domestic industry includes the extractors of orange juice that produce FCOJM, but does not include reconstitutors. We also determine that the growers of round oranges are included within the definition of the domestic industry.

Related Parties — Under section 771(4)(B) [50/] in "appropriate circumstances" the Commission may exclude from the definition of the domestic industry those producers which are related to exporters or importers, or are themselves importers of the dumped goods. [51/]

In past FCOJ investigations, the Commission has not excluded any extractors from the domestic industry pursuant to the related parties provision. [52/] The Commission did not exclude any firms because it noted that all firms imported FCOJM during the period under investigation. [53/] Therefore, excluding all of the extractors would mean that the domestic industry was composed only of growers. The Commission determined that such a domestic industry definition would be inappropriate.

50/ 19 U.S.C. § 1677(4)(B).

51/ In its final determination, Commerce used the related parties provision as part of its determination regarding standing. Commerce's determination regarding standing is reproduced in an appendix to the Commission report. See Report, Appendix A, at A-4-A-6. We do not comment on the outcome of Commerce's standing determination inasmuch as it preserves the related parties issues for a final determination by the Commission. However, the analysis of the proper scope of the domestic industry is delegated by statute to the Commission and is independent of related findings by the Department of Commerce. Nor is our analysis bound in any way by Commerce's use of the related parties provision.

52/ See, e.g., FCOJ(AD) (P) at 8 (Views of Vice Chairman Brunsdale and Commissioners Eckes, Lodwick and Rohr); FCOJ Review at 45 (Views of Vice Chairman Liebeler).

53/ There is no evidence that any domestic extracting firms own or are owned by any of the Brazilian exporters.

We again determine not to exclude any of the extractors based upon the related parties provision. In this investigation, as in the previous investigations, nearly all extractors import Brazilian FCOJM. We do not believe that appropriate circumstances exist for excluding either some or all of the extractors from the industry. However, in our analysis of the condition of the domestic industry and the threat of material injury from the Brazilian imports, we have considered as one of the relevant factors that a number of extractors import significant amounts of Brazilian FCOJM which is being sold at LTFV.

Condition of the Domestic Industry

In examining the condition of the domestic industry, we considered, among other factors, consumption, domestic production, shipments, inventories, employment, and the profitability of the various sectors of the domestic industry. 54/ At the outset we note that the condition of the domestic industry has weakened in recent years, in part because of the severe freezes in Florida and Texas. In four of the last six crop years 55/ orange groves in those states have suffered freezes of varying severities that caused the industry to lose both oranges and orange trees. 56/ Moreover, efforts to replant the orange trees killed in the most recent freeze were slowed by the destruction of a large number of orange trees in nurseries due to the presence of citrus canker.

We also note that our analysis of the domestic industry reflects the fact that due to the nature of the industry some of the statistical indicators do

54/ See 19 U.S.C. § 1677(7)(C)(iii).
55/ The Florida crop year runs from December 1 through November 30.
56/ The recent freezes occurred in the 1980/81, 1981/82, 1983/84, and 1984/85 crop years.

not immediately reflect changes in market conditions as they would in other industries. In this industry, some indicators, such as domestic production of FCOJM, may lag behind market conditions by several years due to the time lag between the planting of orange trees and the time they bear fruit. 57/ It is against this background that we analyze the condition of the domestic industry.

Apparent U.S. consumption of FCOJ, 58/ as measured by total available FCOJ, 59/ remained relatively constant throughout the period under investigation. Total available FCOJ went from 1.3 billion gallons 60/ in 1982/83 to 1.2 billion gallons in 1983/84 to 1.3 billion gallons for both 1984/85 and 1985/86. 61/

It is estimated that there are over ten thousand growers in Florida producing oranges on a total of 349,400 acres in crop year 1985/86. 62/ That acreage figure reflects a drop from 536,800 acres in Florida in 1982/83. 63/ Domestic production of round oranges decreased from 211.6 million boxes in 1982/83 to 161.0 million boxes in 1983/84 to 149.7 million boxes in 1984/85. 64/ The production figures rose in 1985/86 to 166.9 million boxes and are estimated to increase to 179.8 million boxes in 1986/87 as orange groves continue to recover from the recent freezes.

57/ An orange tree takes approximately 5 years before it begins to bear significant amounts of fruit.

58/ The production figures used in the report are for Florida FCOJ. Since the vast majority of the Florida FCOJ production is actually FCOJM, the figures used in the report adequately reflect the consumption figures for FCOJM.

59/ See Report at R-77 for the reasons that total available FCOJ is used to measure consumption.

60/ All gallon figures referred to in this opinion refer to single-strength equivalent gallons.

61/ Report at R-18, table 3.

62/ Id. at R-19.

63/ Id. at R-33, table 10.

64/ Id. at R-31, table 9.

U.S. production of FCOJM from the U.S. orange crop fell from 646 million pounds solid in 1982/83 to 406 million pounds solid in 1983/84 before rising to 450 million pounds solids in 1984/85 and 475 million pounds solids in 1985/86. 65/ The figures for FCOJM production thus follow a similar trend to that exhibited by the change in round orange production, except for 1984/85. 66/

The number of workers producing FCOJM declined from 1,378 workers in 1982/83 to 1,151 workers in 1985/86. 67/ The wages paid to those workers, however, rose during the period under investigation. We note that the number of workers producing FCOJM decreased in 1985/86 even though both the amount of oranges grown and the quantity of FCOJM produced rose.

Domestic shipments of FCOJM dropped from 284 million pounds solids in 1982/83 to 210 million pounds solids in 1984/85 before recovering to 231 million pounds solids in 1985/86. 68/ These figures are expected to increase further as the Florida orange crop recovers from the freeze damage. 69/

The domestic industry's profitability varied significantly during the period under investigation. In order to properly analyze the industry's economic performance, three segments of the domestic industry must be

---

65/ Id. at R-34, table 12.

66/ Compare id. at R-31, table 9 (round orange production) with id. at R-34, table 12 (FCOJM production). In 1984/85 a higher percentage of round oranges were processed into FCOJM even though the supply of oranges was decreasing because extractors were salvaging freeze-damaged fruit.

67/ Id. at R-41.

68/ Id. at R-37, table 14.

69/ We note that U.S. FCOJM exports exhibited the same trends as did U.S. shipments. Id. at R-37, table 14.

examined: corporate extractors, cooperative extractors, and growers. 70/ We shall discuss each in turn.

For corporate extractors, net sales of FCOJM decreased from $127 million in 1983 to $107 million in 1984 to $91 million in 1985 to $74 million in 1986. 71/ Corporate operating income moved irregularly during the investigation going from a $6.6 million loss in 1983 to a $2.8 million profit in 1984 to a $9.8 million loss in 1985 to a $0.6 million loss in 1986. Similarly, the ratio of operating income to net sales also moved irregularly from a 5.2 percent loss in 1983 to a 2.6 percent profit in 1984 to a 10.7 percent loss in 1985 to a 0.8 percent loss in 1986.

Although the financial figures for the corporate extractors show an increasing trend from 1985 to 1986, that trend does not fully reflect what occurred in the marketplace. After the 1985 freeze, the price of oranges increased as the supply decreased. At the same time, the U.S. Department of Agriculture (USDA) issued an estimate for the Florida orange crop which estimated that the orange production would be quite low. 72/ In light of that situation, the corporate extractors agreed to pay very high prices for the oranges that were produced. After the extractors locked themselves into

---

70/ Cooperative extractors are examined separately from corporate extractors because their accounting methods differ significantly.

71/ Report at R-55, table 27. These figures are for corporations that sold over 43 million pounds solids of FCOJM in 1986. Id. at R-56, table 28. One of the companies was unable to supply quantity information, so the overall quantity is understated.

We note that we have also examined the financial figures relating to sales of FCOJR and SSOJ. We find, however, that because the figures for those other products include greater amounts of Brazilian product, the figures which most accurately reflect the condition of the corporate extractors are the figures relating to their sales of FCOJM.

72/ See, e.g., Tr. at 137.

higher prices, the Florida orange crop turned out to be larger than the USDA had estimated. Thus, the corporate extractors paid prices in 1985 for oranges that were too high in view of the available supply. 73/ As the market stabilized following the most recent freeze year, the extractors paid lower prices for the oranges, and their profits increased accordingly.

For cooperatives, net sales of FCOJM rose from $70 million in 1983 to $84 million in 1984 before dropping to $75 million in 1985 and to $53 million in 1986. 74/ Cooperative net proceeds resulting from member and nonmember sales before taxes rose from 1983 to 1984 before dropping in 1985 and 1986. 75/ The ratio of net proceeds from member and nonmember sales before taxes to net sales remained relatively constant throughout the period under investigation.

The quantity of sales of FCOJM by cooperatives dropped from 1984 to 1985, and then remained relatively constant in 1986. 76/ The average price per pounds solids, however, showed a different trend. The unit value for cooperative FCOJM sales was relatively constant in 1984 and 1985, dropping from $1.65 to $1.62. In 1986, however, the unit value fell sharply to $1.14. Since the price received for FCOJM is passed onto the grower-member, this

---

73/ This conclusion is supported by the fact that the average unit value of oranges sold using partial participation plans were higher than those sold by other methods since the guaranteed floor price was set at a high amount. See Report at R-24, table 7.

74/ Id. at R-67, table 37. We note that we have also examined the financial figures relating to sales of FCOJR and SSOJ. We find, however, that because the figures for those other products include greater amounts of Brazilian product, the figures which most accurately reflect the condition of the cooperative extractors are the figures relating to their sales of FCOJM.

75/ Cooperatives return almost all of the money raised from member and nonmember sales to the grower-members, and thus act like "nonprofit" entities. Thus, the Commission must examine different financial information when it looks at the profitability of the cooperatives.

76/ Report at R-68, table 38.

decrease indicates that the return to the grower for each box of oranges that were processed also decreased. 77/

The Commission obtained a variety of information regarding the profitability of the growers. One indicator of profitability relates to the prices received by growers for their oranges. On-tree orange prices and prices for oranges sold on the spot (or cash) market rose following the last freeze, before dropping sharply in 1985/86. 78/ After prior freezes those prices also fell after initially rising. The recent price decrease, however, is much steeper than any of the previous declines. Similar sharp declines from 1984/85 to 1985/86 of the unit value of oranges purchased by cooperatives and through full and partial participation plans are also evident. 79/ Indeed, the 1985/86 unit values are less than the unit values for 1982/83 — the last full nonfreeze crop year. These pricing figures indicate that the growers are generally receiving less money for their oranges, even though the supply of round oranges has decreased since 1982/83. Additionally, the ratio of the overall value of the FCOJ 80/ produced from the Florida crop as compared to total FCOJ production dropped when the two most recent non-freeze years, 1982/83 and 1985/86, are compared. 81/

The total proceeds of all growers who responded to the Commission's

---

77/ The return of the grower-member will also be determined by the price of any FCOJR and SSOJ sold by the cooperative. The average unit value price figures which include FCOJR and SSOJ also dropped sharply from 1985 to 1986. Id. at R-69, table 40, and R-71, table 42.

78/ Id. at R-81, figure 5.

79/ Id. at R-24, table 7. Even the prices for oranges purchased through intracompany transfers showed the same trend. Id.

80/ Separate figures for FCOJM are not available. However, the FCOJ figures give a good indication of what was happening to FCOJM during the period under investigation.

81/ Report at R-79, table 48.

questionnaires [82/] showed that the proceeds rose from $142 million in 1983 to $177 million in 1984 to $194 million in 1985 before falling to $162 million in 1986. [83/] The pre-tax income of by all growers showed that the proceeds rose from $31 million in 1983 to $55 million in 1984 to $61 million in 1985 before falling to $25 million in 1986. The ratio of net pre-tax income to total proceeds for all growers also rose from 21.7 percent in 1983 to 31.4 percent in 1984 to 31.6 percent in 1985 before declining to 15.6 percent in 1986. [84/]

We also note that other indicators regarding the growers' operations have also decreased in 1986. The figures on the return on assets and return on equity of the large and medium growers all rose from 1983 to 1985 before falling sharply in 1986. [85/] The cash flows of the various growers also increased from 1983 to 1985 before decreasing in 1986. [86/] Finally, the growers' capital expenditures for the replanting of orange trees decreased in 1986. [87/]

Based on the above information, it is evident that the domestic industry has experienced difficulties commencing with the freezes in the early 1980s. Information regarding all segments of the domestic industry show that the

---

82/ The growers who responded to the Commission's questionnaire and provided usable financial data represent approximately 32 percent of the total round orange acreage in the United States.

83/ Report at R-46, table 21.

84/ We note that the figures for different sizes of growers and of different production levels show very similar trends. Almost all figures rose through 1985 before falling sharply in 1986.

85/ Report at R-53.

86/ Id. at R-50.

87/ Id. at R-52, table 26. In their responses to the Commission's questionnaires, a number of growers stated that the uncertainty in the market regarding future's prices has made it difficult for them to borrow the capital they need in order to replant their groves. Id. at R-32.

industry is still experiencing difficulties, since profitability, prices, and employment are down, even though production of both oranges and FCOJM has been increasing. Therefore, the industry continues to be in a vulnerable position vis-a-vis any LTFV imports. 88/

Threat of Material Injury By Reason Of Dumped Imports

Our affirmative determination in this investigation is not based on a finding of material injury by reason of LTFV imports from Brazil. Although the domestic industry is experiencing difficulties, the causal relationship between the present condition of the domestic industry and the LTFV imports is clouded by the fact that there have been two major freezes during the last four crop years and there is time lag between investments for orange trees and any returns from those investments. The information in the record, however, supports a finding that the domestic industry is threatened with material injury by reason of the LTFV imports. 89/

In analyzing whether a domestic industry is threatened with material injury, the Commission examines, among other factors, foreign capacity, market

88/ Cf. FCOJ Review at 14 (Views of Commissioners Eckes, Lodwick, and Rohr).

89/ We note that our determination in the FCOJ Review investigation was also a "threat" determination. FCOJ Review at 5 (Views of Commissioners Eckes, Lodwick, and Rohr). See also FCOJ(CVD) (F) at 7-8 (Views of Chairman Eckes). Our present determination is consistent with that finding since the intervening freezes have made it difficult to ascertain whether any threat posed by Brazilian imports has developed into material injury.

Our determination is also consistent with our finding in the preliminary investigation that there was a reasonable indication that the domestic industry was materially injured by reason of LTFV imports. Each of our determinations is based on the facts of record before us. In this final investigation, we have more and different facts before us than in the preliminary investigation. For example, we have further information on FCOJM as a specific product, grower finances, Brazil's changing role in the U.S. market, and the effects of the most recent freezes on the domestic industry. Moreover, Commerce's final determination excluded one of the major exporters from the scope of our investigation and we have defined the like product to be FCOJM rather than FCOJ.

penetration, pricing, inventories, and other adverse trends. 90/ In making a threat determination, the Commission must find that "the threat of material injury is real and actual injury is imminent." 91/

We note that our discussion below regarding our analysis of the threat of material injury should be read in conjunction with our opinion in the FCOJ Review investigation. 92/ The information obtained in this investigation indicates that the adverse trends noted in our FCOJ Review opinion continue to manifest themselves and in many cases show further downturns.

The volume of Brazilian LTFV imports rose from 1982/83 to 1983/84 before falling in 1984/85. 93/ The import volumes rose again 1985/86. 94/ The market penetration of the LTFV imports increased and decreased in a similar manner. 95/ The recent increase in import penetration of the LTFV imports occurred at the same time as overall Brazilian imports, and hence the fairly traded imports, were decreasing. 96/ The increase of the dumped FCOJM imports also occurred as the domestic industry began to increase its production again.

90/ 19 U.S.C. § 1677(7)(F)(i).

91/ 19 U.S.C. § 1677(7)(F)(ii). In examining this issue, we recognize that the FCOJM industry operates differently than do other industries. For example, domestic production of FCOJM may lag behind market conditions by several years due to the time lag between the planting of orange trees and the time they bear fruit. Thus, the "real and imminent" standard requires the Commission to determine that a threat is real and injury is imminent in light of the conditions of trade for the FCOJM industry.

92/ See FCOJ Review at 5-24 (Views of Commissioners Eckes, Lodwick, and Rohr).

93/ Report at R-96. We note that most of the information regarding the Brazilian producers is confidential. Therefore, we will only discuss general trends.

94/ The value of the dumped FCOJM imported from Brazil followed a similar trend, rising from 1982/83 to 1983/84, then falling in 1984/85 before rising again in 1985/86. Id. at R-79, table 48.

95/ Id. at R-77.

96/ Id. at R-78, table 47.

Since 1984 through to 1987, the Brazilian extracting companies which produce the dumped FCOJM have increased their capacity, both in terms of the quantity of oranges they can process per hour and in terms of the pounds solids they can extract per hour. 97/ That increase in capacity coincides with major increases in the number of orange trees planted in Brazil. 98/ With the increase in the number of new plantings in Brazil, the Brazilian extractors will have the ability to increase their FCOJM production for the forseeable future. 99/

Not only have the Brazilians increased their capacity to increase their production of FCOJM, but the continue to have incentives to export most of their production to the U.S. market. Information regarding the Brazilian companies under investigation indicates that the United States in the major market for their FCOJM. 100/ Indeed, very little FCOJM is shipped to the Brazilian market. Moreover, the increase of exports to Europe and other areas has not been significant compared to the amount of FCOJM shipped to the United States. 101/

97/ Id. at R-102, table 57.

98/ See id. at R-28-29.

99/ We note that the USDA predicted that more Brazilian oranges would be sold on the fresh market. Id. at R-99 and table 55. That prediction was based on the assumption that orange prices in Brazil would drop under the new monetary regulations adopted by the Brazilian government (i.e. the "cruzado plan"). It does not appear, however, that the cruzado plan is working. See, e.g., Hopes Fade as Brazil's Economy Falters, Cruzado Plan Not Worth Much After Initial Spending Spree, Washington Post, March 12, 1987, at E1. Thus, we are not convinced that the USDA prediction will be accurate. Moreover, although the production of oranges in Brazil is projected to decrease slightly in 1986/87 due to the Brazilian drought, the increase in new plantings should ensure that production will rise again in the near future.

100/ Report at R-103, table 58.

101/ The increase in European demand is smaller than the expected increase in Brazilian capacity resulting from increased plantings and increased extracting capacity. Thus, it does not appear that the European market will be able to absorb the increase in Brazilian production without a further price decrease. Such a price decrease would also affect U.S. prices and would thus harm the domestic industry.

Brazilian FCOJM is priced and sold in U.S. dollars. The Brazilian goverment's imposition of an export license price requires a certain amount of hard currency earned from the sale of FCOJM to be repatriated to Brazil. 102/ The export license price helps ensure that the Brazilians will have U.S. dollars which will help them to meet their huge foreign debt. Thus, the information in the record indicates that the Brazilian companies that have been selling large volumes of FCOJM at LTFV will continue to sell large volumes of FCOJM.

The Brazilian imports sold in the United States have had an effect on the price of FCOJM sold in the U.S. The price of FCOJM sold in the U.S. dropped from the beginning of 1985 through to the middle of 1986. 103/ During that time, the price for the Brazilian FCOJM was less than the price of domestic FCOJM during several months. This fact indicates that the Brazilian FCOJM prices were responsible, at least in part, for part of the decrease in the U.S. FCOJM prices. Moreover, the sharp drop in domestic FCOJM prices coincided with increasing volumes of dumped imports. As noted above, the Brazilian companies have the ability to export increasing volumes of dumped FCOJM to the U.S. Orange prices also declined in 1985/86 as dumped imports increased in volume. 104/ Thus, the dumped imports will continue to have a long-term price depressing or suppressing effect on the U.S. price of FCOJM and on the price of U.S. oranges.

Both the domestic respondents and the Brazilians have argued that

---

102/ Report at R-92.

103/ See, e.g., Report at R-93, figure 8.

104/ Id, at R-81, figure 5. Some of the medium and small growers who responded to the Commission's questionnaire indicated that lower prices coupled with the uncertainty about future prices has made it hard for them to secure loans for the replanting of their freeze damaged groves. Id. at R-32.

Brazilian imports serve to supplement domestic supplies which decreased as a result of recent freeze damage. The record, however, indicates that Brazil has become an integral supplier in the U.S. market. 105/ Brazilian imports have increasingly entering the U.S. at ports outside of Florida. 106/ The partial year information for 1985/86 indicates that only 46 percent of the imported Brazilian FCOJM entered Florida ports. Moreover, there was testimony at the hearing that the Brazilian product is not just used for blending, since it is often sold directly to reconstitutors. 107/ These trends are significant because of the increasing amount of "chilled" orange juice that is being consumed in the United States. 108/ While most of the chilled orange juice sold is made from a blend of domestic and Brazilian FCOJM, Brazilian exporters are also supplying some of that growing market directly. Thus, the Brazilian imports have shown a tendency to increasingly market their FCOJM in such a manner that totally bypasses the Florida extractors.

By bypassing Florida, Brazilian FCOJM also gains a number of price advantages over Florida FCOJM. First, such Brazilian imports do not have to pay the Florida Equalization Tax. 109/ Additionally, those imports save some inland transportation costs, because they are closer to various

---

105/ Moreover, the fact that Brazilian imports supplement U.S. supply does not eliminate the possibility that the Brazilian imports are injuring or threatening injury to the domestic industry.

106/ Id. at R-94, and R-98, table 54. Cf. FCOJ Review at 17-18 (Views of Commissioners Eckes, Lodwick, and Rohr) (discussing the change in the marketing pattern of Brazilian imports).

107/ Tr. at 114.

108/ See, e.g., Tr. at 84. Cf. FCOJ Review at 18-19 (Views of Commissioners Eckes, Lodwick, and Rohr) (discussing the importance of the increase in the chilled juice segment of the orange juice market).

109/ Report at R-94. Florida charges a 3 percent tax on all FCOJM products that move through Florida. Brazilian FCOJM that bypasses Florida thus avoids payment of that tax. Cf. id. at R-28 (comment regarding the price sensitivity of the U.S. FCOJM market).

destinations in the northeastern and midwestern United States. 110/ These price incentives will continue to lead Brazilian FCOJM to directly compete with U.S. FCOJM at the wholesale level. Such direct competition is a further indication that the Brazilians are not just a supplementary supplier of FCOJM, but they are the key player in the marketplace.

Total inventories of Brazilian LTFV FCOJM in the U.S. decreased from 1984 to 1985, but remained constant in 1986. 111/ LTFV inventories in Brazil rose in 1985/86, but fell in interim 1986/87. 112/ The combined inventory figures, however, remain significant and are greater than the inventories of domestic FCOJM. Additionally, the use of large tankers to ship FCOJM from Brazil to the United States allows the Brazilian extractors to store FCOJM in Brazil without significantly affecting their ability to deliver FCOJM to U.S. customers as it is ordered. 113/ The existence of such tankers reduces the need to store FCOJM inventories in the U.S. 114/ Moreover, we note that the non-extractor importers of LTFV FCOJM have increased their bulk storage capacity in the U.S. 115/ As the Brazilian supply of FCOJM increases in the near future, the Brazilian companies dumping FCOJM will be able to increase their inventories again. Such an increase in inventories will adversely affect the domestic industry by, for example, allowing the Brazilians to exert downward pressure on domestic prices.

110/ Id. at R-94.
111/ Id. at R-98, table 54.
112/ Id. at R-103, table 58.
113/ Id. at R-26.
114/ We also note that FCOJM can be stored for long periods of time. Id. at R-96, n.1. Thus, the ability of the Brazilian producers to store FCOJM in Brazil and ship it to the U.S. as it is needed illustrates the need for us to look beyond the amount of FCOJM stored in the U.S.
115/ Id. at R-98, table 54. Such an increase in bulk storage capacity indicates that the importers of the dumped FCOJM expect to receive growing amounts of Brazilian FCOJM in the future.

In conclusion, the Brazilian exporters who have been dumping FCOJM have the ability and the incentive to increase their exports to the U.S. Moreover, the Brazilian FCOJM industry is export oriented, is important to the Brazilian economy because it brings hard currency into Brazil, and has an increasing supply of oranges coupled with the means to produce increasing amounts of FCOJM. The Brazilian imports have also been bypassing Florida and have been aggressively competing with domestic FCOJM on the wholesale level. All of these factors indicate that the Brazilians have the ability and the incentive to continue to play a dominant role in the U.S. market. Based on the record developed in this investigation, we find that all of these factors indicate that there will be imminent material injury to the domestic industry by reason of the LTFV imports of FCOJM from Brazil.

There is no evidence in the record that the Brazilian imports at issue would have cause material injury "but for" the suspension of liquidation during this investigation. 116/ Indeed, given the difficulty of separating out causation by reason of the dumped imports in the present state of the domestic industry, it would also be difficult to separate out injury which would have resulted "but for" the suspension of liquidation. Since there is no contrary evidence in the record, we make a negative "but for" finding.

Conclusion

The domestic FCOJM industry has been in an increasingly vulnerable state due to the freezes occurring in the 1980s. Based on the facts discussed above, we conclude that Brazilian FCOJM imports that have been sold at less than fair value are threatening material injury to the domestic industry.

116/ The statute requires that when we make a final threat determination we make a finding on that issue. See 19 U.S.C. § 1673d(b)(4)(B).

VIEWS OF COMMISSIONER DAVID B. ROHR

I determine that the domestic orange juice producing industry is materially injured by reason of orange juice imports from Brazil found by the Department of Commerce to be sold at less than fair value (LTFV). In making this determination, I find it appropriate to assess the impact of the Brazilian LTFV imports on the domestic orange juice producing industry defined to include both growers and processors. I find that the condition of the domestic industry is appropriately characterized as experiencing material injury. I further find that the Brazilian LTFV imports are a cause of that material injury.

Specifically, with respect to material injury, because of the nature of orange juice production, neither production nor employment indicators provide a reliable picture of this industry's performance. Further, financial indicators for the two segments of this industry, growers and processors, must be analyzed on an individual basis because the criteria according to which they were collected limits their comparability. Finally, while it would be unfair to attribute to the Brazilian imports the adverse impact that the recent series of freezes has had on the industry, it would similarly be unfair if I did not recognize that the freezes have left the industry in a more precarious and vulnerable position than it might otherwise have been in. I must analyze the industry as I find it, with both its strengths and weaknesses as they currently exist.

With respect to causation, I note that there has been a significant change in the role of Brazilian imports on the market and therefore on the domestic industry over the last five years. These imports have become an integral part of, rather than merely supplemental to, domestic production. I conclude that these imports have contributed to the damage to the industry, and significantly retarded the recovery of the the industry from the effects of the successive serious freezes that the industry has experienced. In the weakened and vulnerable condition of the industry, the Brazilian LTFV imports are a cause of material injury.

LIKE PRODUCT/DOMESTIC INDUSTRY ISSUES

The basic framework within which I analyze like product and domestic industry issues in this investigation is no different from that which I use in any other investigation. First, I determine what domestically produced product is like or most similar in characteristics and uses to the imported product under investigation. 1/ I then determine what group of domestic entities are the producers of that product. 2/

Because this is an investigation of a processed agricultural product, however, there is an additional element to the second part of this analysis. This additional element is the issue of whether growers of oranges, the raw agricultural product, should be included in the definition of the domestic industry with those processors who advance the raw agricultural product to the

---

1/ 19 U.S.C. 1677(10).

2/ 19 U.S.C. 1677(4)(A).

form in which it directly competes with the imports. 3/ To resolve this issue, the Commission has traditionally employed a two-pronged test involving the existence of a "continuous line of production" and "integration" of economic activities between the growers and processors. 4/

With this framework in mind, I first address the question of what domestic product is "like" the imported product. The imports at issue are orange juice processed into a particular form. Because of the nature of the product and the market, at the necessities of international shipping, the Brazilian product is imported as frozen concentrated orange juice (FCOJ), more specifically, concentrated to a degree six to seven times that of single strength juice, commonly referred to as manufacturing strength or FCOJM. 5/ FCOJM is also produced and sold by domestic orange juice processors. It is, in fact, the most commonly manufactured form of orange juice processed from domestically grown oranges, accounting for more than three quarters of oranges

---

3/ While it is not clear to me why agricultural raw material suppliers are necessarily in a different position than the raw material suppliers to any other group of domestic manufacturers, it has been the consistent practice of the Commission, acquiesced in, if not ratified by, Congress to add this element to the analysis. *See, e.g.*, Certain Red Raspberries from Canada, Inv. No. 731-TA-196 (Preliminary), USITC Pub. 1565 (August 1984); Lamb Meat from New Zealand, Inv. No. 701-TA-80 (Preliminary), USITC Pub. 1191 (November 1981); and Tomato Products from Greece, Inv. No. 104-TAA-23, USITC Pub. 1594 (October 1984). The Commission's analysis regarding agricultural products is based on the language used in the legislative history. *See* S. Rep. No. 249, 96th Cong., 1st Sess. 88 (1979).

4/ *See* Certain Fresh Atlantic Groundfish from Canada, Inv. No. 701-TA-257 (Final), USITC Pub. 1844 at 6 (May 1986); Live Swine and Pork from Canada, Inv. No. 701-TA-224 (Final), USITC Pub. 1733 at 5-6 (July 1985).

5/ Oranges are a perishable commodity and very bulky and uneconomical to transport. By shipping FCOJM, there is less water to transport and hence more orange solids per unit shipped.

processed into juice. 6/

While to consider FCOJM as the like product would therefore be convenient, I have concluded that such a definition would not comport with traditional Commission analysis and would seriously distort any analysis of the industry. FCOJM is an intermediate stage in the production of orange juice. It is in essence a semifinished product and should be analyzed as such. The Commission's analysis of semifinished products is to look at the product itself as the "like product" and include the semifinished form of the product within that definition. 7/ Within this framework, the most appropriate definition of the like product would be orange juice, including FCOJM, FCOJR, and SSOJ.

Use of the more limited like product would also distort an analysis of how the orange juice industry really operates. Only five processors, including none of the largest corporate processors, were able to provide usable, segregable data on FCOJM production, as opposed to ten corporate processors whose data is usable on the level of all orange juice. The lack of sufficient data suggests that the industry itself primarily deals with the

---

6/ Because of its higher concentration, there would be less water per pound of orange juice solids in FCOJM than in the the retail strength FCOJ (FCOJR), which is three times single strength, or in single strength orange juice (SSOJ), and it is therefore more economical to ship and store. Traditionally, then most orange juice is processed directly to the FCOJM level and then later processed back into FCOJR or SSOJ near the point of sale.

7/ *See* 64K Dynamic Random Access Memories from Japan, Inv. No. 731-TA-270 (Preliminary), USITC Pub. 1735 (August 1985); and Erasable Programmable Read Only Memories from Japan, Inv. No. 731-TA-288 (Final), USITC Pub. 1927 (December 1986).

product "orange juice" rather a specific form of orange juice. 8/ Second, to the extent that growers might, and in fact do, meet the two-pronged test for inclusion within the definition of the domestic industry, their data do not permit any differentiation into oranges grown for processing into FCOJM, FCOJR, or SSOJ. Growers grow oranges for orange juice generally not for any specific form or concentration of orange juice. For these reasons, I have chosen to define the like product as orange juice, including FCOJM, FCOJR and SSOJ. 9/

There are three distinct questions in determining who are the domestic producers of this like product. First, on the processing level, which operations involving the production of orange juice for eventual sale to consumers should be included? Second, should growers be included? Third, should any processors be excluded from the industry because of their relationship to the Brazilian LTFV imports?

To properly analyze these questions, a general overview of the production process is necessary. There are three distinct levels in the production of orange juice. The first stage involves the growing of the oranges for processing into juice. This stage consists of a large number of individual

---

8/ I also note the admonition in the legislative history against narrow like product definitions that distort the Commission's analysis of real industries. S. Rep. No. 249, 96th Cong., 1st Sess. 90-91 (1979). I note as well that the industry itself looks to its operations in terms of "single strength equivalent gallons" or "pounds of orange solids" which further indicates that the basis for the industries own evaluation of its condition is orange juice rather than any particular form of the juice.

9/ In so doing, I also note that in making price comparisons I have looked specifically at FCOJM and that I have recognized in assessing the condition of the industry the specific additional costs of producing FCOJR and SSOJ.

growers, who may or may not be related to entities at the nest stage of production.. The second stage, which involves a very small number of entities, involves those corporations and cooperative operations which process the oranges into juice. The third stage, which again consists of a large number of individual firms, involves those companies, often dairies and sometimes the same companies of the middle stage, who reconstitute and package the FCOJM for retail sale.

I have first examined whether the companies which are only involved in the reconstitution and packaging of orange juice for retail sale should be included within the definition of the industry. This question arises because of the definition of the like product that I have chosen includes the product that these companies sell to consumers.. To the extent that such operations are part of the operations of the integrated companies that are also involved in production in the second stage, extraction and blending, these operations are clearly within the definition of the domestic industry. The analysis which the Commission has traditionally undertaken of companies who are engaged in only the final stage of production of a particular product is to look at the nature and extent of their activities to determine if they are producers in the context in which the statute uses that term. The operations of the third stage consist primarily of diluting FCOJM and packaging the resulting retail product. During the investigation, none of the parties argued for the collection of data on the operations of such companies, and the Commission did not collect such data. The principal data concerning such operation is thus the data from the integrated producers and I have relied upon such data.

The more difficult question in this investigation is the question of whether it is proper to include growers within the definition of the industry. I begin by noting that, historically, the Commission has included

growers of oranges in its definition of the orange juice industry. 10/ It was argued in this investigation that the relationship between growers and processors has changed significantly in the last few years due to increasing amounts of cash sales of oranges. The Commission has also been able to collect more information about grower activity. Such new information merits a full reconsideration of this issue.

The first factor that the Commission looks at to decide whether to include growers in an industry is the existence of a continuous line of production from the grower's raw product through the processed product. Specifically, what percentage of oranges grown by growers are dedicated to the particular end use represented by the product of the processors, orange juice? Of all fruit within the U.S. Department of Agriculture definition of oranges, approximately 72 percent is processed into orange juice. If specialty fruit, such as tangerines and tangelos are excluded the percentage rises to 73 percent. This percentage, however, also includes one specific variety of orange, navel oranges, of which less than 20 percent are processed into juice. If juice oranges are considered a distinct category of oranges the percentage that are actually processed into orange juice rises to

---

10/ *See* FCOJ (CVD) (P) at 7; FCOJ (CVD) (F) at 3 (views of Chairman Eckes); *id.* at 20 (views of Comm. Stern); FCOJ (Review) at 11 (views of Comm. Eckes, Lodwick and Rohr); *id.* at 30 (views of Chairwoman Stern); *id.* at 45 (views of Vicechairman Liebeler); FCOJ (AD) (P) at 9; *id.* at 20 (views of Chairman Liebeler); *id.* at 35 (views of Comm. Stern). In reaching these decisions, the Commission has noted the large percentage of oranges used in the production of orange juice and that 60-80 percent of oranges sold to extractors were sold on a "non-price" basis.

approximately 84 percent. 11/ I conclude that the 84 percent of juice oranges utilized in the production of orange juice, while lower than that in some previous cases, is sufficient to meet the continuous line of production requirement for the inclusion of growers within the domestic industry. 12/

The second question which the Commission traditionally addresses in order to determine whether inclusion of growers is appropriate is evidence of economic integration between the operations of growers and processors. This requirement insures that growers and processors are more than merely buyers and sellers of a product in a market. The first evidence which the Commission has considered is evidence of legal integration. This means that in some formal, legally recognizable way growers and processors share the total risks involved in selling the ultimate processed product. Clearly such integration exists when the processors and growers are the same person, i.e. when the extractors own their own groves, or the processor is a cooperative owned by the growers. Between 20 to 30 percent of oranges are processed within such arrangements.

At the other extreme, a certain amount of fruit is sold on a strictly cash basis. In the 1984-85 season, extractors reported that as much as 45

11/ These percentages are calculated using all orange juice production as a base. The percentages of juice oranges that are processed into the three basic forms of juice, FCOJM, FCOJR, and SSOJ would each be smaller in accordance with the percentage of total orange juice which is represented by each form. However, the specific numbers and percentages are confidential.

12/ I also note that the percent of oranges used in the production of FCOJM is also higher than the 69 percent of tomatoes used in processing held to be sufficient in Tomato Products from Greece, Inv. No. 104-TAA-23, USITC Pub. 1594 (October 1984).

percent of the fruit that they purchased was on this basis. 13/ Other than that season, cash sales account for approximately 30 to 35 percent of fruit purchased by processors. 14/

The remaining 35 to 50 percent of fruit is sold under what are referred to as participation plans. In general, a participation plan ties the proceeds to the grower to the revenue obtained from the sale of the processed orange juice. Some plans, referred to as partial participation plans have a floor price built into them as well. Roughly 65 to 70 percent of fruit is usually sold within some form of legal integration.

I have also looked to determine if the integration which appears to exist from the nature of these arrangement is confirmed by an analysis of the economic performance of processors and growers. 15/ This evidence, which is based on a comparison of trends in key financial indicators, corroborates the conclusion that there is substantial economic integration between these two groups.

A comparison of the unit values of shipments between growers, corporate processors and cooperative processors shows similar trends for each between 1983 and 1986. There is also a clear relationship over this period between processor net sales and the cost to them of raw oranges and orange solids,

---

13/ It is not surprising that cash sales would tend to increase during a freeze year. Among other reasons growers would need an immediate source of cash to pay for the protection of and repairs to their groves, and would not be in a position to wait for payment at the end of a season, as under a participation plan.

14/ This number may be slightly understated. Some sales under participation plans may have been made to the processors by middlemen who purchased the fruit they sold to processors under participation from growers to whom they paid cash. Based on an extrapolation from the sales data received directly from growers, cash sales may actually account for as much as 40 percent of sales by growers.

15/ This is particularly important because, under the partial participation plans, not all of the risk is being shared.

which is a secondary measure of grower proceeds. Similarly, I see a relationship between the trends in corporate net sales, corporate income, and grower proceeds. Most convincingly, there is a clear relationship, both when increasing and decreasing, between processor proceeds (corporate plus cooperative) and grower proceeds. 16/

On the basis of the above, I have concluded that it is appropriate to consider the condition of the growers along with processors in evaluating the condition of the domestic industry and the impact of Brazilian LTFV imports. The final domestic industry question which I must address is the issue of related parties. 17/ Virtually all processors imported some FCOJM from Brazil at one time or another during the period of the investigation. Many companies, at one time or another, may have imported more than 50 percent of their shipments from Brazil, particularly during the recent freeze years. To exclude any such companies would provide a skewed picture of the industry because the exclusion would involve elimination of their data for all years not just those in which they made such imports. Rather, I have looked at the total operations of the processors over the entire four years for which we have collected data and determined to exclude only those companies which, over the whole period of investigation, imported Brazilian LTFV FCOJM accounting for over 50 percent of their total sourcing. 18/

16/ I also note the strong correlation between the prices paid to growers for oranges and the FCOJM and FCOJR prices from processors, which further corroborates the existence of the integration.

17/ 19 U.S.C. 1677(4)(B).

18/ This results in the exclusion of only three companies and does not substantially alter the scope of the data. I also note that the Commerce Department developed its own definition of the domestic industry and related parties for purposes of its decision on standing. I believe that Congress has committed these issues to the Commission which alone has the information to deal with them.

CONDITION OF THE DOMESTIC INDUSTRY

Growers

My analysis of the condition of the growers segment of the orange juice industry is by necessity somewhat different than my usual analysis of industry conditions. Neither production nor employment figures are reliable indicators of industry performance. Because of the perishable nature of the product, all of the oranges grown for orange juice processing will be processed into orange juice. Further, because of the high cost of operating orange groves, the long lead time between planting and production, and the wide seasonal fluctuation in the productivity of groves because of weather and other factors, there is little connection between the amount of production and the results of overall industry performance. The analysis of production indicators is further complicated by the significant freeze-related damage to many northern and central Florida groves in recent years.

Acreage under production declined roughly 10 percent in each year, including the 1985-86 crop year in which there were no significant freezes. Total production declined more than 20 percent over the entire period, although the 85-86 figures show an improvement over the disastrous 84-85 season. Estimated production of orange juice solids, based upon our data accounting for 82 percent of oranges processed, declined 26 percent over the period of investigation. The most significant conclusion to be drawn from these indicators is that the recovery of production, particularly acreage under cultivation, is much less than one would expect following a freeze. This indicates both the severity of the freeze and the fact that the growers have been slow to replant lost acreage.

For this investigation, the most important indicators of performance are the financial results of operations. 19/ Total grower proceeds rose from 142 million dollars to 194 million dollars in 1984-85 before dropping dramatically to 163 million dollars in 1985-86. Expenses rose in each year of the investigation, including the most recent year. The net income margin for growers rose significantly in the first year of investigation and remained stable in 1983-84 and 1984-85. It then dropped by over 50 percent to its 1985-86 level. 20/

Overall grower proceeds, however, do not tell the complete story of how growers may be affected by imports because they may be significantly affected by the operations of those growers who were injured by the freezes that have occurred in recent years. As a way of separately analyzing the condition of growers not affected by freezes, separate data was collected for those growers whose groves yielded more than 200 boxes of oranges per acre. 21/ These grower's financial performance is, however, very similar to overall grower financial performance. Their net margins increased somewhat less than the

---

19/ The Commission's data was collected for crop years 1982-83 through 1985-86.

20/ The net income margins for growers, at 22, 31, 32, and 16 percent are significantly higher than the margins I normally associate with the corporate producers which operate in other industries. These margins, however, are not comparable to operating margins for corporations. Whether I would view corporate operating profit margins at these levels to be an indication of material injury is not the issue. Net income margins for growers, defined only as proceeds form oranges minus the direct expenses in growing the oranges should be viewed on an entirely different basis than operating income margins for a corporation. I conclude that they do support a finding that growers are experiencing material injury.

21/ Because the principal immediate effect of a freeze is to affect the yields of the trees, this is a reasonable way to differentiate between those groves which experienced severe damage.

average of all growers between 1982-83 and 1983-84, approximately the same as all growers in the next two seasons, and declined, as did the average of all growers in the most recent season, although by only 35 rather than 50 percent. The declines in the post-freeze year (1985-86) is particularly significant as the declines in financial performance are a major reason for the slow recovery of growers as a whole from the effects of the freezes.

Processors

Consumption of orange juice remained relatively stable over the period of our investigation, fluctuating at approximately 1.3 billion gallons. Production of orange juice from domestic oranges show much greater fluctuation declining 26 percent over the period. Extracting and concentrating capacity remained relatively constant. Domestic shipments show the same volatility as domestic production.

The number of workers involved in the processing of orange juice declined slightly over the period, as did hours worked. Total compensation and hourly compensation both increased slightly. Again, however, it is the processors financial data which is most important for an analysis of the effects of imports on the domestic industry.

Net sales of processors increased from $919 million in 1982 to $1,279 million in 1985 before dropping to $1,065 million in 1986, a level slightly below 1983 sales. Operating income followed a significantly different pattern, declining between 1982 and 1984 while increasing in 1985 and 1986. More revealing of performance of this segment of the industry are the cost of goods sold (COGS) and operating income margins. The COGS margin increased slightly between 1982 and 1984 before dropping drastically in 1985 and 1986, reflecting, I conclude, the lower cost of LTFV Brazilian juice. The operating

margin declined as well between 1982 and 1984 from 9.6 to 3.7 percent. It then increased in 1985 to 7.6 percent but dropped in 1986 to only 0.1 percent. An operating returns to assets analysis for the processors, while limited by the data, shows declines from 16.5 percent in 1982 to 7.5 percent in 1984 followed by a recovery to 16.9 in 1986.

Overall, I conclude that this industry is experiencing material injury, looking at the poor and deteriorating performance of growers and the marginal performance of the processors.

CAUSATION

To analyze causation, I look at volume, price, and the impact of imports, generally through their volume and price effects, on the performance of the industry. In this particular investigation, the impact of imports is primarily a matter of the effect that they have had on price.

Total Brazilian production of oranges has increased steadily throughout the period of investigation, from 195 million boxes to 329 million boxes. LTFV imports also show significant increases, albeit with more fluctuation. 22/ I note that the LTFV imports increased by more than 50 percent after the first year, declined by less than 15 percent before increasing again by less than 10 percent. The market share of the LTFV imports rose and declined by similar but even greater amounts. It is not insignificant that in 1984-85, the only year in which LTFV imports declined, both growers and processors achieved their best financial operating results.

22/ The specific volume of LTFV imports is confidential because of the exclusion of one Brazilian exporter from this final investigation. Inclusion of LTFV import data here, or even specific percentages, when compared to that of other data might reveal something about the imports of that specific producer.

The principal mechanism through which the Brazilian LTFV imports affect the domestic industry is through their effect on prices. This analysis is not complicated although somewhat clouded by fluctuations caused by the recent freezes. This is not to say that the Brazilian imports are the only, or indeed the primary, determinant of domestic prices. However, it is clear that the low priced LTFV imports have a significant downward pressure on domestic prices. There is a very strong correlation between the price at which Brazilian FCOJM is made available to U.S. purchasers and the price of domestic FCOJM. In many instances, the Brazilian prices appear to have led both upward and downward trends in the domestic price. I note that at the points in which the domestic price turned upwards, the Brazilian price appears to be above the domestic price and that at those points when the domestic price turned downwards, the Brazilian price was below the domestic price. 23/

There is also additional evidence of the substantial price effect of Brazilian juice on the domestic industry in the very sharp drop in on-tree orange prices and spot orange prices in 1986. While some decline would be expected following the freezes of the past two years, the severity of the decline, which was out of proportion to the limited recovery of production that did occur, must be attributable to the only other source of supply the low priced and particularly the LTFV Brazilian juice. Information received from growers indicates that the declining on-tree prices for oranges have limited their ability to obtain the financing needed for the replanting and other recovery measures needed following the freezes.

Purchasers reported prices of Brazilian FCOJM below domestic FCOJM

23/ *See* Report at R-93.

through most of 1984 and most of 1986. 24/ This price difference is all the more important because investigation of the orange juice market reveals that it is highly price sensitive. 25/ Buyers are generally aware very quickly of the prices of available orange juice and make their decisions principally on that basis. In such a market, the LTFV imports have a significant effect on price and hence on the industry.

The fact that Brazilian orange juice has become an integral part of the market, rather than a supplementary source of supply, is also relevant to assessing the impact of the LTFV imports. The volume of the LTFV imports does not appear to be positively related to the increases and decreases in domestic production in recent years. Rather, their importation appears to be occurring despite changes in domestic production. This is further supported by the fact that an increasing amount of the Brazilian product is being marketed directly to purchasers in the United States. Their impact on the industry has thus been increased.

I conclude that the Brazilian LTFV imports are a cause of material injury to the domestic industry. 26/

24/ *See* Report at R-90, Table 50.

25/ *See* Report at R-26 - R-28.

26/ I note that my finding that the Brazilian imports are currently a cause of material injury does not mean that I disagree with the analysis of my colleagues Commissioners Eckes and Lodwick which demonstrates the threat posed to the domestic industry from the Brazilian imports. However, in view of my conclusions I do not reach the issue of threat.

Views of Chairman Liebeler
Frozen Concentrated Orange Juice from Brazil
731-TA-326

I determine that an industry in the United States is not materially injured or threatened with material injury by reason of imports of frozen concentrated orange juice ("FCOJ") from Brazil which the Department of Commerce has determined are being sold at less than fair value.[1]

Like product/domestic industry

A title VII investigation begins with the definition of the like product and the domestic industry. The term "like product" is defined as "a product which is like, or in the absence of like, most similar in characteristics and uses with, the article subject to investigation..."[2] The Commission has determined in

---

1 As there is an established domestic industry producing FCOJ, material retardation is not an issue in this investigation and will not be discussed further.

2 19 U.S.C. §1677(10) (1982).

previous investigations[3] that the like product was domestic FCOJ. The imported product currently under investigation is FCOJ from Brazil.[4] Domestic and imported FCOJ are very similar. They sell for nearly the same price, and are both produced from round, as distinguished from specialty (eating) oranges. I therefore again determine that the like product is FCOJ.

The term industry is defined as "the domestic producers as a whole of a like product, or those producers whose collective output of the like product constitutes a major portion of the total domestic production of that product."[5] In agricultural product cases, the Commission has, on various occasions, elected to include

---

3 See Frozen Concentrated Orange Juice from Brazil, Inv. No. 701-TA-184 (Preliminary), USITC Pub. 1282 (1982); Frozen Concentrated Orange Juice from Brazil, Inv. No. 701-TA-184 (Final), USITC Pub. 1406 (1983); Frozen Concentrated Orange Juice from Brazil, Inv. No. 751-TA-10, USITC Pub. 1623 (1984); Frozen Concentrated Orange Juice from Brazil, Inv. No. 731-TA-326 (Preliminary), USITC Pub. 1873 (1986).

4 As in previous investigations, I define FCOJ to include FCOJM (juice for manufacturing) and FCOJR (juice for retail). FCOJR and FCOJM differ only in the amount of relative amount of water which would have to be added to the concentrate in order to convert it to ready to drink orange juice.

5 19 U.S.C. 1677(4)(A)(1982 ed.)

both the growers and producers in one industry.[6] In previous FCOJ investigations, the Commission defined the domestic industry to include both growers of "round oranges"[7] and processors involved in the production of FCOJ.[8] There have been no significant changes that would lead me to change this definition for the purpose of

---

6 See, e.g. Frozen Concentrated Orange Juice from Brazil, Inv. No. 701-TA-184 (Preliminary), USITC Pub. 1282 (1982); Frozen Concentrated Orange Juice from Brazil, Inv. No. 701-TA-184 (Final), USITC Pub. 1406 (1983); Frozen Concentrated Orange Juice from Brazil, Inv. No. 751-TA-10, USITC Pub. 1623 (1984); Frozen Concentrated Orange Juice from Brazil, Inv. No. 731-TA-326 (Preliminary), USITC Pub. 1873 (1986); See also, In Shell Pistachio Nuts from Iran, Inv. No. 731-TA-287, (Final), USITC Pub. 1875 (July 1986) In addition, in certain non-agricultural cases, I have included the producers of semi-finished products with the makers of the final product. See e.g., Eraseable Programmable Read Only Memories from Japan, Inv. No. 731-TA-288 (Final), USITC Pub. 1927 (Dec. 1986).

7 Round oranges, also called sweet oranges, consist of juice and navel oranges, and are grown primarily for orange juice production. Specialty or eating oranges are grown primarily to be sold as fresh fruit. Report at R-3.

8 Frozen Concentrated Orange Juice from Brazil, Inv. No. 701-TA-184 (Final), USITC Pub. 1406, at 3 (1983); Frozen Concentrated Orange Juice from Brazil, Inv. No. 751-TA-10, USITC Pub. 1623 at 11 (Views of Commissioners Eckes, Lodwick, and Rohr), at 28 (Views of Chairwoman Stern); at 44 (Views of Vice Chairman Liebeler) (1984);Frozen Concentrated Orange Juice from Brazil, Inv. No. 731-TA-326 (Preliminary), USITC Pub. 1873 at 4 (Views of the Commission); at 20 (views of Chairman Liebeler) (1986);

this investigation. The vast majority of U.S. grown round oranges are processed. During 1983/84-1985/86, 73 percent of all round oranges were processed, with the remainder going to the fresh fruit market.[9] There is also a single, continuous line of production from round oranges to FCOJ. Also, because mature round orange trees produce oranges for many years, round orange producers cannot inexpensively shift production from round oranges to another crop. Furthermore, the high correlation between prices for FCOJ and the price of oranges,[10] indicates that if prices for FCOJ fall, growers do not turn to other markets to mitigate the effects that those price changes might have on their own prices. This supports other information in the record for this investigation that prices to growers are affected by prices to processors and, hence, they are tied economically to the FCOJ market.[11] Because of these considerations, I determine that there is a single industry comprised of extractors

---

9 Report at R-5.

10 Report at Figure 5. Memorandum from the Office of Economics, EC-K-140 (April 9, 1987).

11 For elaboration of this point, see Views of Vice Chairman Brunsdale at infra, at 97-98.

and growers.[12]

Related parties

One issue in defining the domestic industry involves the related party provision, which allows the Commission to exclude some domestic producers from the industry if they are related to the exporters or importers, or are themselves importers of the product under investigation.[13] In the instant investigation, none of

---

[12] See Report at Figure 5. Also, see Frozen Concentrated Orange Juice from Brazil, Inv. No. 731-TA-326 (Preliminary), USITC Pub. 1873 at 6 (1986).

Respondents have raised the question whether petitioner has standing in this case. According to information gathered by the Commission, the processors of 51 percent of domestic oranges processed opposed the imposition of dumping duties (Report at Table 8). It is argued that the Commission has the authority to dismiss the petition for lack of support. See Gilmore Steel Corp. v. United States, 585 F. Supp. 670, 673 (Ct. Int'l Trade 1984); Certain Copier Toner from Japan, Inv. 731-TA-373, USITC Pub. 1960 (March 1987) (Views of Chairman Liebeler and Vice Chairman Brunsdale). There is much to be said for this position. Because the majority of the Commission believes that the Commission lacks authority to terminate investigations for want of standing, I hesitate to rely exclusively on petitioner's lack of standing as a basis for my negative determination in this case. I therefore proceed to consider the merits of petitioner's claim.

[13] 19 U.S.C. 1677(4)(B)(1982).

the domestic producers of FCOJ have any corporate relationship to the Brazilian producers or exporters of FCOJ, although some import Brazilian FCOJ and use the Brazilian product as an input along with domestic FCOJ to produce FCOJ for the retail market. The record shows that the firms with high import to production ratios are not abnormally profitable relative to those firms with imported FCOJM accounting for less than 50 percent of total shipments. Moreover, there is no evidence of record that the large importing producers are making significant profits from Brazilian FCOJ which would distort financial data. Conversely, excluding all processors who import dumped Brazilian FCOJ would eliminate a major portion of the industry, thereby distorting the data. Therefore, I do not apply the related parties provision in this investigation, and include all domestic producers of FCOJ within the domestic industry.

Condition of the industry

In examining the condition of the industry I considered, among other factors, production, shipments, sales, employment, investment, total compensation and

profitablility.[14]

Total available FCOJ (in billions of gallons)[15] declined from 1.28 in 1983/84, before rising to 1.30 in 1984/85. Total available FCOJ then fell to 1.28 in 1985/86.[16] During this four season period, the 150 million gallon decrease in Florida production was coincident with a 169 million gallon increase in imports.[17]

U.S. production of round oranges (in millions of boxes) fell from 161.0 in 1983/84 to 149.7 in 1984/85 before recovering to 166.9 in 1985/86. USDA production estimates for 1987 are for an increase to 179.8 million

---

[14] 19 U.S.C. § 1677 (7)(C)(iii).

[15] Normally, we would examine trends in apparent U.S. consumption as a standard against which to measure performance. However, due to the inability to distinguish the proportions of exported domestic FCOJ accounted for by foreign imports, total FCOJ is the relevant variable to examine. For a further discussion of this point, see n. 28 infra and accompanying text. Total available FCOJ was calculated on the basis of production of FCOJ from Florida alone, which accounts for over 90 percent of all domestically produced FCOJ. Report at R-18.

[16] Report at Table 3.

[17] Id.

boxes.[18] Total bearing acreage decreased from 688.7 thousand acres in 1983/84 to 617.8 thousand in 1984/85 and 546.4 in 1985/86.

Production of FCOJ (in millions of pounds of solids) decreased from 705 in 1982/83 to 504 in 1983/84 and to 493 in 1984/85, but then increased to 551 in 1985/86.[19]

Processors' domestic shipments of FCOJ (in million pounds solids) decreased from 667 in 1983/84 to 605 in 1894/85 before recovering to 654 in 1985/86.[20] Export shipments, which were very small relative to domestic shipments, declined throughout the period of investigation.[21]

The capacity to extract juice from fresh oranges (as of January 1) declined from 5.5 million pounds in 1984 and 1985 to 5.3 million pounds in 1986 and 1987.[22] Water-evaporating capacity remained relatively stable

---

[18] Report at Table 9.

[19] Report at Table 11.

[20] Report at Table 14.

[21] Id.

[22] For a discussion of likely reasons for the decline, see p. 75 infra.

during that period.[23]

Processors' shipments (in million pounds solids) decreased from 1,018 in 1983/1984 to 946 in 1984/85 before recovering to 1,018 in 1985/86.[24]

The average number of production and related workers employed by the processors in the production of orange juice products increased from 1733 in 1983/84 to 1742 in 1984/85 then declined to 1694 in 1985/86.[25] Total compensation paid to production workers (in millions of dollars) increased from 22.8 in 1983/84 to 23.7 in 1984/85 and 25.7 million in 1985/86.[26]

Capital expenditures dedicated to production of FCOJ plus single-strength orange juice increased from $18 million in 1983 to $40 million in 1984 before declining to $32 million in 1985 and $28 million in 1986.[27]

---

23 Report at Table 13.

24 Report at Table 14.

25 Report at Table 17.

26 Report at Table 17.

27 Report at Table 35. Data were not obtained for production of FCOJ, comprised of FCOJM plus FCOJR, though they were obtained for production of FCOJM and for FCOJ plus single strength orange juice.

The Commission compiled financial data from extractors who accounted for approximately 76 percent of all processed oranges in 1985/86. Net income before income taxes (as a share of net sales) for 7 U.S. corporations on their operations producing FCOJ increased slightly from 5.3 percent in 1983 to 5.7 percent in 1984, declined to 1.1 percent in 1985 before recovering to 4.8 percent in 1986.[28]

Financial data for cooperative extractors, who accounted for approximately 25 percent of processed oranges, showed ratios of net proceeds to net sales decreasing from 57 percent in 1983 to 44 percent in 1984 and 29 percent in 1985 before recovering to 47 percent in 1986.[29]

The Commission obtained financial data from growers of round oranges who accounted for a total of only 26 percent of production in 1986. Net income before income taxes (as a share of total proceeds) for U.S. growers on all round orange groves rose from 21.7 percent in 1983 to 31.4 percent in 1984 and 31.6 percent in 1985 before

---

[28] Report at Table 29.

[29] Report at Table 39.

falling to 15.6 percent in 1986.[30] Moreover, if the financial data are examined separately for those growers of round oranges yielding 200 or more boxes per acre and those yielding more than 200 boxes per acre, the picture of the health of the industry is even more favorable. In 1986 growers with yields of 200 or more boxes per acre accounted for 46 percent of the total quantity and those with yields of less than 200 boxes per acre accounted for less than 10 percent of the total quantity reported for 1986. The growers with yields of 200 or more boxes per acre experienced net incomes (as a share of total proceeds) of 36.6 percent, 40.6 percent, 41.0 percent, and 26.5 percent in 1983, 1984, 1985, and 1986 respectively.[31] In contrast, those growers with yields of less than 200 boxes per acre experienced net incomes (as a share of total proceeds) of -5.1 percent, 31.1 percent, 18.8 percent, and -13.1 percent in 1983, 1984, 1985, and 1986 respectively.[32]

The overall picture present for growers and extractors is mixed. Production, shipments, employment,

---

30 Report at Table 20.

31 Report at Table 19.

32 Report at Table 18.

and bearing acreage were down over the period of investigation. Investment, though strong, was down over the period of investigation. Profits and compensation, however, are strong.

Because of the strong financial performance of the industry, I cannot conclude that the industry as a whole is materially injured. However, assuming arguendo that the domestic industry is materially injured, I proceed to a discussion of causation.

Material Injury by Reason of Imports

In order for a domestic industry to prevail in a final investigation, the Commission must determine that the dumped or subsidized imports cause or threaten to cause material injury to the domestic industry producing the like product. First, the Commission must determine whether the domestic industry producing the like product is materially injured or is threatened with material injury. Second, the Commission must determine whether any injury or threat thereof is by reason of the dumped or subsidized imports. Only if the Commission answers both questions in the affirmative, will it make an affirmative determination in the investigation.

Before analyzing the data, however, the first question is whether the statute is clear or whether one must resort to the legislative history in order to interpret the relevant sections of the antidumping law. The accepted rule of statutory construction is that a statute, clear and unambiguous on its face, need not and cannot be interpreted using secondary sources. Only statutes that are of doubtful meaning are subject to such statutory interpretation.[33]

The statutory language used for both parts of the two-part analysis is ambiguous. "Material injury" is defined as "harm which is not inconsequential, immaterial, or unimportant."[34] This definition leaves unclear what is meant by harm. As for the causation test, "by reason of" lends itself to no easy interpretation, and has been the subject of much debate by past and present commissioners. Clearly, well-informed persons may differ

---

33 C. Sands, Sutherland Statutory Construction, § 45.02 (4th ed. 1985).

34 19 U.S.C. § 1977(7)(A)(1980).

as to the interpretation of the causation and material injury sections of title VII. Therefore, the legislative history becomes helpful in interpreting title VII.

The ambiguity arises in part because it is clear that the presence in the United States of additional foreign supply will always make the domestic industry worse off. Any time a foreign producer exports products to the United States, the increase in supply, ceteris paribus, must result in a lower price of the product than would otherwise prevail. If a downward effect on price, accompanied by a Department of Commerce dumping or subsidy finding and a Commission finding that financial indicators were down were all that were required for an affirmative determination, there would be no need to inquire further into causation.

But the legislative history shows that the mere presence of LTFV imports is not sufficient to establish causation. In the legislative history to the Trade Agreements Acts of 1979, Congress stated:

> [T]he ITC will consider information which indicates that harm is caused by factors other than the less-than-fair-value imports.[35]

---

35 Report on the Trade Agreements Act of 1979, S. Rep. No. 249, 96th Cong. 1st Sess. 75 (1979).

The Finance Committee emphasized the need for an exhaustive causation analysis, stating, "the Commission must satisfy itself that, in light of all the information presented, there is a sufficient causal link between the less-than-fair-value imports and the requisite injury."[36]

The Senate Finance Committee acknowledged that the causation analysis would not be easy: "The determination of the ITC with respect to causation, is under current law, and will be, under section 735, complex and difficult, and is matter for the judgment of the ITC."[37] Since the domestic industry is no doubt worse off by the presence of any imports (whether LTFV or fairly traded) and Congress has directed that this is not enough upon which to base an affirmative determination, the Commission must delve further to find what condition Congress has attempted to remedy.

In the legislative history to the 1974 Act, the Senate Finance Committee stated:

---

[36] Id.

[37] Id.

> This Act is not a 'protectionist' statute designed to bar or restrict U.S. imports; rather, it is a statute designed to free U.S. imports from unfair price discrimination practices. * * * The Antidumping Act is designed to discourage and prevent foreign suppliers from using unfair price discrimination practices to the detriment of a United States industry.[38]

Thus, the focus of the analysis must be on what constitutes unfair price discrimination and what harm results therefrom:

> [T]he Antidumping Act does not proscribe transactions which involve selling an imported product at a price which is not lower than that needed to make the product competitive in the U.S. market, even though the price of the imported product is lower than its home market price.[39]

This "difficult and complex" judgment by the Commission is aided greatly by the use of economic and financial analysis. One of the most important assumptions of traditional microeconomic theory is that firms attempt

---

38 Trade Reform Act of 1974, S. Rep. 1298, 93rd Cong. 2d Sess. 179.

39 Id.

to maximize profits.[40] Congress was obviously familiar with the economist's tools: "[I]mporters as prudent businessmen dealing fairly would be interested in maximizing profits by selling at prices as high as the U.S. market would bear."[41]

An assertion of unfair price discrimination should be accompanied by a factual record that can support such a conclusion. In accord with economic theory and the legislative history, foreign firms should be presumed to behave rationally. Therefore, if the factual setting in which the unfair imports occur does not support any gain to be had by unfair price discrimination, it is reasonable to conclude that any injury or threat of injury to the domestic industry is not "by reason of" such imports.

In many cases unfair price discrimination by a competitor would be irrational. In general, it is not

---

40 See, e.g., P. Samuelson & W. Nordhaus, Economics 42-45 (12th ed. 1985); W. Nicholson, Intermediate Microeconomics and Its Application 7 (3rd ed. 1983).

41 Trade Reform Act of 1974, S. Rep. 1298, 93rd Cong. 2d Sess. 179.

rational to charge a price below that necessary to sell one's product. In certain circumstances, a firm may try to capture a sufficient market share to be able to raise its price in the future. To move from a position where the firm has no market power to a position where the firm has such power, the firm may lower its price below that which is necessary to meet competition. It is this condition which Congress must have meant when it charged us "to discourage and prevent foreign suppliers from using unfair price discrimination practices to the detriment of a United States industry."[42]

In Certain Red Raspberries from Canada, I set forth a framework for examining what factual setting would merit an affirmative finding under the law interpreted in light of the cited legislative history.[43]

> The stronger the evidence of the following . . . the more likely that an affirmative determination will be made: (1) large and increasing market

---

42 Trade Reform Act of 1974, S. Rep. 1298, 93rd Cong. 2d Sess. 179.

43 Inv. No. 731-TA-196 (Final), USITC Pub. 1680, at 11-19 (1985) (Additional Views of Vice Chairman Liebeler).

> share, (2) high dumping margins, (3) homogeneous products, (4) declining prices and (5) barriers to entry to other foreign producers (low elasticity of supply of other imports).[44]

The statute requires the Commission to examine the volume of imports, the effect of imports on prices, and the general impact of imports on domestic producers.[45] The legislative history provides some guidance for applying these criteria. The factors incorporate both the statutory criteria and the guidance provided by the legislative history. Each of these factors is evaluated in turn.

Causation analysis

Examining import penetration data is relevant because unfair price discrimination has as its goal, and cannot take place in the absence of, market power. Imports of FCOJM from Brazil increased from 1982/83 to 1983/84, then fell in 1984/85 before rising in 1985/86 to a level lower than that of 1983/84.[46]

---

44 Id. at 16.

45 19 U.S.C. § 1677(7)(B)-(C) (1980 & cum. supp. 1985).

46 Report at R-96.

Imported FCOJ which is not consumed domestically but is exported should be subtracted from total imports before analyzing market penetration. However, since most imported FCOJ is blended with the domestic product, and in varying proportions, exporter-processors have generally been unable to determine the specific composition of each shipment. Thus, traditional market penetration figures, i.e., the ratio of imports to consumption, are not useful. Accordingly, I examine the quantity of imports from Brazil as a percentage of total available FCOJ (domestic production plus imports plus carryover stock). Import penetration from Brazil increased significantly between 1982/83 and 1983/84, then decreased in 1984/85 before rising slightly in 1985/86.[47] These penetration ratios are moderate but have been relatively stable over the last two growing seasons.

The second factor is a high margin of dumping or subsidy. The higher the margin, ceteris paribus, the more likely it is that the product is being sold below the

---

[47] Report at Table 48.

competitive price[48] and the more likely it is that the domestic producers will be adversely affected. The Department of Commerce has calculated a dumping margin of 1.96 percent.[49] The dumping margin is very small and is not consistent with an affirmative determination.

The third factor is the homogeneity of the products. The more homogeneous the products, the greater will be the effect of any allegedly unfair practice on domestic producers. FCOJ from Brazil and domestic FCOJ are similar in uses, though they are not exactly the same. Brazilian FCOJ is a non-premium product, but it can be made premium by adding essence and/or oils.[50] While Brazilian and domestic FCOJ are substitutes in some uses, they are also complements. In order to produce a superior product, processors blend Brazilian FCOJ with domestic FCOJ, which

---

48 See text accompanying note 40, supra.

49 Report at R-3.

50 Non-premium FCOJ meets minimum USDA Grade A standards, and can be made into premium FCOJ by addition of oils, essences (and sometimes pulp cells) prior to use. Prehearing brief of Exporter-Respondents at 10.

differs from the imported product in color and taste.[51] The domestic product could likewise be blended with the domestic product carried over from the previous season, but this would be more expensive than blending with the imported product.[52] Thus, I find the products to be substitutes as well as complements.

As to the fourth factor, domestic producers might choose to lower their prices to prevent loss of market share. Domestic prices decreased from January 1984 through September 1986 but firmed during the last quarter of 1986.[53] However, the decreases in domestic prices can be explained in terms of rebounding domestic production following disastrous freezes.[54]

The fifth factor is barriers to entry (foreign supply elasticity). If there are barriers to entry (or low

---

51 Report at R-15-16. See also Frozen Concentrated Orange Juice from Brazil, Inv. No. 751-TA-10, USITC Pub. 1623 at 11 n. 16 (1984).

52 Report at R-15-16. Transcript at 143-144.

53 Report at R-89-91.

54 See pp. 72-73 infra.

foreign elasticity of supply) it is more likely that a producer can gain market power. Imports of FCOJ from countries other than Brazil accounted for a small portion of total available FCOJ.[55] This factor is consistent with an affirmative determination.

These factors must be balanced in each case to reach a sound determination. In this investigation, barriers to entry probably exist and would support an affirmative determination. However, the other factors, when viewed in the context of an industry troubled by freezes and canker portray a different situation.[56] The 35 percent decline in Florida acreage during 1982/83 to 1985/86, which was the result of freeze-killed groves, accounts for almost all of the decline in bearing acreage.[57] The decline in extracting capacity appears to be due to the loss of some freeze damaged orange groves in Northern Florida which

---

55 Report at Table 47.

56 The freezes occurred in the 80/81, 81/82, 83/84, 84/85 growing seasons. (Report at Figure 7). The canker blight occurred in 1984/85 (Prehearing brief of Petitioners at 31).

57 Report at Table 10.

caused some processors to close their facilities due to lack of oranges available for processing.

Market penetration is moderate, but has decreased recently. Domestic prices declined during most of the period of investigation, but recovered during the last quarter of 1986. Furthermore, the domestic and foreign products can properly be considered to be complements as well as substitutes. Because the domestic and imported product are routinely blended, a less-than-fair-value price may actually stimulate demand for domestic round oranges and FCOJ, and, actually encourage production of domestic oranges and FCOJ to the extent that domestic supply is at all responsive.

However, since domestic supply is highly inelastic,[58] dumped imports cannot have more than a negligible beneficial or detrimental effect on domestic output. Hence domestic output of oranges and FCOJ is largely independent of dumped imports.

---

[58] Memorandum from the Office of Economics, EC-K-136 (April 9, 1987), at 5.

Finally, since the dumping margin is extremely small, even if the entire tariff were passed on to the consumer, the effect would be to raise the price of Brazilian FCOJM by a maximum of 2 percent. The full two percent price increase would be passed on to the consumer only if the supply curve facing the United States were of infinite elasticity. If Brazil's supply curve of FCOJM to the United States were virtually horizontal, the entire tariff would be passed on to consumers. However, if that supply curve were upward sloping, the tariff would raise the price to consumers by less than the amount of the tariff.[59] There is evidence which indicates that the Brazilian supply curve of FCOJM to the United States is less than infinitely elastic (i.e., is upward sloping). First, the United States and Brazil are the two largest suppliers of FCOJ in the world, accounting for the vast majority of the world's production of round oranges and FCOJ. The United States is Brazil's largest export market for FCOJ, accounting for 58 percent of total Brazilian exports during 1983-1985, and 48 percent in January-June

---

[59] See A. Alchian and W. Allen, Exchange and Production, at 65-66.

1986.[60] Thus, Brazil cannot substantially increase exports to the United States without reducing its exports to other countries. Furthermore, the Brazilian supply curve of FCOJ to the world is probably upward sloping because, in order to increase supply in the long run, Brazil would have to make use of land which is less valuable for growing round oranges and more valuable in some alternative employment.

Since the dumped imports have a negligible effect on domestic supply, and could affect prices by at most 2 percent, industry revenues would be affected by at most 2 percent. Therefore, the likely effect on the domestic industry of placing a tariff on FCOJ from Brazil would be minimal. Consequently, the the effect of the dumped imports could not be more than minimal.

The devastating freezes during four of the last six growing years which resulted in a dramatic decrease in output were the source of the industry's difficulties. The outbreak of citrus canker disease in Florida orange

---

[60] Report at Table 56.

tree nurseries in August 1984 further contributed to growers' freeze damamge repair problems. As a result of the canker, 17 million nursery trees and 3 million trees were destroyed. Thus, although the industry sought to replant, it might have been constrained by government action that barred replanting until April 1985 and, once the ban was lifted, the availability of seedlings had been severely reduced.[61] Attributing the problems of the industry to the imports would be confusing cause and effect. The price changes which followed the disasters induced an influx of Brazilian imports.

Threat of material injury

USDA projections of Brazilian output for 1986/87 are for 220 million boxes, down 4 percent from the previous season. These same projections indicate avery large increase in fresh orange consumption in Brazil due to the drastic reduction of the fruit price to the Brazilian public under new monetary regulations (the cruzado plan). If the projected increase in fresh market consumption is

---

61 Prehearing brief of Petitioners at 31.

as expected, the quantity of fruit available for processing would decline 27 percent from the 1985/86 year. Such increasing consumption in the exporting country decreases the likelihood of threat of injury.

Moreover, there is no evidence in the record for these investigations that Brazil would divert exports from third markets to the United States.[62] Furthermore, as discussed in the causation section, Brazilian production would not be able to respond immediately to changes in U.S. prices for FCOJ because of the inelasticity of the short run supply curve.[63]

These factors lead me to conclude that there is no imminent threat of material injury to the domestic industry due to dumped imports.

---

62 In fact, it may be argued that the declining dollar creates incentives for the Brazilian exports to divert exports to the European market.

63 Memorandum from the Office of Economics, EC-K-136 (April 9, 1987), at 5.

Conclusion

Therefore, I conclude that an industry in the United States is not materially injured or threatened with material injury by reason of dumped imports of FCOJ from Brazil.

VIEWS OF VICE CHAIRMAN ANNE E. BRUNSDALE

Frozen Concentrated Orange Juice from Brazil
Investigation 731-TA-326 (Final)

April 22, 1987

I determine that an industry in the United States is not materially injured or threatened with material injury by reason of imports of frozen concentrated orange juice from Brazil that are sold at less than fair value.[1]

Introduction

Despite its agricultural heritage, this is not a garden variety Title VII case. It is unusually complex for several reasons. First, there is substantial evidence that the overall health of the broader domestic orange juice business is highly dependent on imported Brazilian frozen concentrated orange juice, the dumped product under investigation. As a consequence, many (if not all) of the largest producers of juice derived from U.S.-grown oranges import significant amounts of Brazilian orange juice.[2] In

---

[1] Material retardation of the establishment of an industry in the United States is not an issue in this investigation and is not discussed.

[2] See, e.g., Report of the Commission (Report) at R-17, R-25-26 (Table 8).

short it appears that domestic producers who squeeze the most U.S. oranges and thus produce the most truly "U.S. orange juice" have a financial interest in securing Brazilian orange juice at the lowest possible price -- whether or not that price is the result of dumping.[3]

Second, this case raises the always difficult issue of whether the dumping laws afford relief to the growers of an agricultural product that is not itself the exact product under investigation. The Commission has faced this difficult question on a number of recent occasions.[4] Here the most vocal petitioners are the growers of Florida oranges. Though they may be injured by the imports in question, it is not easy to conclude that the Commission can consider their injury within the bounds of the controlling statutes. By law the Commission's injury

---

[3] Id. at Table 8.

[4] See, e.g., Frozen Concentrated Orange Juice from Brazil, Inv. 731-TA-326 (Preliminary), USITC Pub. 1873 (1986); Frozen Concentrated Orange Juice from Brazil, Inv. 751-TA-10, USITC Pub. 1623 (1984); Frozen Concentrated Orange Juice from Brazil, Inv. 701-TA-184 (Final), USITC Pub. 1406 (1983); Frozen Concentrated Orange Juice from Brazil, Inv. 701-TA-184 (Preliminary), USITC Pub. 1282 (1982); Certain Fresh Atlantic Groundfish from Canada, Inv. 701-TA-257 (Final), USITC Pub. 1844 (1986); Live Swine and Pork from Canada, Inv. 701-TA-224 (Final), USITC Pub. 1733 (1985); Certain Tomato Products from Greece, Inv. 104-TAA-23, USITC Pub. 1594 (1984); Certain Red Raspberries from Canada, Inv. 731-TA-196 (Preliminary), USITC Pub. 1565 (1984); Certain Table Wine from France and Italy, Invs. 701-TA-210 and 211 (Preliminary), USITC Pub. 1502 (1984); Lamb Meat from New Zealand, Inv. 701-TA-80 (Preliminary), USITC Pub. 1191 (1981).

determination must be focused on the domestic "industry" that produces the "like product."[5] Literal application of this provision would appear to preclude the Commission from considering whether growers are injured by less-than-fair-value imports of a processed agricultural product since the growers do not produce the processed product. While the Commission has found its way around this problem in the past, it has never been easy.

Finally, the domestic orange juice business is both highly integrated and highly complex. The business of producing juice from oranges is comprised of three different segments: (1) growing oranges, (2) extracting juice from oranges, and (3) blending and packaging orange juice for retail sale. If each of these three segments involved different producers and if Brazilian and domestic frozen orange juice concentrate were close substitutes, the correct framework for the analysis of injury in this case would be far more obvious. In such a world growers would only grow and produce oranges, extractors would only squeeze oranges and produce frozen concentrated orange juice, manufacturing grade (FCOJM), and blenders/packagers would only use FCOJM to blend single-strength orange juice (SSOJ) and retail strength frozen concentrated orange juice (FCOJR) which they would package for ultimate retail sale. In such a world it would

---

[5] 19 U.S.C. 1677(4)(A), 1677(10).

not be difficult to identify who could be directly and immediately injured by low-priced dumped imports of Brazilian FCOJM. The Brazilian FCOJM would be sold only to the blender/packagers who would use it as an alternative for domestic FCOJM. The extractors, the producers of domestic FCOJM, obviously could be injured because they would produce the product that competes directly with the imported product and thus would face direct and immediate price effects from dumped imports. And the growers who sold oranges to juice extractors would face the same price effects unless they had one or more commercially attractive alternative outlets for their fruit.[6] However the blender/packagers could not be injured because they are consumers of the imported product and would obviously benefit from a low import price.

Unfortunately the actual structure of the domestic orange juice business is not so simple. The evidence is overwhelming that there is substantial integration of the different production activities among the producers in the business. Many oranges are grown by producers who both extract and also blend and package FCOJR and SSOJ.[7] The great majority of the domestically

---

6 As I discuss, infra, the growers of round oranges do not have a commercially attractive alternative outlet for their products.

7 See, e.g., Transcript of the hearing (Tr.) at 125, 133, and 141.

manufactured FCOJM is produced by firms that produce FCOJM, FCOJR, and SSOJ.[8] While some firms (e.g., dairies) do nothing but blend and package juice for retail sale,[9] a vast portion of the domestic orange juice business is occupied by firms that operate in two or more business segments.[10]

The large firms that are both blender/packagers and extractors have conflicting interests with respect to Brazilian imports. To the extent that they grow oranges and/or extract juice from oranges, low-priced Brazilian imports can hurt their business. To the extent that they blend and package orange juice for retail sale, Brazilian imports can only help. Indeed, if as appears to be the case here, their investment is greater in the

---

8 Report at R-26 (Table 8). While extractors also produce a small amount of retail grade orange juice (FCOJR and SSOJ) directly from oranges, the overwhelming majority of processed oranges are converted by extractors into FCOJM. Report at R-11.

9 Id. at R-17.

10 To complicate matters further, there is evidence that at least some Brazilian FCOJM is used as a complement, not a substitute, for domestic FCOJM. It appears that domestic producers of FCOJM may be able to sell some product of inferior quality because it can be blended with superior Brazilian FCOJM. Tr. at 55-57. In such a case, producers of domestic FCOJM may be benefitted by low-priced Brazilian imports. Because the evidence on this issue is thin and the preponderance of the record suggests that Brazilian and domestic FCOJM are close substitutes, see, e.g., Tr. at 55, Report at R-15-16, I do not complicate my analysis further by considering in detail the potentially positive impact of Brazilian FCOJM on sales of domestic FCOJM.

blending and packaging end of the business, there is a greater likelihood that these integrated producers of domestic FCOJM would be helped rather than hurt by dumped Brazilian imports.[11]

Thus it is not surprising that producers of FCOJM who have a large share of their sales in FCOJR and SSOJ have voiced substantial opposition to the petition in this investigation, while those who merely grow and squeeze oranges and sell mainly FCOJM tend to support the petition.[12] The opponents of the petition voice their concerns from beneath their hats as consumers of the dumped product, i.e., as blenders and packagers for retail sale. The supporters of the petition voice their concerns from beneath their hats as producers of FCOJM, i.e., as growers and extractors.

While I hear the concerns of the respondents, the issue they raise, though of profound importance to the unfair trade laws, need not be addressed in this case. They invite the Commission to treat as a positive factor the fact that many industry participants (indeed, perhaps the majority in terms of volume of product output) benefit from dumping because they are also consumers of the dumped product in other closely related aspects of their business. So far as I am aware, the Commission has

---

[11] Report at R-63 (Table 34), and R-74 (Table 44).

[12] Id. at R-26 (Table 8).

never accepted such an invitation.[13] Indeed this invitation raises essential questions about the purpose of the unfair trade laws.[14] These questions need not be answered here, because even if I accept petitioners' position on the definition of the domestic industry, I nonetheless find that the domestic industry has not suffered and is not threatened with material injury by reason of dumped Brazilian imports.

Petitioners contend that the like product in this case is FCOJM and the relevant industry for purposes of our injury analysis is the industry producing that product, including the orange growers. In my view, to reach that conclusion we have to disaggregate the domestic orange juice business and remove from the central focus of our injury analysis those aspects of the domestic producers' orange juice business that could benefit from purchases of dumped Brazilian orange juice. To give petitioners the benefit of all doubt, I proceed with my analysis on that basis.

Definition of the Industry

Under section 771(4)(A) of the Tariff Act of 1930, as amended,

---

[13] The only statutory guidance immediately available on the subject -- the related parties provision, 19 U.S.C. 1677(4)(B) -- does not appear to be supportive of the opponents' position.

[14] For example, is the purpose of the unfair trade laws to protect the producers of the domestic "like" product or to protect their production of the domestic "like" product?

the term "industry" is defined as "the domestic producers as a whole of a like product, or those producers whose collective output of the like product constitutes a major proportion of the total domestic production of that product."[15] The term "like product" is defined as "a product which is like, or in the absence of like, most similar in characteristics and uses with, the [imported] article subject to investigation."[16]

Like product. The imported product subject to this investigation is FCOJM.[17] In past investigations of this product, the Commission defined the like product to be frozen concentrated orange juice (FCOJ) -- a category that includes FCOJM and FCOJR. I note that in the instant investigation my colleagues Commissioners Eckes and Lodwick have determined that the like product is FCOJM.

The Commission's like product determination is principally factual and is based on a case-by-case analysis that looks for clear dividing lines among products. Historically, the Commission has examined factors relating to the characteristics and uses of the subject merchandise, including physical appearance, customer perceptions of the articles, and

---

15 19 U.S.C. 1677(4)(A).

16 19 U.S.C. 1677(10).

17 51 Fed. Reg. 20321 (1986). This and other orange juice products are defined in the Report at R-10 and R-12.

interchangeability between products.[18] These factors address product substitutability from the standpoint of the consumers of the imported products under investigation. From this standpoint, two products are "like" each other if they are close substitutes and if consumers can select from among them as close alternatives.

In this case the consumers of FCOJM from Brazil are the blender/packagers that make FCOJR, SSOJ, and other forms of orange juice for retail sale.[19] For those firms that do not have extraction facilities, the only way to produce retail orange juice is to purchase FCOJM. Dairies provide the best example of such firms. Much of the SSOJ produced for consumers is packed by dairies that purchase FCOJM in bulk and, after adding water, package SSOJ and distribute it along with their dairy products to grocery and other retail stores.[20] Other blender/packagers purchase FCOJM and pack FCOJR and SSOJ either as brand names they

---

18 See Portland Hydraulic Cement and Cement Clinker from Colombia, France, Greece, Japan, Mexico, the Republic of Korea, Spain, and Venezuela, Inv. 731-TA-356-363 (Preliminary), USITC Pub. 1925, at 4 (1986); 64K Dynamic Random Access Memory Components from Japan, Inv. 731-TA-270 (Final), USITC Pub. 1862 (1986); Certain Radio Paging and Alerting Receiving Devices from Japan, Inv. 731-TA-102 (Final), USITC Pub. 1410, at 6-9 (1983).

19 The term "blender/packagers" refers to those firms identified in the Staff Report as "reconstitutors" -- companies that reconstitute FCOJM into FCOJR, SSOJ, or some other juice product. It also refers to extractors that perform similar functions. Report at R-17.

20 Report at R-17.

sell themselves or as private labels for other merchandisers.[21] Thus, for the blender/packager that does not have extraction facilities, the only available substitute for imported FCOJM from Brazil is domestically produced FCOJM.[22]

For those blender/packager firms that have extraction facilities (i.e., blender/packagers that are also extractors), there are two ways to produce orange juice for retail sale. First, the firm can buy domestic or Brazilian FCOJM, then dilute and blend it, and package it. Many firms with extraction facilities do this.[23] In fact, more than 75 percent of all imports in 1985/86 were purchased by such firms.[24] Second, the firm can buy oranges and make its own FCOJM from which to produce retail orange juice. Again, many firms engage in this practice.[25] Indeed, many firms do both -- they make their own FCOJM from oranges and buy FCOJM from domestic and Brazilian

---

21 Id. at R-17.

22 Different batches of FCOJM -- whether imported, domestic, or both -- are blended to achieve optimum quality and quantity. Report at R-15-16. Consumer demand for such blends indicates that U.S.-produced and imported FCOJM are imperfect but very close substitutes.

23 Report at R-17.

24 Id. at R-26 (Table 8).

25 Id. at R-17.

sources for blending in their retail product.[26] For blender/packagers with extraction facilities, the only products that are clearly substitutes for imported FCOJM from Brazil are domestically produced FCOJM and oranges.

The fact that blender/packagers with extraction equipment can substitute oranges for FCOJM in the making of retail orange juice might lead one to expand the like product to include oranges. It is not necessary to go so far, however. As discussed below, growers of oranges may be included in the domestic industry that produces FCOJM on other grounds.[27]

Domestic industry. The relevant domestic industry is, at the least, all domestic producers of FCOJM -- that is, all extractors.[28] One of the petitioners (a trade association that includes growers) argues, however, that the Commission should

---

26 Id. at R-17.

27 Some blender/packagers extract juice from oranges and use it directly to make retail FCOJR and SSOJ without first making FCOJM. This suggests even more strongly that the definition of the like product should include oranges and perhaps also all forms of orange juice. I note, however, that the vast majority of processed oranges are converted first to FCOJM before subsequent blending into retail products. Report at R-11. Use of FCOJM is often more economical because orders for FCOJR and SSOJ are unpredictable and it is easier to store FCOJM. Id. at R-15.

28 The term extractors refers to companies that extract orange juice from oranges and process it further into FCOJM; it does not refer to reconstitutors unless they are also extractors.

define the domestic industry to include both extractors and growers of "round oranges."[29] This is consistent with the Commission's definition of the industry in prior orange juice cases.[30]

The literal language of the governing statutes does not appear to permit growers to be included in a domestic industry of processors. But, in a limited number of cases, the Commission has read the statute and its legislative history to be less strict than it appears on its face. In such cases we have included growers of the raw agricultural product within the domestic industry producing the processed product if (1) the raw agricultural product enters a single, continuous line of production resulting in the like product, and (2) there exists a degree of economic integration between the growers and processors.[31]

In deciding whether to include growers in the domestic industry producing FCOJM, the key issue is whether growers of round oranges have reasonably attractive alternative markets in which they can expand or contract sales of their product without significantly affecting their returns, or whether they are

---

29 Petitioner's posthearing brief at 1-2.

30 Frozen Concentrated Orange Juice from Brazil, Inv. 731-TA-326 (Preliminary), USITC Pub. 1873, at 6 (1986).

31 See, e.g., Certain Fresh Atlantic Groundfish from Canada, Inv. 701-TA-257 (Final), USITC Pub. 1844 (1986).

closely bound economically to the extractors and the FCOJM market. The most direct way to analyze this issue is to look at the correlation between the prices of FCOJM and oranges. A high correlation indicates that growers do not turn to alternate markets to mitigate the detrimental effects that changes in the price for FCOJM might have on them. If prices of FCOJM fell and growers were not closely bound to extractors, they would turn to other markets to sell their oranges. As a result, their average realized price would not fall as much as that of FCOJM.

There appears to be a high correlation between the price of FCOJM and the price of oranges. This is demonstrated by various data. Figure 5 of the report shows that prices for oranges were lower than, but followed trends nearly identical to, prices for FCOJM from 1975/76 to 1985/86.[32] Calculated correlation coefficients for prices of FCOJM to spot prices and on-tree prices for oranges are 0.95 and 0.97, respectively -- indicating extremely high degrees of correlation.[33]

These statistical data are buttressed by the fact that orange growers are petitioners in this case. This fact is not conclusive by itself, of course, but does serve to support related evidence that prices to growers are intimately affected

---

[32] Report at R-81.

[33] Memorandum from the Office of Economics, EC-K-140 (April 9, 1987).

by prices to processors.[34]

In view of the above, I conclude that growers of round oranges have no meaningful alternative market for their product other than extractors. Accordingly, they should be included with extractors in the domestic industry.

Condition of the Industry

To be consistent with my analysis of the "like" product and definition of the "industry," I exclude extractors' operations that benefit from unfair imports (i.e., making retail juice) when I analyze the condition of the industry.[35] I also include orange growers in the analysis and accord their operations a weight proportionate to the value that they add to FCOJM. The U.S. industry of extractors and growers is an amalgam of firms whose performance measures, when viewed together, are occasionally inconsistent. In 1986, for example, when growers' net income margins declined, extractors' improved.[36]

---

[34] There is evidence that a portion of round oranges are processed directly into FCOJR and SSOJ. The availability of this alternative for the growers' product does not mitigate the price effects of imported FCOJM because the end product produced from imported FCOJM, FCOJR and SSOJ, competes head-to-head with the juice produced directly from domestic oranges.

[35] My exclusion of these operations follows logically from the acceptance of FCOJM as the "like product." Because these operations are excluded, the related parties doctrine, 19 U.S.C. 1677(4)(B), is not implicated.

[36] Report at R-45 (Table 20); R-55 (Table 27); and R-59 (Table 31).

Extractors. There are limited data about extractors that do not include their operations as consumers of imported FCOJM. Such data include production and employment, where significant declines occurred from 1982/83 to 1983/84 followed by moderate improvement (for production) or slight declines (for employment).

U.S. production of FCOJM declined by 37 percent from 1982/83 to 1983/84, and then increased slowly through 1985/86, by 17 percent overall.[37] Firms' capacity to extract remained relatively steady from 1984 to 1986, as did their concentrating capacity.[38] Inventories of domestically produced FCOJM declined from 1982/83 to 1983/84, then increased in 1984/85, and fell slightly in 1985/86.[39] Employment of production and related workers and their hours worked producing FCOJM fell markedly from 1982/83 to 1983/84 and then held steady in 1984/85. In 1985/86 employment and hours worked again declined.[40]

Data on extractors' shipments and financial performance include their operations processing imported FCOJM. Both shipments and financial performance generally showed declines from 1982 through 1985 and a recovery in 1986. If one assumes

---

37 Id. at R-34 (Table 12).

38 Id. at R-35 (Table 13).

39 Id. at R-40.

40 Id. at R-41-42.

that these data reflect benefits received by producers as consumers of Brazilian FCOJM, then their performance solely as producers of FCOJM would not be as healthy as discussed below.

Domestic shipments of FCOJM declined from 284 million pounds solids in 1982/83 to 210 million in 1984/85, or by 26 percent. In 1985/86 shipments recovered somewhat, increasing by 10 percent to 231 million pounds. Export shipments followed similar trends but averaged only about 9 percent of total shipments.[41]

The Commission gathered financial data from extractors that accounted for about 76 percent of all processed oranges in 1985/86. The overall operations of corporate extractors (accounting for about 51 percent of processed oranges) showed operating ratios holding steady at about 8 percent in 1982 and 1983, falling to about 6 percent in 1984 and 1985, and then rising to about 8 percent again in 1986.[42] This financial performance is inflated to the extent that it reflects a benefit from low-priced Brazilian imports.

Firms reporting only their FCOJM operations (the operations least affected in a positive way by Brazilian imports) accounted for less than half of all processed oranges. However, their operating ratios were low, showing positive income only in 1984. The losses ranged from -10.7 percent in 1985 to -0.8 percent in

---

41 Id. at R-36 (Table 14).

42 Id. at R-61 (Table 33).

1986.[43]

The overall operations of cooperative extractors (accounting for about 25 percent of processed oranges) showed ratios of net proceeds to net sales increasing slightly from 1982 to 1984, dropping in 1985, and then rising again in 1986.[44] Again, these results are inflated to the extent that they reflect a benefit from Brazilian imports. Cooperatives reporting only their FCOJM operations (the operations least affected in a positive way by Brazilian imports) accounted for less than 25 percent of all processed oranges. Their net proceeds ratios followed the operating ratios of their corporate counterparts -- falling in 1983, increasing in 1984, falling in 1985, and gaining again in 1986.[45]

Certain financial data are available that do not include the importing operations of corporate extractors. These include data on asset value and investments. The strength of these data indicates that U.S. production of FCOJM yields returns adequate to justify increasing assets and investment, and will continue to do so.

---

43 Id. at R-55 (Table 27).

44 Id. at R-72 (Table 43).

45 Id. at R-67 (Table 37). Cooperatives are generally nonprofit organizations. Measures of their profitability are probably speculative. A more useful measure may be the profitability of growers.

Capital expenditures devoted to producing FCOJM declined from 1982 to 1983 and increased steadily thereafter. Expenditures in 1986 reached a five-year high of $17 million.[46] As a share of net income from operations producing FCOJM, FCOJR, SSOJ, and other orange juice, capital expenditures increased from 1982 through 1985 and were at a relatively high level in 1986. This information suggests that extractors were increasing their investment in facilities for the production of domestic FCOJM even as they were importing Brazilian FCOJM and profiting from its use.[47] The gross value of assets (i.e., their original cost) devoted to producing FCOJM increased steadily from 1982 to 1986.[48]

Growers. U.S. production of round oranges declined by 29 percent from 1982/83 to 1984/85, and then increased by 11 percent in 1985/86.[49] Total U.S. orange bearing acreage declined by 27 percent from 1982/83 to 1985/86 largely as a result of frost

---

46 Id. at R-64 (Table 35).

47 See Report at R-59 (Table 31). According to reporting firms, there were no net profits for production of FCOJM except in 1984. Id. at R-55 (Table 27).

48 Id. at R-63 (Table 34).

49 Id. at R-31 (Table 9). The U.S. Department of Agriculture estimates that 1986/87 production will increase by 8 percent. These data exclude tangelos, tangerines, and tangors, but include temples and navels.

damage.[50] Some of the acreage lost to freezes has been replanted, and replantings continue at the present time.[51]

Growers that provided the Commission with financial data on their round orange groves accounted for only about 26 percent of total production in 1986.[52] This sample is troubling since it is unknown whether it is representative of all growers. Nonetheless, it is the "best evidence available" -- indeed, the only evidence we have. The growers that provided usable data to the Commission showed a strong performance from 1983 to 1984, when net income margins increased from 22 to 31 percent. In 1985, this margin held steady at 32 percent, and in 1986 it declined to 16 percent. This trend in net income is mirrored by the trend in unit values of orange sales.[53] Data on expenses incurred by growers indicate that the drop in net income in 1986 resulted mainly from declining revenues rather than increasing costs.[54] Growers whose groves yielded less than 200 boxes per acre experienced losses in 1983 and 1986, while growers with

---

50 Id. at R-33 (Table 10). From a high in 1979/80, U.S. production declined by 37 percent. Over the same period, bearing acreage declined by 32 percent. These two declines appear to be related, then, and productivity does not appear to have improved much over the period.

51 Id. at R-33.

52 Id. at R-19.

53 Id. at R-45 (Table 20).

54 Id. at R-45 (Table 20), and R-49 (Table 24).

higher-yielding groves experienced lower income in those years than in 1984 and 1985.[55] The overall strength of growers' performance is shown by their capital expenditures for farm equipment and round-orange plantings. Such expenditures increased from 1983 to 1985 before declining in 1986.[56]

Conclusion regarding the combined industry. The data discussed above, particularly those describing the level of growers' income as well as growers' and extractors' capital investments, show the long-term strength of this industry. Nevertheless, there are indicators that the growers of oranges and producers of domestic FCOJM have not done as well in those operations as they have in some prior years. Since round oranges account for more than half (on a value-added basis) of domestic FCOJM production, their adverse financial results should be weighted more heavily.[57] Frankly, the showing of material injury in this case is far from overwhelming. Thus, I accept for purposes of my analysis that the domestic industry has suffered "material injury" within the meaning of the controlling statute only to give petitioners the further benefit of the doubt in this case.

---

55 Id. at R-43-44 (Tables 16 and 19).

56 Id. at R-52 (Table 26).

57 Id. at R-81 (Figure 5).

Causation Analysis

There is little reason to believe that the domestic industry is materially injured by reason of dumped imports. Indeed, dumped imports could only have had minimal effects on domestic producers. To understand why this is so it is important to consider two basic facts about the industry. The first is that domestic supply is very highly insensitive to price. The consequence of this fact is that dumped imports have virtually no affect on domestic output. The second fact is that domestic FCOJM and dumped FCOJM are highly fungible. The consequence of this fact, combined with the 2 percent dumping margin found by the Department of Commerce, is that dumped imports depressed domestic price by at most 2 percent. These effects are very small: under any reasonable standard, any injury caused by these effects falls far short of being material.[58]

First, as to price insensitivity, the domestic industry in this case, unlike most of the other cases that come before us (cases involving manufactured products), operates under special conditions that affect domestic supply. The essential point is that domestic output of round oranges in a given year depends crucially on Mother Nature and she has been most unkind to the domestic industry in recent years.

If weather conditions are favorable, the size and quality of the annual harvest is high. If weather conditions are harsh, the

---

[58] 19 U.S.C. 1677(7)(A).

size and quality of the annual harvest is low. The weather is, of course, unpredictable. While growers realize that weather conditions will vary from year to year, there is some sense in the industry that the good years will outweigh the bad. Unfortunately, unusually bad weather hit the domestic industry in four of the past six growing seasons. Severe freezes occurred in 1980/81, 1981/82, 1983/84, and 1984/85.[59] Not surprisingly this led to a sharp drop in domestic output. Production from the Florida crop, the main source of round oranges, was cut in half between 1979/80 and 1984/85, falling from 1,013 million gallons to only 478 million.[60]

The freezes not only damaged oranges, but also destroyed large numbers of orange trees. Fruit-bearing acreage in Florida declined by one-fourth between 1979/80 and 1984/85, falling from 573 thousand acres to 420 thousand acres.[61]

Mother Nature was kind last year, 1985/86, and domestic production increased to 535 million gallons from 478 million the year before.[62] However, because so many trees were lost during the freeze years, it will take a long time before domestic output can once again approach the 1 billion gallon level achieved in

---

59 Report at R-85 (Figure 7).

60 Id. at R-18 (Table 3).

61 Id. at R-33 (Table 10).

62 Id. at R-18 (Table 3).

the late 1970s. New trees are being planted, but it takes three to four years for them to bear any fruit, and it takes ten years before they reach full maturity.[63]

In the above discussion there would appear to be a curious omission -- the lack of any mention about the effect of price on domestic supply. The omission is deliberate. No mention was made of price for the simple reason that in the short run, i.e., during a crop year, price plays virtually no role in determining domestic output. The grower harvests the quantity and quality of oranges bestowed by Mother Nature whether the price is high or whether it is low. And all oranges are used regardless of the prevailing price. In other words, price does not matter in the short run, or alternatively, domestic supply is very highly insensitive to price.[64]

Because domestic supply is insensitive to price, dumped imports cannot significantly affect domestic output. Thus the output of domestic round oranges is largely independent of dumped imports. Similarly, the output of the orange juice extractors -- U.S.-produced FCOJM -- is also largely independent of dumped imports. Their output is completely linked to the output of growers and therefore to Mother Nature.

---

63 "Fla. Citrus Growers Ready to Expand," J. of Commerce, Mar. 18, 1987, Report at D-4.

64 Memorandum from the Office of Economics, EC-K-136 (April 9, 1987), at 5.

Second, as to the fungibility of imported FCOJM and domestic FCOJM, domestic firms that purchase FCOJM to make FCOJR or SSOJ easily and readily switch from foreign to domestic FCOJM in their blending operations.[65] Thus the prices of the two FCOJM products are expected to be virtually the same and to move together over time. This is confirmed by examining Figure 8 in the Report that plots the monthly prices of the two products.[66] Indeed, the two products are such close substitutes that they are traded together in the futures market.[67]

This fact, together with the fact that the domestic supply of round oranges is highly insensitive to price, means that the price of round oranges is very closely linked to the price of FCOJM. The difference between the two prices reflects the processing costs of transforming round oranges into FCOJM. Other things remaining the same, if the output of round oranges declines, we expect that the price of round oranges will increase and this will also lead to an increase in the price of

---

65 Tr. at 55-57, Report at R-15-16.

66 Report at R-93 (Figure 8).

67 Id. at R-82.

FCOJM.[68] Similarly, if the output of round oranges increases we expect that the price of round oranges will fall and this would also lead to a decrease in the price of FCOJM. Indeed, the very close relationship between the prices of round oranges and FCOJM is one of the important findings of this case. As shown in Figure 5 of the Report, the movements of the two prices are very similar.[69] More precisely, the close relationship between the two prices is measured by the statistical correlation coefficient, which is a very high 0.97.[70]

The fact that domestic and imported FCOJM are highly fungible products and that the price of round oranges is closely linked to the price of FCOJM permits us to gauge the extent of price suppression caused by dumped imports in this case. The additional ingredient we need is the size of the dumping margin

---

68 That is, this assumes that the demand for orange juice is not changing, that import supply is not changing, and that costs of processing are also not changing.

69 Report at R-81 (Figure 5).

70 Memorandum from the Office of Economics, EC-K-140 (April 9, 1987).

for FCOJM.[71] The dumping margin is 1.96 percent.[72]

An upper bound for the adverse effect on domestic price caused by dumped imports in this case is obtained by using the dumping margin itself. This assumes that the 2 percent price advantage possessed by the Brazilian firms that dump in the U.S. market is passed on completely in the form of lower prices to U.S. consumers of FCOJM and, because of the very close relationship between round oranges and FCOJM, it also lowers the price of domestic round oranges by 2 percent. This is clearly a very conservative procedure. It overstates the adverse effects on domestic prices because it is tantamount to assuming that the Brazilian dumpers completely dictate the price of FCOJM in the United States, which also assumes that they have such an

---

71 The recent opinion of the Court of International Trade in Hyundai Pipe Co., Ltd., et al. v. U.S. International Trade Commission, et al., Slip Opinion 87-18 (February 23, 1987), makes clear that it is appropriate for the Commission to consider the magnitude of the subsidy or dumping margin in assessing causation. Indeed, there is substantial support in the legislative history for the proposition that the Commission should consider the subsidy or dumping margin in every case. The House Report to the Trade Act of 1979 states: "for one type of product, price may be the key factor in determining the amount of sales elasticity, and a small price differential resulting from the amount of the subsidy or the margin of dumping can be decisive; in others the margin may be of lesser significance." H. Rep. 317, 96th Cong., 1st Sess. 47 (1979) (emphasis added). The Senate Report contains almost identical language. S. Rep. No. 249, 96th Cong., 1st Sess. 88 (1979). See also H.R. Rep. No. 317 at 55; S. Rep. No. 249 at 57-58.

72 Report at R-3.

enormous capacity that they could supply the entire U.S. market.[73] Therefore, at a maximum, the magnitude of price suppression in this case is 2 percent.[74]

Finally, because dumped imports do not have a perceptible effect on domestic output but do depress domestic prices by at most 2 percent, industry revenues are at most 2 percent lower as a consequence of dumping. That is, lost sales, by which I mean the reduction in domestic industry revenues (expressed as a percent of total industry revenues), amount to 2 percent at most in this case.[75]

---

73 To determine the precise effect on domestic prices caused by dumped imports we need to know the amount by which the 1.96 dumping margin increases total imports of FCOJM. It is important to consider whether dumped imports cause an increase in total imports because a certain volume of imports will occur in the absence of LTFV sales. Other things being the same, if dumped imports are to be a source of harm to the domestic industry through their price effects total imports must have increased. Brazilian firms that dump in the U.S. market have a 2 percent price advantage over their rivals and this allows them to sell more FCOJM to the United States. When these additional shipments lead to higher total imports there will be a depression in the price of domestic FCOJM. We do not have sufficient information in this case to determine the increase in total imports or their effect on U.S. price. See, e.g., W. Wares, The Theory of Dumping and American Commercial Policy, ch. 2 (1977); and An Economic Analysis of Dumping, Memorandum from the Office of Economics, EC-J-457 (December 2, 1986).

74 An indication that price suppression is much less than 2 percent in this case is the fact that the futures market took almost no notice of the Commission's affirmative final determination.

75 I hasten to add that I use the term "lost sales" differently than the Staff Report and some of my

(Footnote continued on next page)

Based on the foregoing analysis, the adverse effects on the domestic industry from dumped imports of FCOJM from Brazil are very small. Accordingly, I conclude that the domestic industry is not materially injured by reason of dumped imports from Brazil.

Threat of Material Injury

As I discussed above, the domestic industry shows signs of underlying, long-term strength. Any indicators of injury are unique to the present time and exist as the industry currently recuperates from successive freezes. Since no freezes occurred during 1986/87, the indicators of strength in the industry can only improve in the near term. As I noted in my causation analysis, the effects of unfair imports from Brazil on the domestic industry are very small. Therefore, I conclude that there is no imminent threat of material injury to the domestic industry from Brazilian dumped imports.[76]

(Footnote continued from previous page)
colleagues do. As I have explained before, I believe that the lost sales information in the Report almost always is a collection of anecdotes about the experience of individual firms with particular potential customers and transactions and in general is not probative on the issue of causation. That is, it almost never has anything to do with a causal relationship between dumped imports and material injury to the domestic industry. See, e.g., Certain Welded Carbon Steel Pipes and Tubes from India, Taiwan, and Turkey, Invs. 731-TA-271 through 273 (Final), USITC Pub. 1839, at 49-50 (Views of Vice Chairman Liebeler and Commissioner Brunsdale)(1986). In contrast, I use the term "lost sales" to mean the reduction in domestic industry revenues, which I express as a percent of total industry revenues. Clearly this is always relevant in causation analysis.

[76] 19 U.S.C. 1677(7)(F).

INFORMATION OBTAINED IN THE INVESTIGATION

Introduction

On May 9, 1986, the U.S. International Trade Commission and the U.S. Department of Commerce received a petition from counsel on behalf of Florida Citrus Mutual (FCM), a voluntary cooperative marketing association of growers of citrus fruit, alleging that imports of frozen concentrated orange juice (FCOJ) from Brazil, provided for in item 165.29 of the Tariff Schedules of the United States (TSUS), are being sold in the United States at less than fair value (LTFV), and that an industry in the United States is materially injured or threatened with material injury by reason of such imports.

Accordingly, the Commission instituted a preliminary antidumping investigation under section 733(a) of the Tariff Act of 1930 (19 U.S.C. 1673b(a)) and, on June 23, 1986, determined that there was a reasonable indication that an industry in the United States is materially injured by reason of such imports. 1/

On October 23, 1986, Commerce made a preliminary determination that there was a reasonable basis to believe or suspect that FCOJ from Brazil is being, or is likely to be, sold in the United States at LTFV (51 F.R. 37618, Oct. 23, 1986). Commerce was scheduled to make its final determination by December 30, 1986, but upon request from Citrosuco Paulista, S.A., a Brazilian exporter accounting for a significant proportion of exports of the merchandise to the United States, and pursuant to section 735(a)(2)(A) of the act, it postponed that determination until not later than March 9, 1987 (51 F.R. 39692, Oct. 30, 1986).

Effective October 23, 1986, the Commission instituted investigation No. 731-TA-326 (Final), pursuant to section 735(b) of the act (19 U.S.C. 1673(b)), to determine whether an industry in the United States is materially injured, or is threatened with material injury, by reason of imports of FCOJ from Brazil. Notice of the institution of the Commission's investigation was given by posting a copy of the notice in the Office of the Secretary, U.S. International Trade Commission, and by publishing the notice in the Federal Register on November 26, 1986 (51 F.R. 42945). A public hearing was held on March 12, 1987, at which all persons requesting the opportunity were permitted to appear and give testimony. 2/

Previous Commission Investigations

In addition to the present investigation, the Commission has conducted two other investigations involving FCOJ from Brazil since 1982. On July 14, 1982, FCM filed a petition with the Commission and Commerce alleging that subsidies were being paid with respect to the manufacture, production, or exportation of FCOJ imported from Brazil. Following affirmative preliminary determinations by the Commission and Commerce, the Commission instituted

---

1/ Frozen Concentrated Orange Juice From Brazil, Investigation No. 731-TA-326 (Preliminary), USITC Publication 1873, June 1986.

2/ Copies of the relevant Commission and Commerce Federal Register notices are presented in app. A. A list of witnesses appearing at the Commission's hearing is presented in app. B.

investigation No. 701-TA-184 (Final), effective December 16, 1982, to determine whether an industry in the United States was materially injured, or threatened with material injury, by reason of imports of such merchandise into the United States. On February 24, 1983, Commerce and the Government of Brazil signed a suspension agreement on the basis of which Commerce suspended its investigation and Brazil agreed to offset completely the amount of the net subsidy determined by Commerce to exist with respect to FCOJ. Accordingly, the Commission suspended its investigation. However, the Government of Brazil filed a request to continue the investigation with Commerce on March 21, 1983, and both Commerce and the Commission continued their investigations. On July 14, 1983, the Commission, by a one to one vote, 1/ determined that an industry in the United States was threatened with material injury. 2/

On May 31, 1984, the Commission received a request filed on behalf of three Brazilian producers and exporters of FCOJ, pursuant to section 751(b) of the Tariff Act of 1930 (19 U.S.C. 1675), to review its affirmative injury determination in light of changed circumstances. Following a comment period, the Commission instituted investigation No. 751-TA-10 on August 21, 1984, to determine whether an industry in the United States would be materially injured, or would be threatened with material injury, or the establishment of an industry in the United States would be materially retarded, by reason of imports of FCOJ from Brazil if the suspension agreement regarding such merchandise were to be modified or revoked. On December 11, 1984, the Commission determined that an industry in the United States would be threatened with material injury if the suspension agreement were to be modified or revoked. 3/ 4/

Nature and Extent of Sales at LTFV

Commerce made fair value comparisons on virtually all reported FCOJ sold in the United States by Sucocitrico Cutrale, S.A., and Citrosuco Paulista, S.A., during period of investigation, November 1, 1985, through April 30, 1986.

For Citrosuco, Commerce used exporter's sales price (ESP) to represent United States price, as the merchandise was sold to unrelated purchasers after the date of importation. Citrosuco's home market sales were not adequate to determine foreign market value; therefore, it was calculated on the basis of third country sales of identical merchandise to Canada or on the basis of constructed value where there were no sales of such or similar merchandise in the third country market, or where there were not sufficient sales above cost of production, as defined in section 773(b) of the act.

1/ Chairman Eckes voted in the affirmative and Commissioner Stern voted in the negative.
2/ Frozen Concentrated Orange Juice from Brazil, Investigation No. 701-TA-184 (Final), USITC Publication 1406, July 1983.
3/ Commissioners Eckes, Lodwick, and Rohr voted in the affirmative, and Chairwoman Stern and Vice Chairman Liebeler voted in the negative.
4/ Frozen Concentrated Orange Juice From Brazil, Investigation No. 751-TA-10, USITC Publication 1623, December 1984.

For Cutrale, Commerce used purchase price to represent United States price, since its FCOJ was sold prior to the date of importation to unrelated purchasers in the United States. Cutrale's home-market sales to unrelated purchasers were used to determine foreign-market value. As noted below, Cutrale's LTFV margins were found to be de minimis and, accordingly, it is excluded from the scope of Commerce's affirmative determination. In 1986, Cutrale accounted for approximately *** percent of U.S. imports of FCOJ from Brazil.

Commerce's final LTFV determinations were as follows (in percent):

Exporter	LTFV margins
Citrosuco Paulista, S.A.....	1.96
Sucocitrico Cutrale, S.A.....	0.48 (de minimis, excluded)
All others.....	1.96

The Product

Description and uses

Oranges.—Orange juice is derived from the fruit of subtropical evergreen trees of the sweet orange species, genus Citrus, family Rutaceae.

Oranges can be subdivided into three groups: the sour or bitter oranges, which are of only minor economic importance in the United States; 1/ round oranges (also called sweet oranges), which are grown primarily to be used for orange juice production; and specialty oranges, which are grown primarily to be sold as fresh fruit (figure 1).

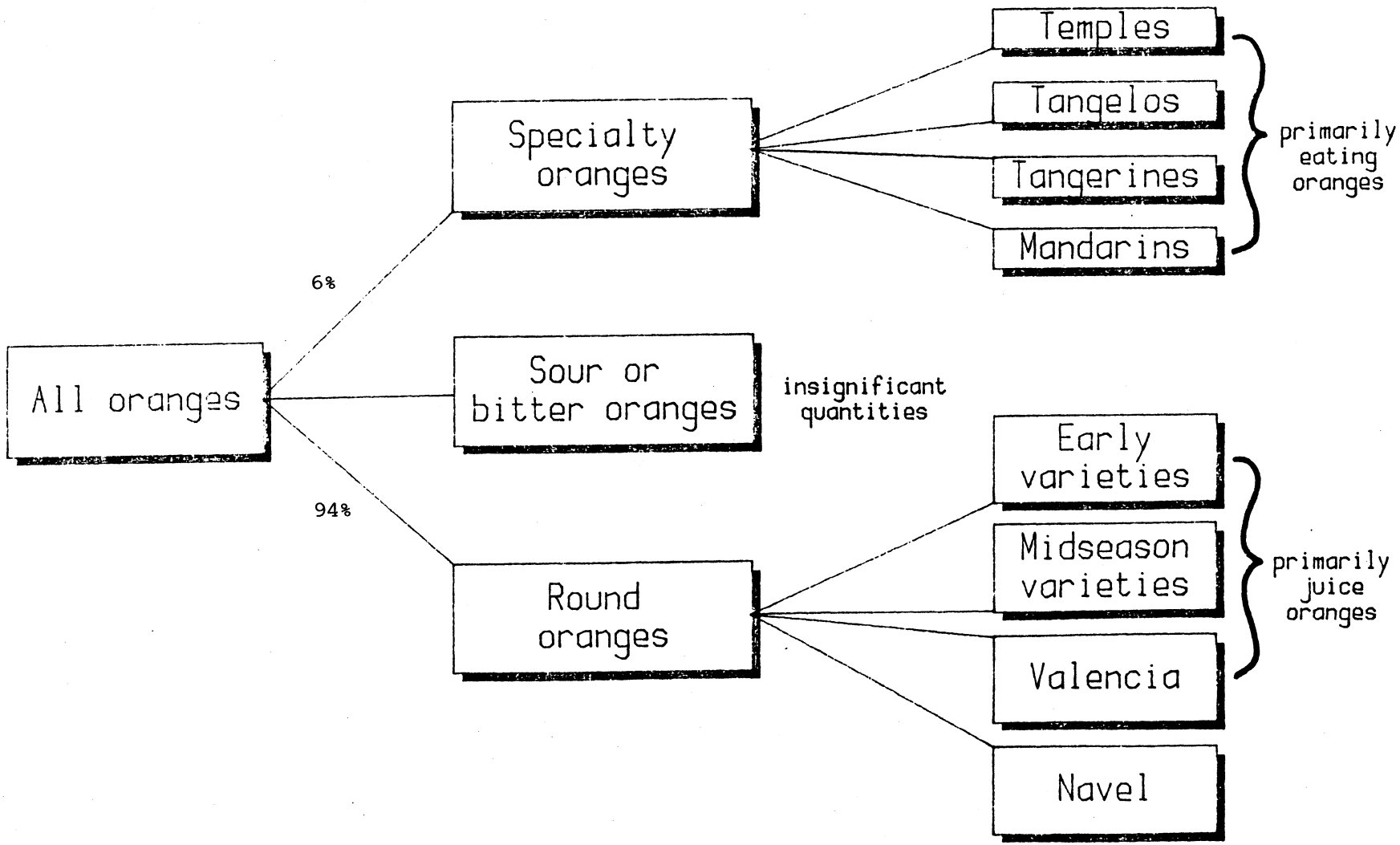
Round oranges can be further divided into four subgroups: the early varieties (Hamlin, Parson, Brown), the midseason variety (Pineapple), the late variety (Valencia), and the navel orange variety. The first three varieties (hereafter called juice oranges) provide the majority of juice produced in the United States; most navel oranges are sold in the fresh market.

The specialty oranges include mandarin oranges or tangerines, tangelos, and temples. They are also called "zipper" fruit, because of their ease of peeling. Tangelos and temples are usually crosses between two citrus varieties (e.g., the temple is a cross between a mandarin and a round orange). Although some specialty oranges are processed into juice, orange juice may not contain more than 10 percent of juice from specialty oranges, according to Florida regulations. If specialty juices account for more than 10 percent of the volume, the product could not be labeled as orange juice, and would be sold as a mixed citrus juice, beverage base, or other nonorange juice product.

The properties (i.e., color, flavor, fragrance, and juice content) of fresh oranges are affected by such factors as growing conditions, various treatments, horticultural practices, maturity, rootstock and variety, and climate. Thus, the juice produced from the same variety in different growing areas will commonly vary in composition. Also, juice produced in the same

1/ Sour or bitter oranges are used in the production of glace fruit and account for less than 0.5 percent of U.S. orange production.

Figure 1
Types and varieties of U.S. oranges



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

growing areas will vary depending on the time of harvest. Earlier harvested oranges generally produce less sweet juices than later harvested ones.

During the last 3 years, an average of 71.5 percent of all U.S. oranges have been processed. Of that total, 65.1 percent were juice oranges, 3.2 percent were navels, and 3.2 percent were specialty oranges. Round oranges (juice oranges and navels combined) accounted for 94 percent of total orange production, and specialty fruit made up the remaining 6 percent. Fresh market sales accounted for 28.5 percent of U.S. production, including 12.3 percent for juice oranges, 13.4 percent for navel oranges, and 2.8 percent for specialty fruit. (table 1 and figure 2)

Round oranges.—Round oranges account for about 96 percent of all oranges processed in the United States. An average of 73 percent of all round oranges were processed during 1983/84–1985/86, whereas 27 percent went to the fresh market. Most round oranges are grown in Florida (71 percent), with 29 percent being grown in the remaining States (1985/86). The majority (93 percent) of the Florida round orange crop is processed, wherea the ratio for that of all other States is 23 percent (table 2 and figure 3).

Juice oranges.—An average of 84 percent of all juice oranges were processed during 1983/84–1985/86, whereas the fresh market accounted for the remaining 16 percent. Most of the juice oranges are grown in Florida (85 percent), with 15 percent being grown in the remaining States. The great majority (95 percent) of the Florida juice orange crop is processed, whereas the ratio for that of all other States is 27 percent (table 2 and figure 3).

Table 1
Oranges: Distribution of U.S. production, 1/ by varieties and by markets, crop years 1983/84-1985/86

(In percent, as share of all U.S. oranges)

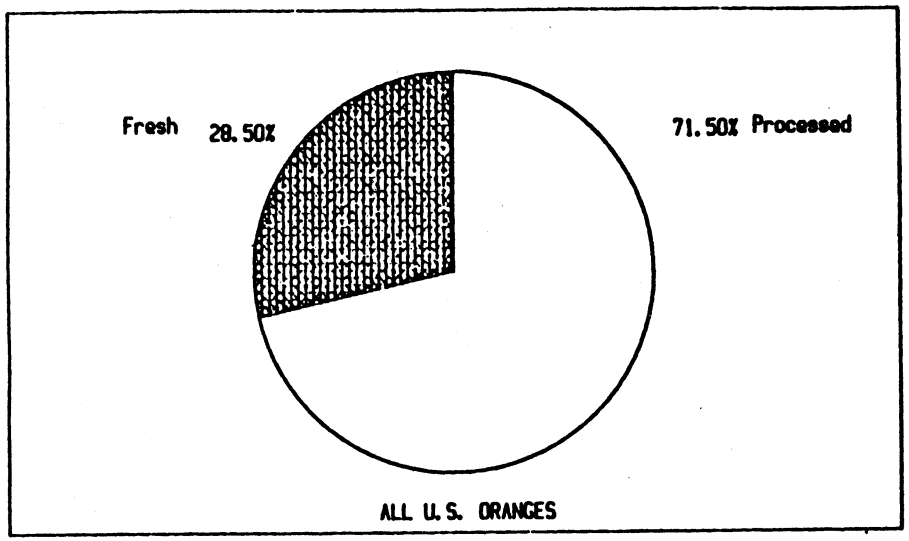
Item	1983/84	1984/85	1985/86	Average
Total, U.S. oranges	100.0	100.0	100.0	100.0
Total U.S. processed	72.7	71.1	70.7	71.5
Total U.S. fresh	27.2	29.0	29.4	28.5
Round oranges:				
Processed	69.4	67.5	68.0	68.3
Fresh	24.1	26.3	26.8	25.7
Total round	93.5	93.8	94.8	94.0
Specialty oranges:				
Processed	3.3	3.6	2.7	3.2
Fresh	3.1	2.7	2.6	2.8
Total specialty	6.4	6.3	5.3	6.0
Round oranges:				
Juice oranges	76.7	76.9	78.7	77.4
Navel oranges	16.8	16.9	16.1	16.6
Total	93.5	93.8	94.8	94.0
Juice oranges:				
Processed	65.2	64.6	66.1	65.1
Fresh	11.5	12.3	12.6	12.3
Total	76.7	76.9	78.7	77.4
Navel oranges:				
Processed	3.7	3.0	3.4	3.2
Fresh	13.1	13.9	12.7	13.4
Total	16.8	16.9	16.1	16.6

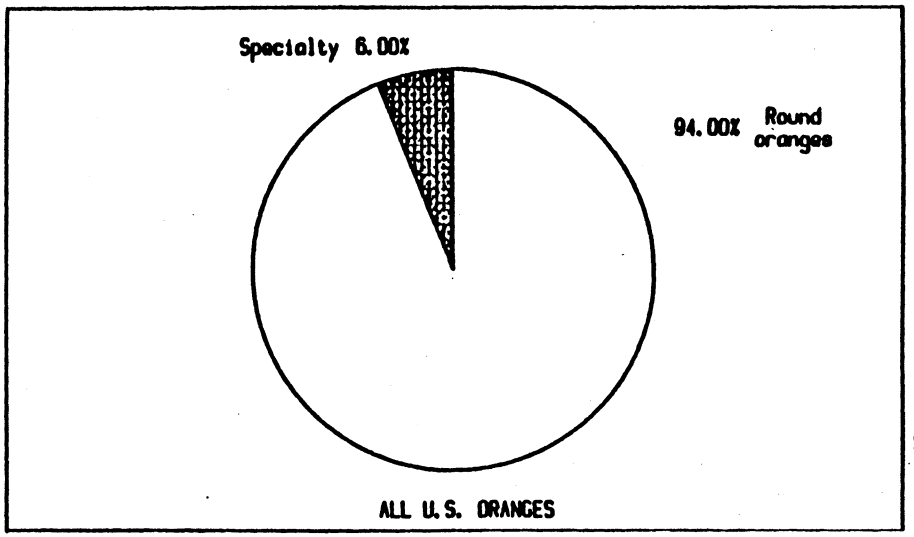
1/ Does not include sour or bitter oranges, which are of minor commercial importance in the United States.

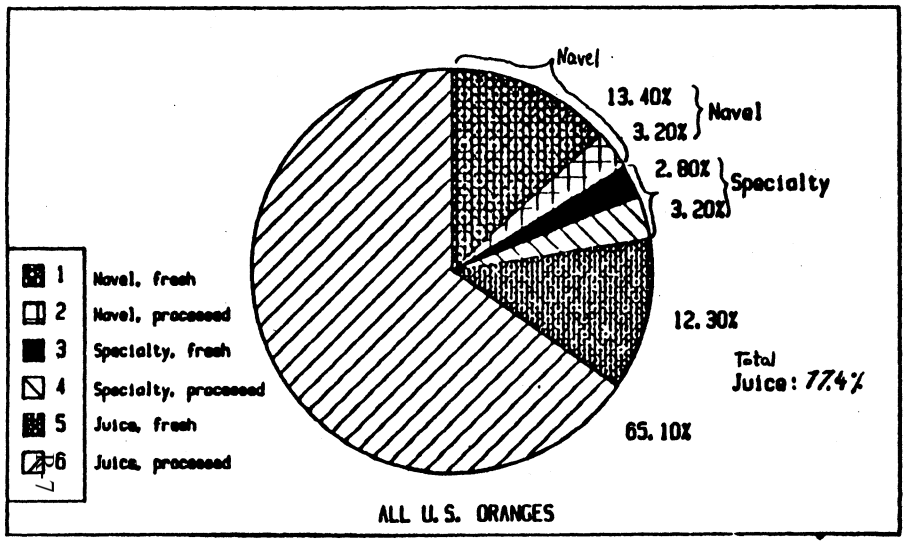
Source: Compiled from official statistics of the U.S. Department of Agriculture.

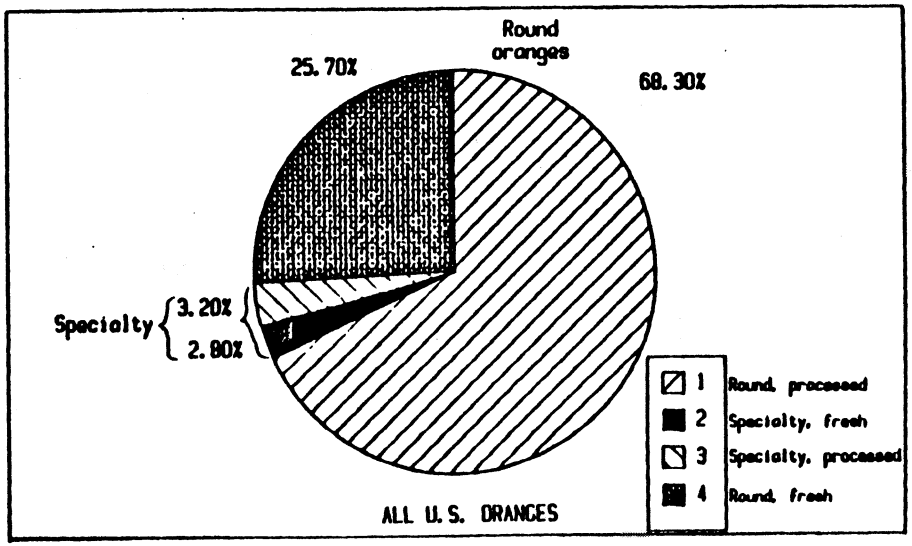
Note.—Because of rounding, figures may not add to the totals shown.

Figure 2
Oranges: Distribution of U.S. production, by markets and by varieties, average of crop years 1983/84 through 1985/86









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

Table 2
Round oranges: Distribution of U.S. production, by varieties and by markets, crop years 1983/84-1985/86

(In percent)

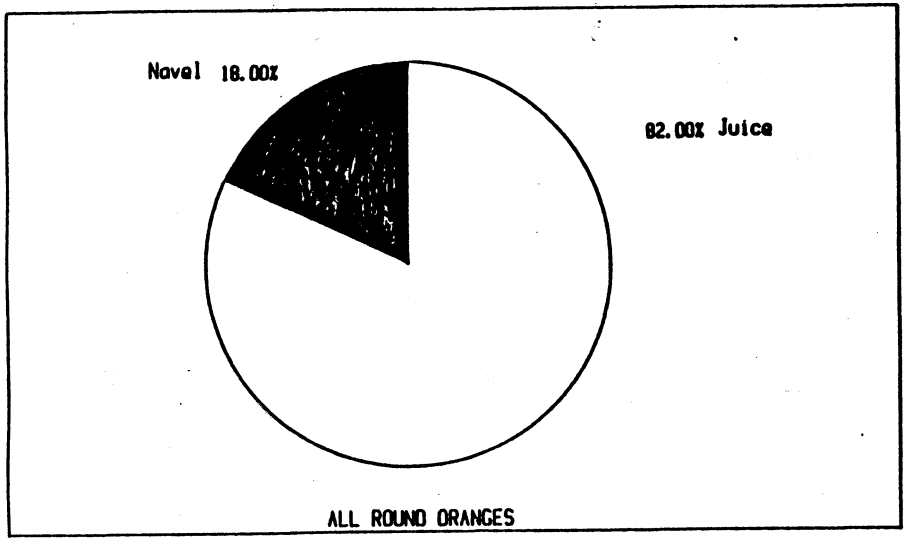
Item	1983/84	1984/85	1985/86	Average
Round oranges: 1/				
Juice oranges 2/.....	82	83	81	82
Navel oranges.....	18	17	19	18
Total round oranges....	100	100	100	100
Juice oranges:				
Processed.....	70	70	68	69
Fresh.....	12	13	13	13
Total juice orange.....	82	83	81	82
Navel oranges:				
Processed.....	4	3	4	4
Fresh.....	14	14	15	14
Total navel oranges....	18	17	19	18
Round oranges:				
Processed.....	74	73	72	73
Fresh.....	26	27	28	27
Total round oranges....	100	100	100	100
Round oranges:				
Florida.....	72	70	72	71
All other States.....	28	30	28	29
Total round oranges....	100	100	100	100
Juice oranges:				
Florida.....	87	82	86	85
All other States.....	13	18	14	15
Total juice oranges....	100	100	100	100
Navel oranges				
Florida.....	1	1	1	1
All other States.....	99	99	99	99
Total navel oranges....	100	100	100	100
Florida round oranges:				
Processed.....	93	94	93	93
Fresh.....	7	6	7	7
Total Florida round....	100	100	100	100
All other round oranges:				
Processed.....	25	23	22	23
Fresh.....	75	77	78	77
Total all other round..	100	100	100	100

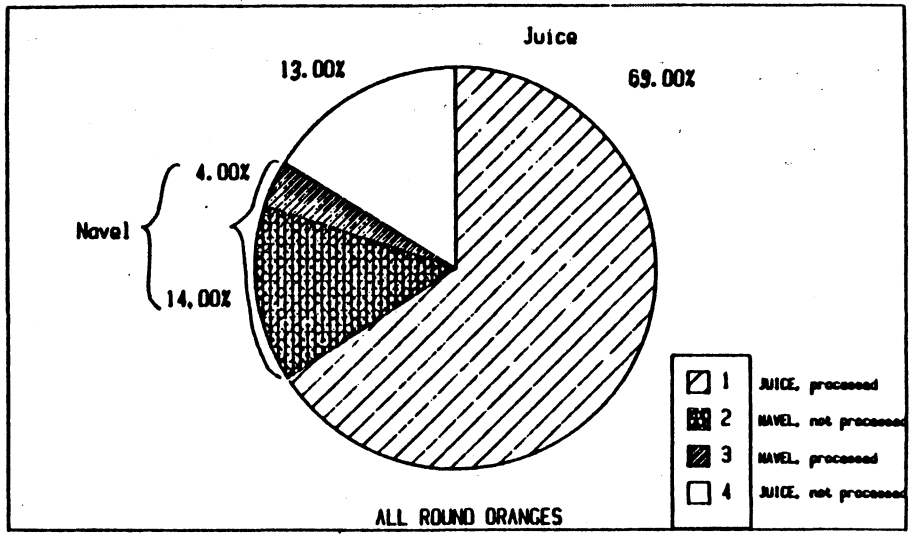
1/ Round oranges include early, midseason, Valencia, and navel oranges.
2/ Juice oranges include early, midseason, and Valencia oranges.

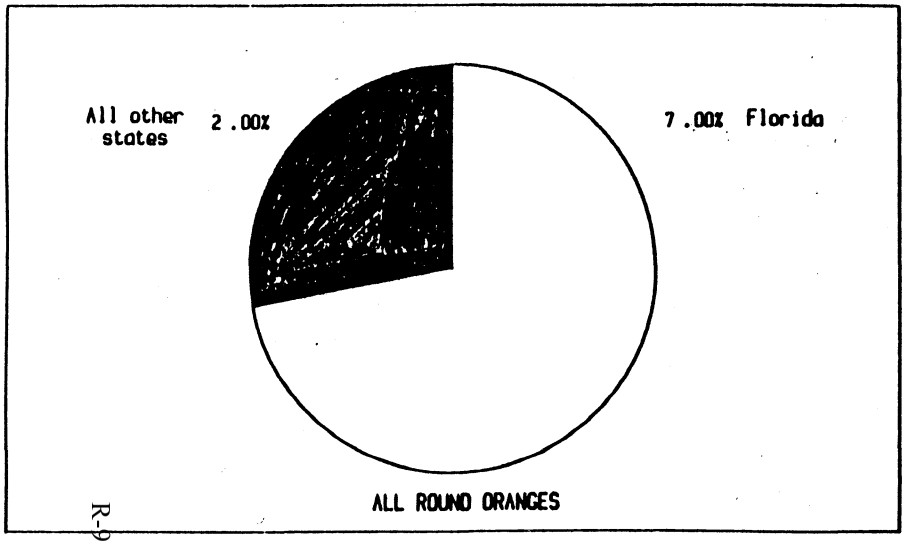
Source: Compiled from official statistics of the U.S. Department of Agriculture.

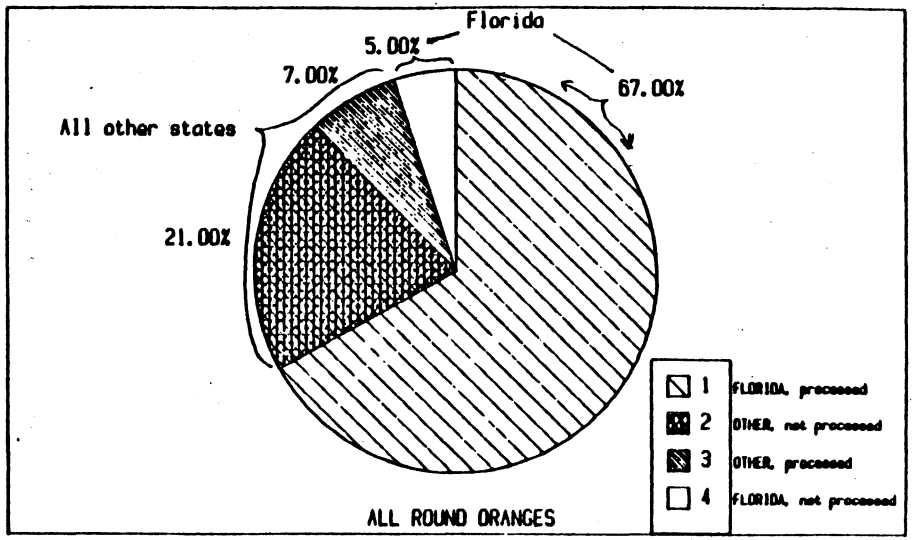
Note.--Because of rounding, figures may not add to the totals shown.

Figure 3
Round oranges: Distribution of U.S. production, by growing areas, by markets, and by varieties, average of crop years 1983/84 through 1985/86









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

R-9

Orange juice.—Orange juice is produced, stored, packaged, and consumed in different forms, varying in concentration and in the method of preparation. The various forms of orange juice are shown in figure 4 and are described below.

Single-strength orange juice (SSOJ).—Orange juice with a degree of concentration generally in the range of 9 to 19 degrees Brix. Brix degree is a measurement unit for the level of concentration of fruit juices. A higher Brix degree means a higher concentration, i.e., more water has been removed from the juice and more fruit solids per unit of juice remain. Ready-to-drink fruit juices are customarily of single-strength concentration. The term SSOJ, for the purposes of this report, includes F-SSOJ, P-SSOJ, B-SSOJ, and R-SSOJ (see descriptions below). SSOJ is usually considered to have an average Brix value of 11.8 degrees.

SSOJ, a consumer product, is generally packaged and shipped in containers ranging from 6 ounces to 128 ounces (1 gallon.)

Concentrated orange juice.—Orange juice with a concentration greater than that of single-strength orange juice. For purposes of this report concentrated orange juice means concentrate with or without the oils and essence added back.

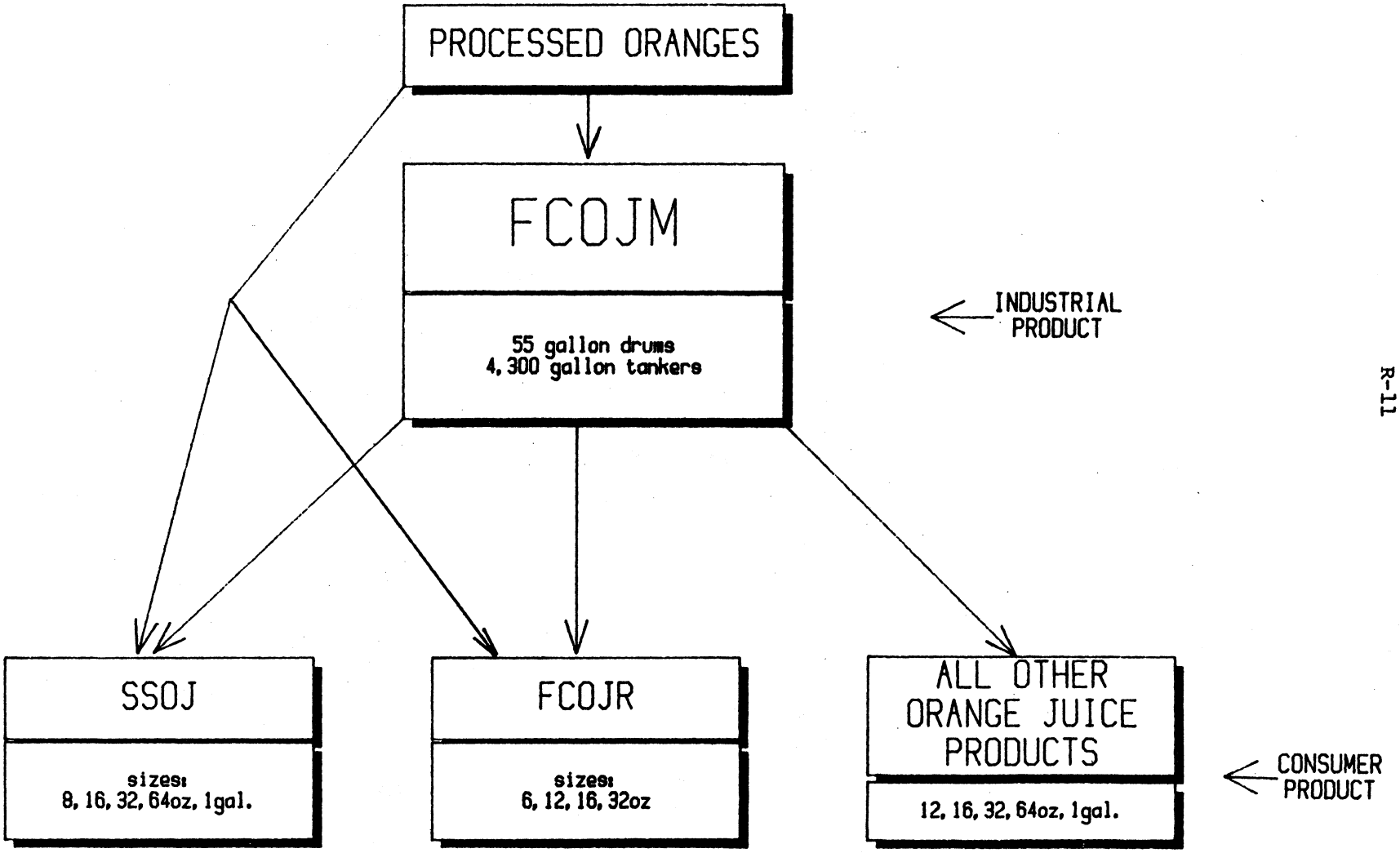
Frozen concentrated orange juice (FCOJ).—Concentrated orange juice with a degree of concentration of 20 degrees Brix or higher, in a frozen state, as provided for in TSUS item 165.29. FCOJ is either in the form of FCOJM (higher than 51 degrees Brix), FCOJR (40-50 degrees Brix), or "FCOJ-Other" (20-39 degrees Brix). 1/

FCOJM - Frozen concentrated orange juice for manufacturing.—Concentrated orange juice of 51 or greater degrees Brix in a frozen state. FCOJM is generally a "six or seven-strength" concentrate, meaning that it requires the addition of water in a six to seven-to-one ratio to produce single-strength, ready-to-drink orange juice. Most often FCOJM is at 65 degrees Brix when produced, imported, stored or shipped. 2/

FCOJM, an industrial product, is shipped in bulk containers, usually 55 gallon drums, tanker trucks (average 4,300 gallons) or tanker ships (1.85-2.2 million gallons).

1/ See descriptions of FCOJM and FCOJR below; "FCOJ-Other" is a concentration level that is virtually never used for storing or shipping FCOJ. In previous investigations the term FCOJ was used as a collective term for all frozen concentrated orange juice as well as for describing FCOJR. In this report FCOJ will be used only as the collective term for all frozen concentrated orange juice regardless of level of concentration.
2/ The term "bulk FCOJ" is also used to mean the 65 degrees Brix concentrate in bulk containers.

Figure 4
Processed oranges: Distribution of U.S. production, crop year 1985/86



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

R-11

FCOJR - Frozen concentrated orange juice for retail.— Concentrated orange juice generally of 42 degrees Brix in a frozen state. FCOJR is a "three-strength" concentrate, meaning that it requires the addition of water in a three-to-one ratio to produce single-strength, ready-to-drink orange juice.

FCOJR, a consumer product, is shipped in retail or institutional containers with sizes generally ranging from 6 ounces to 32 ounces.

Oils and essence (aroma).—Substances lost during the concentrating process that carry the fruit's natural flavor. These substances, when recaptured, may be added back into the concentrate immediately after concentrating, or may be stored and traded separately for addition during later packaging/reconstituting.

Fresh single-strength orange juice (F-SSOJ).—Single-strength orange juice pressed from oranges (i.e., not reconstituted from concentrated orange juice), not pasteurized or otherwise preserved.

Pasteurized single-strength orange juice (P-SSOJ).—Fresh single-strength orange juice that has been pasteurized or otherwise preserved.

Blended single-strength orange juice (B-SSOJ).—Fresh single-strength orange juice that has been mixed with concentrated orange juice or with single-strength orange juice reconstituted from concentrated orange juice. It may or may not be pasteurized.

Reconstituted single-strength orange juice (R-SSOJ).—Single-strength orange juice made entirely by adding (back) water to concentrated orange juice to reduce the Brix degree of the concentrate to the Brix degree of single-strength juice.

Single-strength equivalent (SSE).—The volume of single-strength juice that can be reconstituted from concentrated orange juice.

"Other orange juice".—For purposes of this report, "other orange juice" means the orange juice content of all products, other than FCOJM, FCOJR, and SSOJ, that contain orange juice as the only or chief fruit juice ingredient. These products include concentrates of orange juice of various degrees Brix other than FCOJR and FCOJM, and mixed fruit juices, mixed fruit drink products, orange drinks, orange beverages, or foods that contain orange juice or concentrate thereof as the only or chief fruit juice ingredient.

Processed orange products.—Orange products other than orange juice products, such as orange slices; frozen, dried, or peeled oranges; and orange sauce.

Fresh-market oranges.—Oranges that are sold for consumption as fresh fruit.

Mixed fruit juices and other mixed fruit drink products.—Juice and drink products that are mixtures of one or more fruit juices and/or materials, one of which may be of oranges. Generally, "juice" indicates a liquid that contains fruit solids equivalent to at least single-strength concentration and that does not contain artificial color or flavor additives. "Drinks", "beverages," "punches," etc. are liquids with less than single-strength equivalent fruit solids that may or may not contain artificial color and flavor additives.

Mixed frozen concentrate.—A frozen concentrate of more than one fruit juice and/or material, one of which may be of oranges.

FCOJM is the principal product stored at processing and storage facilities and also is the principal product shipped in bulk. The use of FCOJM in these applications saves space and weight compared with that of FCOJ of lower concentration levels.

The level of concentration of fruit juices, including orange juice, is measured in degrees Brix. The Brix value is the refractometric sucrose value (sugar content expressed in percent by weight of solids), as measured in air at 20 degrees Celsius and adjusted for the acid correction of the solids.

Brix acid ratio (BAR) is another measure that describes the characteristics of FCOJM. BAR ranges generally from 12 to 19, with the higher ratios denoting sweeter juice. The color, flavor, and defects (clarity) of FCOJM are measured by a scoring system. The perfect scores are 40 for color, 40 for flavor, and 20 for defects. Color is judged by comparisons with established standards or by using a colorimeter. The color score can range from 36-40 for USDA Grade A and 32-35 for USDA Grade B. Flavor scores for Grade A range from 36-40 and for Grade B from 32-35. Flavor scores are determined subjectively by USDA inspectors. Scores for defects range from 18 to 20 for Grade A and from 16 to 17 for Grade B. Defects are determined by inspection against a set of standards. USDA Grade A juice must have scores of 36-36-18 (90 combined). Florida-grade is a standard established by the State of Florida at 37-37-18 (92 combined), and futures grade is a standard used to describe the minimum quality of FCOJM traded on the futures market (94 combined, with minimums of 37-37-19 in the respective features).

All FCOJM and FCOJR prepared in the United States must meet the Food and Drug Administration's (FDA's) Standards of Identity. In addition, those products originating in Florida must meet Florida Citrus Code Standards, which are higher than those promulgated by the FDA. For example, the FDA standards include no requirements regarding minimum fruit maturity, flavor, color, oil content, or gelation, but the Florida standards do. The Florida standards are enforced by Florida Department of Agriculture inspectors who inspect the fruit both when it enters the processing plant and when it has been converted to concentrate. 1/ 2/

1/ These inspection programs are financed by assessments levied on boxes of fresh fruit and on cases of retail packed FCOJR.

2/ A Consumer Reports article on the results of taste testing of orange juice is presented in app. C.

Manufacturing process

In the United States, only extractors of juice from U.S. oranges manufacture FCOJM. FCOJM is always manufactured directly from fruit and requires pressing and concentrating machinery. On the other hand, FCOJR and SSOJ can be manufactured not only directly from fruit by extractors, but also from FCOJM (by adding water) by reconstitutors; such reconstituting does not require extracting and concentrating machinery.

Manufacturing by extracting juice from U.S. oranges.—Fruit is delivered to the processing plant and taken by conveyor lines from unloading ramps to storage bins. On its way to the bins the fruit is inspected, and bruised or damaged fruit is removed; it is then stored until a sufficient quantity of fruit is available to run the plant. Fruit is randomly removed from the lines and sent to a laboratory where the acidity, Brix level, color, juice yield, fruit solid content, and possibly other characteristics are determined and recorded. 1/

The various shipments of fruit, generally stored in different bins, have different characteristics depending on the grove harvested, the variety of orange, the time and specific location of the harvest, etc. The extracting company will generally make up batches of fruit for extracting by selecting and mixing fruit from different bins the basis of color, sweetness, and other characteristics of the oranges therein. Such selection constitutes pre-extracting blending of orange juice. 2/

From the storage bins the fruit goes through a washer and is sized before being sent to the extractor line. The extractor squeezes the juice from the oranges and various filtering and separating equipment removes seeds, pulp, peel, certain oils (not flavor-carrying oils), and other extraneous matter. The juice then moves to a concentrator (evaporator), which reduces it to the desired level of concentration. The concentrate is then cooled until it is partially frozen. Samples of the concentrate are taken and analyzed, hence the exact characteristics of the batches of concentrate are known and recorded. During the evaporation process, much of the volatile essence that gives the taste and fragrance to fresh juice evaporates. The essence can be recovered from the vapors and returned to the concentrate before it is frozen, or at a later date. The orange varieties harvested in the earlier months of the season (December and January), and the juice extracted therefrom, are generally less sweet and contain more acid than the later variety (Valencia), and the juice extracted therefrom.

Manufacturing FCOJM.—In the production of FCOJM the evaporator reduces the juice generally to about 65 degrees Brix (less than 15 percent of its original volume). The FCOJM is placed in 55 gallon drums or in bulk storage tanks; the drums and storage tanks are segregated and labeled based on factors such as color, flavor, defects, and BAR, and are stored at about zero degrees Fahrenheit. FCOJM is transported inland in the 55 gallon drums or in tanker trucks.

1/ All the major citrus producing areas have regulations concerning the maturity of the fruit that may be harvested. These regulations for the most part are concerned with the BAR and are designed to deter harvesting until the fruit is mature.

2/ Payment for the fruit is often based on the fruit solid content of the fruit, which is determined by testing the delivered fruit.

Manufacturing FCOJR directly from fruit.—A plant can produce FCOJR directly from fruit; the evaporator then reduces the juice to only about 42 degrees Brix (about 25 percent of its original volume) and the concentrate is placed directly into retail-size containers. Such production eliminates the steps of reducing the juice to FCOJM and reconstituting it again to FCOJR, but is only practical if the desired retail size and brand name are known at the time of extraction. Because orders are generally not predictable, and because it is more economical to store and ship FCOJM than FCOJR, there is very little production of FCOJR directly from fruit. When FCOJR is stored and transported, it is in retail- and/or institutional-size containers, such as cases, cards, cartons, or boxes of 6 to 32 ounce cans or other containers. FCOJR is stored at approximately zero degree Fahrenheit.

Manufacturing SSOJ directly from fruit.—If the plant is producing SSOJ directly from fruit, the extracted juice is not evaporated; instead, after extracting and perhaps further filtering and pasteurization, it is packed in retail containers. Such SSOJ may also be frozen and stored for later use. The major producer of SSOJ made directly from fresh oranges is Tropicana.

Manufacturing by reconstituting.—In a mixing tank, water is added to FCOJM; oils, essences, and other ingredients may also be added during reconstituting if the FCOJM does not already contain them. Reconstituting does not have to be performed near the extracting and concentrating plant and equipment. Reconstituting into FCOJR, and particularly into SSOJ, is generally accomplished near the marketplace, rather than at the place of extracting, for reasons of economies in transportation. One gallon of FCOJM contains enough orange solids to produce 6.9 gallons of SSOJ, and 1 gallon of FCOJR contains orange solids equivalent to 4 gallons of SSOJ.

Manufacturing FCOJR by reconstituting.—Water is added to FCOJM until the concentration is reduced to that of FCOJR; the product is then packed in retail and or institutional containers in the same facility.

Manufacturing SSOJ by reconstituting.—Water is added to FCOJM until the concentration is reduced to that of SSOJ; the product is then packed in retail and or institutional containers in the same facility.

Blending.—Orange juices or concentrates of different origin, stored in different containers, with different color, flavor, and defect characteristics, and at any level of concentration may be mixed at any time during the manufacturing of FCOJM, FCOJR, or SSOJ. Such mixing is called blending. Blending may take place at any point in the production process, from the time of extracting to the time of packaging the SSOJ or FCOJR into retail and/or institutional containers. The record contains references to both "blending for quality" (to achieve a desired specification in color, sweetness, BAR, etc.) and "blending for quantity" (to supplement or replace U.S. FCOJM with Brazilian FCOJM). 1/ Both forms of blending have been cited as reasons for needing imports of FCOJM. In the course of such blending, the contributions of the concentrates being blended to the resultant mixture are carefully monitored through the testing of samples taken continuously. Because each

---

1/ Respondent exporters posthearing brief, p. 3, respondent processors posthearing brief, attachment 3.

batch of FCOJM, U.S. or Brazilian, has different characteristics, the "blending for quality" is a necessary activity in the production of orange juice products regardless of the origin of the FCOJM used in such production.

U.S. tariff treatment

U.S. imports of FCOJ are classified in item 165.29 of the Tariff Schedules of the United States (TSUS). 1/ Imports from Brazil and all other countries receiving the column 1 rate of duty 2/ are dutiable at 35 cents per gallon (equivalent to 34.21 cents per pound solids). 3/ This rate has been in effect since 1948 and is not scheduled for reduction. Imports from countries receiving the column 2 rate of duty are dutiable at 70 cents per gallon, and those from Caribbean Basin Economic Recovery Act (CBERA) beneficiaries are eligible for duty-free entry. Imports from beneficiary developing countries are not eligible for duty-free entry under the GSP, nor are reduced rates available for imports from Israel.

Processors that both import and export FCOJ are eligible to obtain a refund in the form of drawback of certain import duties paid. 4/ Under section 313 of the Tariff Act of 1930 (as amended), a manufacturer that imports merchandise and then exports products produced with the imported merchandise is eligible to receive a refund of 99 percent of the duties, taxes, and fees paid on the imports (19 U.S.C. 1313(a)). 5/ Additionally, if both imported and domestic materials of the same kind and quality are used within a specified period to produce a product, some of which is exported, drawback equal to 99 percent of the duty paid on the imported material is payable upon that exportation. Under this provision, called substitution drawback, it does not matter whether the actual imported material or like domestic material was used to produce the exported article (19 U.S.C. 1313(b)). 6/ Certain rights to claim drawback may be assigned or transferred.

1/ This provision was added by section 117 of the Trade and Tariff Act of 1984 (Pub. L. 98-573), and became effective as of Jan. 1, 1985. Prior to this time, FCOJ was classified in TSUS item 165.35.

2/ The rates of duty in col. 1 are most-favored-nation rates, and are applicable to imported products from all countries except those Communist countries and areas enumerated in general headnote 3(d) of the TSUS, unless preferential tariff treatment is sought and granted.

3/ The per gallon duty rate is applicable to juice in its natural unconcentrated form. If the juice is concentrated, the duty is calculated on the number of gallons of reconstituted single-strength juice that can be made from a gallon of the concentrate.

4/ Drawback can also be collected on exports of single-strength orange juice, provided that either single-strength orange juice (either domestic, imported, or a blend), or water, oil, and essence are added to the imported FCOJ. Certain rights to receive drawback payments may be assigned by the importer or manufacturer.

5/ This refund also applies to any dumping, countervailing, or marking duties paid on imports (Customs regulations, 19 CFR 22.41).

6/ To claim drawback, exports must occur within 5 years of the date of importation, and the product to be exported must be produced during the first 3 of those years. Also, claims for drawback must be filed within 3 years of the date of exportation.

U.S. Market and Channels of Distribution

Orange juice and concentrate thereof are produced from U.S. oranges by companies and cooperatives that are called processors. Orange juice concentrate is reconstituted with water, packed into retail/institutional sizes and sold to customers by companies that are also called processors, although they do not extract juice from oranges. This report uses the terms "extractor-processor" and "purchaser-processor" when it is necessary to distinguish between processors that produce the product under investigation and processors that do not extract juice from oranges, but use it to make other orange juice products.

A producer, extractor, or extractor-processor is a firm that extracts and concentrates orange juice from U.S. oranges. An extractor may also, and generally does, perform any or all of the "reconstitutor" activities (see description below) and often imports FCOJM, as well.

A reconstitutor or repacker (sometimes also called a repackager, blender, remanufacturer, or purchaser-processor) is a firm that does not extract or concentrate orange juice from U.S. oranges. This firm may import or purchase FCOJM (imported, domestic, or a blend thereof), may blend it with other concentrates, add water to it, or otherwise remanufacture it, generally reducing the Brix level to that of SSOJ or FCOJR. The reconstitutor then resells the SSOJ or FCOJR in retail containers, or may mix it with other ingredients and sell it in various retail drink, beverage, punch, and other non-100-percent orange juice products. The chief difference between an extractor and a reconstitutor is that the latter does not extract juice from U.S. oranges.

Much of the SSOJ consumed is packed by the largest group of reconstitutors, the dairies that purchase FCOJM in bulk and, after adding water, package SSOJ and distribute it along with their dairy products to grocery and other retail stores. Dairies primarily purchase FCOJM (U.S., imported, or blended) and reconstitute it into SSOJ; they do not generally repackage or sell FCOJR.

FCOJR and SSOJ are also packed by many of the extractors themselves, by using both their own production of FCOJM and other FCOJM purchased or imported. They pack the FCOJR both at their extracting plants, as well as in their reconstituting plants located throughout the country, near the markets served. Such extractors either pack their own national or other brand(s) or pack private label brands for grocery chains and other retailers.

Other independent, nondairy, nonextractor reconstitutors also purchase FCOJM and pack FCOJR and SSOJ either under brand names they sell themselves or as private labels for other merchandisers.

Other types of firms involved in the FCOJM trade are brokers, which may combine the purchasing power of several dairies to obtain better prices, or which may conceal the identity of the purchaser from the supplier (be that a domestic producer or an importer), again for the purpose of obtaining lower prices.

Apparent U.S. consumption

Total available FCOJ 1/ declined slightly from 1.28 billion gallons in crop year 1982/83 2/ to 1.20 billion gallons in 1983/84, before recovering to 1.30 billion gallons in 1984/85. Total available FCOJ declined slightly in 1985/86 to 1.28 billion gallons (table 3). During this four-season period the 150 million gallon decrease in Florida production was balanced by a 169 million gallon increase in imports.

Table 3
FCOJ: Production from Florida crop, imports, carryover stock, and total available FCOJ, crop years 1976/77 to 1985/86

(In millions of gallons 1/)

Period	Production from Florida crop 2/	Total imports 2/	Carryover stock 3/	Total available FCOJ
1976/77.....	692.2	42.9	235.2	970.3
1977/78.....	706.1	127.8	111.8	945.7
1978/79.....	758.2	172.8	135.4	1,066.4
1979/80.....	1,012.9	102.7	163.8	1,279.4
1980/81.....	733.1	208.4	240.3	1,181.8
1981/82.....	538.4	374.1	278.6	1,191.2
1982/83.....	684.9	377.1	215.6	1,277.6
1983/84.....	489.6	533.5	173.0	1,196.1
1984/85.....	478.5	596.6	219.8	1,294.9
1985/86.....	534.8	546.2	195.3	1,276.3

1/ Single-strength equivalent.
2/ On a crop-year basis, which runs from Dec. 1 to Nov. 30, unless otherwise noted.
3/ From prior season.

Source: Compiled from official statistics of the U.S. Department of Commerce and from statistics of the Florida Citrus Processors Association.

Total available FCOJ has been essentially flat since 1979/80, fluctuating less than 5 percent above or below the 7-year average of 1.24 billion SSE gallons. Although total consumption of orange juice is apparently not changing, the forms in which orange juice is purchased by the ultimate consumer may be changing. A Nielsen Survey 3/ reports increases of SSOJ purchases by the consumers and the simultaneous decline of FCOJR purchases in certain metropolitan markets.

1/ Calculated on the basis of production of FCOJ from the Florida crop only, which accounts for over 90 percent of all domestically produced FCOJ.
2/ Trade data in this report are generally reported on a crop-year (December-November) basis.
3/ A.C. Nielsen Company, Annual Report, 1986, and December 1986 Report, Petitioner's Posthearing Responses to Questions from Commissioners and Staff, attachment 4.

U.S. producers

Growers. 1/—U.S. orange growers are located almost entirely in the States of Florida, California, Texas, and Arizona. From crop years 1982/83 to 1985/86, Florida accounted for about 90 percent of the oranges that were used for processing. Almost all of the oranges processed in Florida are utilized in the production of FCOJM. It is estimated that there were 10,000 over growers in Florida, producing oranges on a total of 349,400 acres in crop year 1985/86.

At the present time, it is estimated that the average established grove is 50 acres and costs $6,500 to $10,000 per acre to purchase. It takes approximately 4 years for a new tree to produce fruit and 10 to 12 years for it to reach maturity. Some growers are absentee owners 2/ that contract with a firm to provide care and maintenance services for their grove if such services are not provided by their cooperative or under their participation plan.

The 31 large growers whose responses on their shipments and financial performance are analyzed in this report accounted for 108,900 acres of Florida groves or 31 percent of the total acreage and 25 percent of total production. The 21 medium sized growers whose responses on their shipments and financial performance are analyzed in this report accounted for 3,200 acres of Florida groves or 0.9 percent of the total acreage and 0.7 percent of total production. The 12 small growers accounted for 0.1 percent of acreage and less than 0.1 percent of total production.

Growers may choose to sell their fruit through a cooperative, through a participation plan, or in the cash market. Growers that are members of a cooperative deliver all their fruit to the cooperative-owned processing plant, where it is processed and marketed. The members receive the net proceeds after the sale of the FCOJ, allocated according to the number of boxes of oranges delivered by each member and the pounds of solids in each member's oranges. In addition to processing and marketing, most cooperatives provide grove care, maintenance, and harvesting services for their members.

Under a "full participation plan," a nonmember of a cooperative agrees to deliver all his fruit to a cooperative or corporate processor. The grower's return is determined by an agreed-upon formula based on the final selling price of the FCOJM. This type of arrangement provides the grower with the security of a "home" for his fruit, and also allows him the freedom to search for the best deal available each year. Additionally, the cooperative or processor may provide the grower with grove-care services, but does not usually harvest the fruit. 3/ Under a "partial participation plan" the grower may be guaranteed a "floor-price" for the round oranges delivered.

1/ The term grower is used in this report not only to denote individual grower proprietors of orange groves, but also other grower entities, such as corporations, partnerships, growers' associations, cooperatives, etc.
2/ FCM has estimated that 10 percent of Florida's growers are out-of-State absentee owners.
3/ After a freeze, damaged fruit must be harvested and processed quickly to be usable. Under a participation plan, the grower is assured that his salvageable fruit will be accepted for processing.

Cash-market sales may be made directly to a processor or to an intermediate handler called a bird dog. A bird dog locates fruit for processors, buys it on the tree, harvests it with his own crew, and delivers the fruit to the processing plant. Purchases may be on a bulk basis, in which all the fruit in the grove is sold for an agreed-upon price, or the fruit may be bought at a set price per box or per pound of solids. Growers that sell on the cash market can seek the highest offer for their fruit, but are subjected to price fluctuations. Also, they have no set "home" for their fruit, and can expect neither assistance in harvesting nor a "home" for their fruit after a freeze. 1/

The growers always seek the highest return for their fruit, which is the combination of the actual return received and the associated risk taken. As one grower reported, "for the growers, a participation plan with a high floor is the ideal way to sell, but such plans are seldom available. Growers would normally sell for cash if the cash price is relatively high. If the cash price seems to be discounted vis-a-vis the anticipated final product (FCOJM) value, growers "gamble" on participation." 2/

Until recently, according to FCM, about 80 percent of the Florida fruit has been handled by cooperatives or in participation plans, with the remainder of the crop being sold in the cash market. 3/ However, a witness for the respondents in the preliminary investigation (Investigation No. 731-TA-326 (P)) testified that Florida Citrus Processor's Association (FCPA) 4/ data indicate that about 50 percent of the 1984/85 crop was priced at sale (i.e., sold in the cash market). 5/

In the Commission's questionnaire, data were collected from growers and extractor-processors on the share of their shipments/purchases of oranges for juice production under the various sales arrangements. Table 4 shows this distribution for large growers (over 300 acres), including separate data for firms in support of and in opposition to the petition in this investigation. Groves opposed to the petition are owned by processors that oppose the petition. As shown, no shifts were reported by the large growers from one sales arrangement to another. In 1985/86, cash-market fruit represented 9 percent of sales, cooperative deliveries 25 percent, participation plans 50 percent, and the remaining 16 percent were the processors' own fruit.

1/ Cash growers' fruit is the last accepted for processing following a freeze, and the fruit may spoil before processors are able to process it, assuming they choose to accept the damaged fruit.
2/ Questionnaire response of grower No. 219, p. 22.
3/ Transcript of the staff conference, p. 47.
4/ The FCPA is the trade association of processors of citrus fruit in Florida.
5/ Transcript, p. 129.

Table 4
Large growers' distribution of sales of oranges for juice processing, by positions regarding the petition and by channels of distribution, crop years 1982/83-1985/86

(In percent)

Item	1982/83	1983/84	1984/85	1985/86
Supporting the petition: 1/				
Cooperative	22	23	25	22
Fully participating	36	32	26	30
Partially participating	32	34	37	36
Cash market	10	10	11	12
All other	0	0	0	0
Total	100	100	100	100
Opposing the petition: 2/				
Cooperative	33	34	38	33
Fully participating	0	0	0	0
Partially participating	0	0	0	0
Cash market	0	0	0	0
All other 3/	67	66	62	67
Total	100	100	100	100
All growers: 4/				
Cooperative	25	26	28	25
Fully participating	25	23	20	23
Partially participating	23	25	28	27
Cash market	7	8	8	9
All other 3/	20	18	16	16
Total	100	100	100	100

1/ Accounted for 21 percent of acreage and 19 percent of the total production in 1985/86.
2/ Accounted for 10 percent of acreage and 6 percent of the total production in 1985/86.
3/ Production by the processors' own groves.
4/ 31 growers accounting for 31 percent of acreage and 25 percent of the total production in 1985/86.

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

Questionnaire data on the distribution of fruit for medium and small growers are shown in table 5. Although the questionnaire responses of the medium and small size growers should be viewed with caution because of the small number of returns, a different pattern and definite shifts may be seen in the distribution of their fruit. For the medium growers, there has been a sharp decline in cooperative sales, a slight decline in cash sales, and increases in both kinds of participation-plan sales. For the small growers, there have been sharp declines in cooperative and participation-plan sales, and a similarly sharp increase in cash sales.

Table 5
Medium and small growers' distribution of sales of oranges for juice processing, by channels of distribution, crop years 1982/83-1985/86

(In percent)

Item	1982/83	1983/84	1984/85	1985/86
Medium size growers: 1/				
Cooperative	34	30	17	8
Fully participating	6	10	27	28
Partially participating	18	26	17	27
Cash market	41	33	38	37
All other	1	1	0	0
Total	100	100	100	100
Small size growers: 2/				
Cooperative	31	27	3	2
Fully participating	31	36	17	19
Partially participating	0	0	0	0
Cash market	39	36	80	79
All other	0	2	0	0
Total	100	100	100	100

1/ 21 growers accounting for 0.9 percent of acreage and 0.7 percent of the total production in 1985/86.
2/ 12 growers accounting for 0.1 percent of acreage and less than 0.1 percent of the total production in 1985/86.

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

Questionnaire data on the distribution of the reporting extractors' orange purchases are shown in table 6. With the exception of fruit from their own groves, significant shifts are also apparent here. From 1982/83 through 1984/85, cooperative purchases fell sharply and participation-plan purchases fell slightly, whereas cash purchases rose by 50 percent (from 30 percent of the total to 45 percent). In 1985/86, however, there was a large drop in cash purchases (to 29 percent) and a parallel increase in cooperative and participation-plan purchases.

Unit values of oranges purchased by extractors for juice processing under the various purchasing arrangements are shown in table 7. Unit values in 1985/86 were below those in 1982/83, except for the partial participation plans, perhaps because floor prices for those plans were established in the summer and fall of 1985, before the unanticipated price drop of early 1986. Generally, when prices are low, sales under participation plans increase. 1/ Unit values in the cash market peaked in 1984/85 before declining in 1985/86, whereas unit values for the other channels peaked 1 year earlier. Generally, when the reported unit values are higher in any of the channels (table 7), the quantities of fruit sold through those channels are also higher (see table 6).

1/ Telephone conversation with ***.

Table 6
Extractors' distribution of orange purchases by position regarding the petition, and by channels of distribution, crop years 1982/83-1985-86

(In percent)

Item	1982/83	1983/84	1984/85	1985/86
Supporting the petition: 1/				
Cooperative	32	29	27	33
Fully participating	8	13	11	14
Partially participating	15	15	7	17
Cash market	34	34	43	28
Extractors' own groves	11	9	12	9
Total	100	100	100	100
Opposing the petition: 2/				
Cooperative	7	4	1	1
Fully participating	21	18	13	20
Partially participating	29	27	31	36
Cash market	34	41	46	33
Extractors' own groves	9	10	9	10
Total	100	100	100	100
Take no position: 3/				
Cooperative	82	81	43	56
Fully participating	11	8	19	33
Partially participating	-	-	-	-
Cash market	6	10	37	11
Extractors' own groves	5/	1	5/	5/
Total	100	100	100	100
All extractors: 4/				
Cooperative	26	20	12	18
Fully participating	16	16	13	19
Partially participating	21	20	21	26
Cash market	30	36	45	29
Extractors' own groves	8	9	9	9
Total	100	100	100	100

1/ Purchased 30 percent of all oranges processed in the United States in 1985/86.
2/ Purchased 44 percent of all oranges processed in the United States in 1985/86.
3/ Purchased 8 percent of all oranges processed in the United States in 1985/86.
4/ Purchased 82 percent of all oranges processed in the United States in 1985/86.
5/ Less than 0.5 percent.

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

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

Table 7
Processed oranges: Unit values of oranges purchased by extractors, 1/ by channels of distribution, crop years 1982/83-1985/86

(Per pounds solids)

Item	1982/83	1983/84	1984/85	1985/86
Cooperative fruit	$1.15	$1.59	$1.43	$1.02
Full participating	1.19	1.54	1.52	0.99
Partial participating	1.17	1.34	1.64	1.22
From extractors own groves	1.11	1.52	1.39	1.08
Cash market	1.15	1.45	1.64	1.06

1/ These firms accounted for 74 percent of all oranges processed in the United States during 1985/86, and for over 75 percent of the oranges reported in each category in table 6.

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

Extractors.--The number of extractor-processor firms producing FCOJ in Florida, as reported by the Florida Citrus Processors Association, is shown in the following tabulation:

Crop year	Extracting firms
1982/83	36
1983/84	34
1984/85	33
1985/86	31
1986/87	29

***, hence the reduction in the number of firms in Florida. 1/ All other extractors are located in California, and account for *** percent of total production.

In its investigation, the Commission received usable data from 19 of the Florida firms and 4 California firms. Those firms accounted for 82 percent of all oranges processed in the United States in 1985/86.

The extracting of juice from U.S. oranges is seasonal. The pressing of early and mid-season orange varieties begins in September and October; the main extracting season, however, does not begin until December, when the Valencia variety is ripe. It then continues through the following June.

1/ The number of cooperative extractor-processors has declined over the years, as major corporations have acquired extracting-processing plants. These corporations include: Proctor & Gamble, Campbell's Soup, Phillip Morris, and Quaker Oats. Two other corporations, Coca-Cola and Beatrice Foods, have owned extracting-processing plants in Florida for longer periods of time.

Although no orange extracting occurs during July and August, most extracting-processing plants blend FCOJM for the packing of retail and institutional orders or for bulk shipment to reconstitutors during this period. In 1985/86, 25 of the 31 extractor-processors in operation in Florida were corporations. Unlike cooperatives, which are viewed as extensions of their members' growing operations, corporations generally have more latitude to choose between purchases of oranges or FCOJM on the basis of price and quality considerations. *** extractors support the petition in this investigation *** oppose the petition, and *** take no position in the matter.

*** stated that it took no position because the imported product processed *** helps keep the unit costs of production lower. On the other hand, ***, the imported FCOJM available outside of Florida has a negative effect on the firm's profitability. ***. ***, another firm taking no position in the matter, reported that "imports of FCOJM have helped our firm stay in business following the devastating 1983 and 1985 freezes. Without imports we would have lost our customer base to other juice manufacturers. Customers would have switched from orange juice to other types of juices because of unrealistic high prices demanded by growers who were not devastated by the back to back freezes. Our firm did suffer losses because we were forced to pay excessive prices for Florida fruit following the 1983 freeze. The influx of imports from Brazil did create a lowering of the wholesale price of FCOJM." 1/ *** processor taking no position in the matter stated ***. ***.

In 1985/86, the extractor-processors opposing the petition accounted for 50-51 percent of U.S. oranges processed; 2/ those with no position in the matter processed 8-9 percent; 3/ and supporters of the petition processed 41 percent (table 8). 4/

Supporters of the petition relied on domestic oranges for 74 percent of their requirements, and on Brazilian FCOJM for 24 percent. The firms opposing the petition procured 54 percent of their total requirements from U.S. oranges and 44 percent from Brazilian FCOJM. The ratio for the firms taking no position regarding the petition is similar to that of the supporters, 73 percent U.S. oranges and 26 percent Brazilian FCOJM. Supporters purchased 14 percent of all imports in 1985/86, opponents 57 percent, and firms taking no position 4 percent. Most of the remaining imports (25 percent) were purchased directly by larger reconstitutors.

FCOJM represents the majority (67 percent) of shipments for supporters, with the retail products (FCOJR and SSOJ) accounting for 33 percent. For the opposing firms, retail products represented 96 percent of their sales and FCOJM accounted for only 4 percent. The firms with no position were similar to those opposing, 77 percent retail products and 23 percent FCOJM.

1/ Questionnaire response of ***, p. 46.
2/ 50.4 percent based on data provided to the U.S. Department of Commerce. 51.2 percent based on data provided to the U.S. International Trade Commission.
3/ 8.6 percent based on data provided to the U.S. Department of Commerce. 8.2 percent based on data provided to the U.S. International Trade Commission.
4/ 41.0 percent based on data provided to the U.S. Department of Commerce. 40.6 percent based on data provided to the U.S. International Trade Commission.

Table 8
U.S. extractor-processors: Positions of U.S. extractor-processors with respect to the antidumping petition, by source of products, distribution of sales of orange juice products, shares of oranges processed and imports used, crop year 1985/86

(In percent)

Position regarding the petition	Source				Distribution of sales 1/ 2/				Share of all oranges processed	Share of all imports used
	U.S.	Brazil	Other	Total	M	R	S	Total		
Supporting...	74	24	2	100	67	25	8	100	41	14
Opposing.....	54	44	2	100	4	45	51	100	50-51	57
No position..	73	26	1	100	23	77	-	100	8-9	4

1/ Accounting for 89 percent of shipments.
2/ M=FCOJM, R=FCOJR, S=SSOJ and other
Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

U.S. importers

The largest quantities of imports of Brazilian FCOJM are imported by *** trading companies *** and by the *** Florida processors ***. Citrus Products was founded in April 1985, and Juice Farms began operations during the 1982/83 crop year. In addition to the *** processors, *** processors and larger reconstitutors also import Brazilian FCOJM.

Imports of Brazilian FCOJM may arrive from Brazil on vessels carrying 9,000-18,000 55-gallon drums of FCOJM (3.5 million-7.0 million SSE gallons), or in tanker ships containing 2 to 2.5 million gallons of FCOJM (15 million-18 million SSE gallons). Cargill and Juice Farms each operate two tanker ships. Citrus Products/Cutrale operates the Orange Blossom, the only ship constructed specifically for transporting FCOJM. ***. Cargill pioneered the system of transporting FCOJM in tanker ships in 1979; once successful, its method was adopted by the other Brazilian exporters for shipments to the United States, and to Europe as well. In addition, the companies use other cargo vessels for transporting drums. However, with the completion of their tank farms the trading companies are converting their form of transportation and storage from drums to tanks, and converting their sales from drums to tanker trucks that carry FCOJM equivalent to 30,000 SSE gallons.

When a tanker ship arrives at a Florida port, the customer(s) or the trading company employs 50-75 tanker trucks into which the FCOJM is unloaded from the vessel. These trucks may be shuttled between the port and the

processor's tank farm around the clock for 3-4 days, depending on the distance to the tanker farm, until the approximately 2 million to 2.5 million gallons of FCOJM is transported by trucks approximately 4,300 gallons at a time. Sometimes the importer "two-ports" the vessel by unloading it partially in Florida and shipping the balance to the northeastern storage tanks.

Each importer's tank farm is able to hold a full tanker ship load of FCOJM. The importer-trading companies maintain tank farms in northeastern ports and have available storage space in Florida should they need it. The trading companies keep no significant inventories in Florida in as much as their shipments to Florida ports are transported to the processors' own tank farms.

The trading companies' inventories are largely unpriced (75 percent or more) and are kept in foreign trade zones or bonded warehouses (in tanks in the Northeast and in drums in ***, and elsewhere). They are not withdrawn for consumption until the purchaser's tanker truck loads it. Quantity commitments are voluntary; the business is not based on legal commitments but governed by commercial practices by regularly buying at a price established at the time of purchase (delivery.) Customers generally contact the importers about 1-2 weeks in advance of actual intended pick up of the FCOJM. At that time, price is negotiated; if the price asked by the importer is not suitable to the purchaser, the purchaser will not take delivery and will seek FCOJM from other sources for a more favorable price. Purchasers may provide a trading company with an intended annual purchase quantity to be taken any time during a 12-month period, but need not make legal commitments to purchase. Currently, prices of trading companies are generally not tied to the futures market, but are negotiated starting with the current price of the company. There have been however, futures price-related contract prices in the past. 1/

One importer called the pricing negotiations with the purchasers tough and the setting of the prices difficult, particularly because of the ongoing antidumping investigation. Closer attention is also reportedly being paid to sales prices and costs incurred on sales to Europe. As a result, prices in the United States are being negotiated with less lead time, i.e. closer to the time of actual shipment. ***. 2/

Cargill, Inc., the parent of Cargill Citro-America, Inc., owns Cargill Agricola, S.A. in Brazil, which in turn owns Cargill Citrus Ltda. (formerly Cargill Industrial Ltda.), one of the *** FCOJM producing facilities in Brazil. ***. Cargill completed a tank farm in Newark, NJ, in October 1986 with a capacity of *** million gallons of FCOJM (*** million SSE gallons).

1/ Telephone conversation with ***, ***.
2/ Telephone conversation with ***, ***.

Citrus Products was founded to handle all of Cutrale's sales in the United States. Such sales were handled directly by the exporter, as well as by smaller brokers in the different regions, prior to 1985. It leases a *** million gallon FCOJM storage facility (*** million SSE gallons) and enjoys the freight advantage the northeastern location offers. ***. Hence the advantage of the northeastern source of FCOJM. ***.

Juice Farms, Inc., a trading company in Florida, *** Citrosuco product. Since August 1984, Juice Farms has leased a terminal facility in Wilmington, DE, with a capacity of *** million gallons of FCOJM (*** million SSE gallons). The facility *** capabilities. ***.

Citram imports Fruitesp's FCOJM, and Conagra imports from ***. Conagra ***. ***.

Many U.S. importers have imported FCOJM from Brazil for a long period of time, and all extractor-processors in the United States are believed to have purchased or imported Brazilian FCOJM at least once in recent years; some have purchased FCOJM from Mexico and some Central American countries as well.

Foreign producers

Brazil.—Brazil is one of the world's largest producer of oranges and is the world's leading producer of FCOJM. 1/

The State of Sao Paulo produces approximately 80 percent of Brazil's orange crop and about 96 percent of its FCOJM. The number of orange trees in Sao Paulo has been increasing during the last decade, as shown in the following tabulation (in millions of trees): 2/

Crop year July-June	Nonbearing trees	Bearing trees	Total
1976/77.....	24	58	82
1977/78.....	15	65	80
1978/79.....	21	69	90
1979/80.....	22	81	103
1980/81.....	23	84	108
1981/82.....	22	85	107
1982/83.....	19	88	108
1983/84.....	18	94	113
1984/85.....	17	100	117
1985/86.....	18	107	125
1986/87.....	25	112	137

1/ One processing plant in Brazil contains the world's largest evaporator.
2/ Report No. BR6036, October 22, 1986, Foreign Agricultural Service, U.S. Department of Agriculture.

About 80-90 percent of the Sao Paulo crop is normally used to produce FCOJM, as shown in the following tabulation: 1/

Crop year July-June	Total production (million boxes)	Processed utilization (million boxes)	Percent of total
1979/80.....	155	123	79.4
1980/81.....	170	135	79.4
1981/82.....	180	153	85.0
1982/83.....	195	160	82.1
1983/84.....	200	165	82.5
1984/85.....	205	185	90.2
1985/86.....	239	220	92.1

There are at least a dozen firms in Brazil producing FCOJM. Together, these firms own 28 processing plants; 95 percent of the processing capacity is located in the State of Sao Paulo. It is estimated that three firms account for over 80 percent of FCOJM producing capacity. 2/ The production, capacity and capacity utilization of the four largest Brazilian firms are shown in a later section of this report (The Capacity of Brazil to Generate Exports).

Over half of the country's exports of FCOJM to the United States are believed to be in bulk on tank ships, with the remainder being shipped in 55-gallon drums filled with 52 to 53 gallons of FCOJM.

Other countries.--Production of FCOJ for export is very limited except for Brazil and the United States. Orange juice producers outside the United States and Brazil include Israel, Argentina, Mexico, Belize, Morocco, Cuba, Cyprus, Italy, Spain, Japan, and South Africa. Although comparative statistics on FCOJ production in other countries do not exist, import/export data may be used to indicate the size of orange juice supplies. Brazil supplied 96.9 percent of U.S. imports in 1985, Mexico 1.5 percent, and all other countries together supplied 1.6 percent.

1/ "Orange Situation Update," Report No. BR6042, November 1986, Foreign Agricultural Service, U.S. Department of Agriculture.

2/ These firms are Citrosuco, Cutrale, and Cargill. A Wall Street Journal article (Jan. 22, 1987) on Cutrale is presented in app. D.

Although no single country outside the United States and Brazil is a major FCOJ producer, the total production from these relatively small producing countries could be significant.

Belize, in Central America, is one such country with increasing production by the existing two local producers. Coca Cola Foods has purchased *** acres ***; *** other U.S. processors have reportedly acquired options on similar land in Belize.

In the near future, however, such countries are not expected to have the capacity to affect the world supply balance to the extent that the United States and Brazil can.

The United States, Canada, and the EC countries all impose tariffs on orange juice imports. The tariffs range from 35 cents per SSE gallon in the United States to a 19-percent ad-valorem tax on orange juice entering the EC and a 4-percent ad-valorem tax on product entering Canada. In addition to tariffs, quota restrictions on orange juice are imposed by Japan. 1/

The Question of Material Injury

Orange growers, U.S. production and shipments

U.S. production has been generally lower during the 1980's than during the 1970's. U.S. production of round oranges decreased from 212 million boxes in 1982/83 to 161 million boxes in 1983/84 following the Christmas 1983 freeze, which affected groves in both Florida and Texas. Production declined further to 150 million boxes in 1984/85 following the January 1985 Florida freeze. Production in 1985/86 totaled 167 million boxes, up 11 percent from the previous year, as groves slowly recovered from the effects of recent freezes. Total U.S. production during 1982/83 to 1985/86 mirrors trends exhibited by the Florida crop, as shown in table 9. It is estimated that production of round oranges in 1986/87 will be 180 million boxes (90 pound equivalent), up 8 percent from the previous season.

1/ World Orange Juice Trends, Mark G. Brown and Jonq-Ying Lee, Florida Department of Citrus, presented to the Florida Citrus Commission, Jan. 20, 1987, pp. 12-15.

Table 9
U.S. production of round oranges, 1/ by States and by crop years, 1982/83 to 1985/86

(In millions of boxes, 90 pound equivalent)

Crop year	Florida 2/	California	Arizona	Texas	Total
	Production				
1975/76	181.2	44.0	2.3	5.8	233.3
1976/77	186.8	37.8	3.3	6.5	234.4
1977/78	167.8	35.0	3.1	5.8	211.7
1978/79	164.0	31.1	2.4	6.0	203.5
1979/80	206.7	49.5	2.9	3.8	262.9
1980/81	172.4	55.2	2.2	4.1	233.9
1981/82	125.8	35.8	2.5	5.6	169,7
1982/83	139.6	63.4	3.2	5.4	211.6
1983/84	116.7	40.4	1.5	2.4	161.0
1984/85	103.9	43.7	2.1	.0	149.7
1985/86	119.0	45.7	1.9	.3	166.9
1986/87 3/	124.0	52.9	2.0	.9	179.8
	Processed 4/				
1975/76	169.5	15.5	1.2	2.9	189.1
1976/77	177.9	10.6	1.4	3.3	193.2
1977/78	157.8	11.5	1.0	2.8	173.1
1978/79	152.3	10.4	1.1	4.1	167.9
1979/80	195.7	16.6	1.1	1.8	215.2
1980/81	164.1	23.0	.7	1.4	189.3
1981/82	118.2	7.8	.8	2.5	129.3
1982/83	129.3	27.4	.1	2.2	159.0
1983/84	109.1	9.2	.3	1.0	119.6
1984/85	97.2	10.0	.4	.0	107.6
1985/86	110.1	9.2	.3	5/	119.6
1986/87 6/	–	–	–	–	–

1/ Excludes tangelos, tangerines, and tangors, but includes temples and navels.
2/ Excludes temples.
3/ Official USDA estimates, Mar. 10, 1987.
4/ Processed into all juice and other citrus products.
5/ Less than 50,000 boxes.
6/ Not yet available.

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

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

Florida's production of round oranges usually accounts for about 85 to 90 percent of all oranges used in processing in the United States. Approximately 93 percent of the Florida crop is used in processing; nationwide, approximately 72 percent of orange production is used in processing.

Florida's production totaled 140 million boxes in 1982/83. Production decreased in 1983/84 to 117 million boxes as the result of a severe freeze in late December 1983. 1/ Production decreased further in 1984/85 to 104 million boxes following the January 1985 freeze. The 1984/85 crop was the smallest since 1967/68. Production increased to 119 million boxes in 1985/86.

The growers responding to the Commission's questionnaire stated that the effects of the freezes of the 1980's on their operations differed from the effects of the freezes of the 1960's and 1970's in that in the past decades the reduced production after a freeze was largely compensated for by higher unit prices. However, during the 1980's, and particularly after the 1983 and 1985 freezes, the growers report that prices did not rise sufficiently to compensate for the loss of volume caused by the freezes. This recent past experience coupled with the uncertainty regarding future prices makes it difficult for the growers to demonstrate to lenders credible revenue and cash-flow streams sufficient to secure loans for replanting and new planting. Hence the outlook of the growers, particularly the medium and smaller ones, as reflected in their questionnaire responses, is pessimistic regarding the replanting of the acreage lost to the recent freezes. 2/3/ As shown in table 10, the Florida bearing acreage had been over 570,000 acres during the late 1970's, but declined steadily from 560,200 acres in 1981/82 to 349,400 acres in 1985/86, or by 38 percent.

Some of the acreage lost to freezes has been replanted, and new plantings continue at the present time as well. 4/ Florida's nonbearing acreage (trees planted during the preceeding 4 years) increased steadily (by 18-32 percent per year) during 1979/80 to 1983/84. That increase slowed to 10 percent in 1984/85 and to 3 percent in 1985/86. The decline in bearing acreage has been greater than new plantings since 1983/84. Respondents assert that the 1984 citrus canker disease, which affected orange tree nurseries, has slowed the rate of replanting because several million seedlings were ordered to be destroyed. Petitioners lay the blame for slower replanting on reduced earnings and a lack of confidence in sufficient future earnings by orange growers.

1/ The 1983/84 freeze cut the estimated crop size by 31 percent.
2/ Medium and small growers responding to the Commission's questionnaire accounted for 1.7 percent and 0.4 percent, respectively, of round orange producing acreage in 1985/86.
3/ Respondents testified to optimistic expectations at the Commission's hearing. See, for example, the transcript at pp. 133-135 and posthearing brief of NJPA at p. 6.
4/ See Journal of Commerce article, "Florida Citrus Growers Ready to Expand," Mar. 18, 1987, in app. D.

Table 10
U.S. bearing and Florida nonbearing acreage in oranges, crop years 1976/77 to 1985/86

(In thousands of acres)

Period	Nonbearing Florida 1/	Bearing Florida	Calif-Arizona	Texas	Total
1976/77.....	22.7	594.3	212.9	30.9	838.1
1977/78.....	26.4	575.9	2/ 205.5	28.2	809.6
1978/79.....	28.2	571.5	201.9	28.2	801.6
1979/80.....	33.7	576.6	201.5	27.8	805.9
1980/81.....	39.8	573.4	195.9	25.3	794.6
1981/82.....	52.0	560.2	193.3	23.7	777.2
1982/83.....	64.4	536.8	188.1	24.0	748.9
1983/84.....	88.0	474.3	190.1	24.3	688.7
1984/85.....	95.8	420.1	186.3	11.4	617.8
1985/86.....	98.7	349.4	185.6	11.4	546.4

1/ The 35-percent decline in Florida bearing acreage during 1982/83 to 1985/86 is the result of freeze-killed groves.
2/ Does not include data for Arizona.

Source: Compiled from official statistics of the U.S. Department of Agriculture and the Florida Crop and Livestock Reporting Service.

Producers of FCOJM, FCOJR, and SSOJ

U.S. production.—U.S. production of FCOJ from Florida oranges decreased steadily from 685 million SSE gallons in 1982/83 to 479 million gallons in 1984/85 (table 11). However, production of 535 million gallons in 1985/86 was 12 percent greater than production in the freeze-shortened 1984/85 season.

Table 11
FCOJ: U.S. production from Florida's orange crop, by pounds solids and by gallons, crop years 1982/83 to 1985/86

Period	Quantity	
	Million pounds solids 1/	Million gallons 2/
1982/83.....	705	685
1983/84.....	504	490
1984/85.....	493	479
1985/86.....	551	535

1/ Pounds solids are slightly less than SSE gallons. Divide pounds solids by 1.029 to get exact SSE gallons.
2/ Single-strength equivalent.

Source: Compiled from statistics of the Florida Citrus Processors Association.

U.S. production of FCOJM, FCOJR, and SSOJ, as reported by responding processors in Commission questionnaires, are shown in table 12. FCOJM represented *** percent of the total orange juice production during 1982/83 to 1985/86. FCOJR production directly from fruit is ***. *** accounts for *** percent of the SSOJ production directly from fruit; *** account for *** percent. When adjusted for all processed oranges, FCOJM represents *** percent, FCOJR *** percent, and SSOJ accounts for *** percent of all processed oranges in the United States (fig. 4.)

Table 12
Orange juice products: U.S. production 1/ from total U.S. crop, crop years 1982/83 to 1985/86

(In millions of pounds solids 2/)

Period	FCOJM	FCOJR	SSOJ	Total
1982/83	646	***	***	***
1983/84	406	***	***	***
1984/85	450	***	***	***
1985/86	475	***	***	***

1/ Companies reporting processed 82 percent of all U.S. oranges processed.
2/ Pounds solids are slightly less than SSE gallons. Divide pounds solids by 1.029 to get exact SSE gallons.

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

Capacity.—To prevent spoilage and loss of quality, orange processors run their operations continuously when fresh fruit is ready for processing. After the processing season, the equipment sits idle until the following year. Thus, capacity may be measured in two ways: hourly capacity to extract juice from fresh fruit, and hourly capacity to evaporate water from fresh juice. These data reveal trends relating to expansion or reduction of facilities.

Total U.S. capacity to produce and concentrate SSOJ did not change appreciably during 1982/83 to 1985/86 (table 13). During the 4-year period ***, resulting in a net decrease of total U.S. extracting capacity of 3 percent.

The largest single capacity change was by ***.

Capacity utilization.—As mentioned, processing plants operate at full capacity until all fresh fruit is processed and then close their fresh-fruit processing operations until the following season.

Table 13
Orange juice: U.S. capacity to extract and concentrate juice from oranges, as of Jan. 1, 1984-87

(1,000 pounds of fruit per hour)

Period	Extracting capacity 1/	Concentrating capacity 1/
Jan. 1—		
1984	5,481	5,713
1985	5,503	5,713
1986	5,299	5,660
1987	5,330	5,763

1/ The reporting companies accounted for 82 percent of oranges processed in the United States in 1985/86.

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

Shipments.—As shown in the following tabulation, compiled from FCPA data, total shipments (domestic, 1/ export, and futures deliveries) of FCOJ declined steadily from 1982/83 to 1984/85, then rose in 1985/86:

Period	Quantity (Millions SSE gallons)	(Million pounds solids)
1982/83	965	993
1983/84	922	949
1984/85	871	896
1985/86	914	941

Total shipments during 1982/83 through 1984/85 declined from 965 million gallons to 871 million gallons, or by 9.8 percent. Such shipments increased in 1985/86 to 915 million gallons, or by 5 percent.

Deliveries in fulfillment of futures contracts 2/ accounted for approximately 3 percent of total shipments during 1982/83 through 1985/86.

1/ Domestic shipments include imported FCOJ.
2/ FCOJM futures are traded on the New York Cotton Exchange. The futures market is used as a source of supply and/or as an outlet for excess FCOJM by the large U.S. extractor-processors. Reconstitutors, brokers, and others may also use the futures market for hedging their purchases. As in other futures markets, this one is also influenced by speculations. The FCOJM futures market is also used as a pricing mechanism; although, to a lesser extent currently than in the past. It is uniformly used and accepted as such a mechanism. The quality of the FCOJM traded is determined as "futures grade": 94 total score, 37-37-19 individual minimums. FCOJM is traded in units of 15,000 pounds of solids. Deliveries of futures contracts are regulated to be made in November, January, March, May, July, and September of each year, around the 20th of the month.

These deliveries ranged from a high of 36 million gallons in 1983/84 to a low of 14 million gallons in 1985/86. 1/

Total domestic shipments of reporting U.S. extractor-processors are shown in table 14. Such shipments include orange juice products extracted from U.S. oranges, as well as those imported from all sources. Total domestic shipments decreased from 1,037 million pounds solids (1,007 million SSE gal) in 1982/83 to 1,018 million pounds solids (989 million SSE gal) in 1983/84, or by 2 percent, before declining an additional 7 percent to 946 million pounds solids (919 million SSE gal) in 1984/85. Such shipments recovered to the 1983/84 level in 1985/86, with a 7-percent rise in volume (table 14.)

Shipments of both supporters and firms with no position decreased from 1982/83 to 1983/84 (by 11 and 22 percent, respectively), whereas shipments of the opposing firms increased by 9 percent during this period. Shipments of firms with no position continued to decline sharply, by 38 percent, in 1984/85 before stabilizing in 1985/86 at 1 percent below the previous year's level. Both supporters and opponents experienced slight declines in total shipments in 1984/85 (1 and 3 percent, respectively) before both groups' shipments rose by 8 percent in 1985/86. During the 4-year period, supporters' shipments

Table 14
Orange juice: U.S. processors' domestic and export shipments, by their position regarding the petition and by products, crop years 1982/83 to 1985/86

(Million pounds solids)

	1982/83	1983/84	1984/85	1985/86
	Domestic shipments			
Supporters' shipments: 1/				
FCOJM	***	***	***	***
FCOJR	***	***	***	***
SSOJ	***	***	***	***
Other OJ	***	***	***	***
Total	302	270	266	288
Opponents' shipments: 2/				
FCOJM	***	***	***	***
FCOJR	***	***	***	***
SSOJ	***	***	***	***
Other OJ	***	***	***	***
Total	573	622	602	653
Neutral's shipments: 3/				
FCOJM	***	***	***	***
FCOJR	***	***	***	***
SSOJ	***	***	***	***
Other OJ	***	***	***	***
Total	162	126	78	77

Continued

1/ Single-strength equivalent.

Table 14
Orange juice: U.S. processors' domestic and export shipments, by their position regarding the petition and by products, crop years 1982/83 to 1985/86—Continued

(Million pounds solids)

	1982/83	1983/84	1984/85	1985/86
	Domestic shipments			
All processors shipments: 4/				
FCOJM	284	231	210	231
FCOJR	449	436	395	423
SSOJ	264	310	301	344
Other OJ	40	41	40	20
Total retail products	753	787	736	787
Total all products	1,037	1,018	946	1,018
	Export shipments			
Supporters' shipments: 1/				
FCOJM	***	***	***	***
FCOJR	***	***	***	***
SSOJ	***	***	***	***
Other OJ	***	***	***	***
Total	26	23	11	14
Opponents' shipments: 2/				
FCOJM	***	***	***	***
FCOJR	***	***	***	***
SSOJ	***	***	***	***
Other OJ	***	***	***	***
Total	37	34	33	22
Neutral's shipments: 3/				
FCOJM	***	***	***	***
FCOJR	***	***	***	***
SSOJ	***	***	***	***
Other OJ	***	***	***	***
Total	7	6	4	4
All processors shipments: 4/				
FCOJM	35	29	15	19
FCOJR	***	***	***	***
SSOJ	***	***	***	***
Other OJ	***	***	***	***
Total retail products	***	***	***	***
Total all products	70	63	48	40

1/ Accounted for 26 percent of all shipments in 1985/86.
2/ Accounted for 57 percent of all shipments in 1985/86.
3/ Accounted for 7 percent of all shipments in 1985/86.
4/ Accounted for 89 percent of all shipments in 1985/86.
5/ Less than 500,000 pounds solids.

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

declined by 5 percent, those of opponents increased by 14 percent, and those of firms with no position declined by 52 percent. Domestic shipments of FCOJM declined by 19 percent during the 4-year period, whereas shipments of the retail products rose by 5 percent.

Exports of FCOJM, as reported by U.S. extractor-processors, declined steadily from 35 million pounds solids in 1982/83 (34 million SSE gal) to 19 million pounds (18.5 million SSE gal) in 1985/86, or by 53 percent during the 4-year period. The bulk of reported FCOJM exports were to Canada and Europe. Exports of the retail products held steady at *** million pounds solids during 1982/83 to 1984/85, before they also declined in 1985/86, to a level 47 percent below that of 1982/83.

As mentioned in the section of this report on U.S. tariff treatment, the import duty on FCOJM is substantial (amounting to over 30 percent ad-valorem equivalent in 1986). This provides the importers a strong incentive to export FCOJM and take advantage of the drawback provisions of section 22.41 of Customs regulations. Since drawback can be collected on exports of either imported or domestically produced FCOJM or FCOJR, and because the great majority of FCOJM and FCOJR exported by extractor-importer-processors is blended (i.e., part domestic and part imported), there are no official statistics on what portion of exported FCOJ consists of the imported product.

Table 15 shows official statistics of United States exports of FCOJ to over 70 countries located in all areas of the world, although Canada accounts for a majority of such exports. Total exports decreased from 70 million SSE gallons in 1982/83 to 65 million gallons in 1983/84, then fell to 46 million gallons in 1984/85 and further decreased to approximately 39 million gallons in 1985/86.

Table 15
FCOJ: U.S. exports, 1/ by principal markets, crop years 1982/83 to 1985/86

Market	1982/83	1983/84	1984/85	1985/86
	Quantity (1,000 gallons) 2/			
Canada	33,196	30,202	22,842	14,870
Mexico	632	4,090	2,736	51
Netherlands	7,759	4,168	1,675	2,888
France	1,569	1,163	774	581
West Germany	3,587	3,759	1,272	3,534
United Kingdom	2,261	2,859	956	1,427
Other	20,579	18,633	16,067	15,333
Total	69,583	64,874	46,322	38,684
	Value (1,000 dollars)			
Canada	62,822	66,220	47,578	27,857
Mexico	1,139	5,121	3,404	56
Netherlands	5,891	4,170	1,899	2,526
France	1,903	1,525	1,144	900
West Germany	3,900	4,070	2,001	2,496
United Kingdom	2,720	3,497	1,578	1,644
Other	27,110	27,083	25,993	19,172
Total	105,486	111,686	83,598	54,651
	Unit value (per gallon)			
Canada	$1.89	$2.19	$2.08	$1.87
Mexico	1.80	1.25	1.24	1.09
Netherlands	.76	1.00	1.13	.87
France	1.21	1.31	1.48	1.55
West Germany	1.09	1.08	1.57	.71
United Kingdom	1.21	1.22	1.65	1.15
Other	1.32	1.45	1.62	1.25
Average	1.52	1.72	1.80	1.41

1/ Includes Schedule B Nos. 165.3320, 165.3340, and 165.3360.
2/ Single-strength equivalent.

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

Note.—Because of rounding, data may not add to the figures shown.

Inventories of U.S. extractor-processors.—Inventories by product and by position taken regarding the petition are shown in table 16.

Table 16
Orange juice: Inventories of U.S. extractor-processors, as of the end of crop years 1982/83-1985/86

(In million pounds solids)

	1982/83	1983/84	1984/85	1985/86
FCOJM:				
Supporting firms	***	***	***	***
Opposing firms	***	***	***	***
Firms taking no position	***	***	***	***
Total FCOJM	172	178	175	144
Domestic FCOJM included in total FCOJM	150	88	122	110
Brazilian FCOJM included in total FCOJM	22	90	53	34
FCOJR, SSOJ, and other juice:				
Supporting firms	***	***	***	***
Opposing firms	***	***	***	***
Firms taking no position	***	***	***	***
Total FCOJR, SSOJ, other:	56	68	65	54
Total all firms and all products:	228	245	240	198

1/ Domestic, imported, and blended.
2/ 59-65 percent unblended.
3/ 80-90 percent unblended.
4/ Contains *** percent all domestic and *** percent blended juice; the Brazilian content in the blend is 20-25 percent.

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

Combined ending inventories of FCOJM and of the retail products, measured in millions of pounds solids, increased from 228 million pounds to 245 million pounds, or by 7 percent, before declining to 240 million pounds in 1984/85 and to 198 million pounds in 1985/86, or by 20 percent during the last two crop years. Inventories of U.S. FCOJM decreased and those from Brazil increased simultaneously as of the end of the 1983/84 crop year. Inventories of the Brazilian FCOJM decreased by 41 and 35 percent during the last two crop years. The majority of the domestic and Brazilian FCOJM is stored unblended. An average of *** percent of the retail products in inventory was blended FCOJR in retail containers; on the other hand *** percent of the SSOJ inventory was all domestic juice (table 16).

Employment.—The average number of production and related workers employed by the processors in the production of orange juice products, their hours worked, and wages and total compensation paid to them are shown in table 17.

Table 17
Average number of production and related workers, hours worked, wages and total compensation paid by product, crop years 1982/83–1985/86

Item	1982/83	1983/84	1984/85	1985/86
Producing FCOJM:				
Production workers....persons..	1,378	1,209	1,211	1,151
Hours worked.....1,000 hours..	1,988	1,781	1,775	1,611
Wages paid....million dollars..	12.6	12.3	12.9	12.8
Total compensation paid million dollars..	15.0	14.9	15.1	16.5
Producing FCOJR and SSOJ:				
Production workers....persons..	***	***	***	***
Hours worked..... 1,000 hours..	***	***	***	***
Wages paid....million dollars..	***	***	***	***
Total compensation paid million dollars..	***	***	***	***
Packaging FCOJR in retail containers:				
Production workers....persons..	***	***	***	***
Hours worked.....1,000 hours..	***	***	***	***
wages paid....million dollars..	***	***	***	***
Total compensation paid million dollars..	***	***	***	***
Packaging SSOJ in retail containers:				
Production workers....persons..	1,786	1,705	1,620	1,548
Hours worked.....1,000 hours..	4,107	3,932	3,696	3,519
wages paid....million dollars..	18.5	19.3	20.9	22.5
Total compensation paid million dollars..	24.9	25.8	27.9	29.3

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

In 1985/86, workers producing FCOJM accounted for 36 percent of all production and related workers producing all orange juice products. Workers producing FCOJR and SSOJ from oranges accounted for *** percent, and those engaged in the retail packaging of FCOJR accounted for *** percent. Retail packaging of SSOJ employed the remaining 48 percent. Employment in the production of FCOJM declined from 1,378 persons in 1982/83 to 1,209 persons in 1983/84, largely as a result of reduced processing following fruit losses during the December 1983 freeze. Such employment remained stable in 1984/85, before declining by 5 percent to 1,151 in 1985/86.

Employment in the production of FCOJR and SSOJ ***.

Employment in the packaging of FCOJR declined by 6 percent during the 4 years, and employment in the packaging of SSOJ declined by 13 percent, indicating a shift of the retail packaging operations away from the extractor-processors and away from the producing states, to the contract packers and other reconstitutors unrelated to the extractor-processors.

Wages and total compensation paid increased despite the employment decline during the period, indicating increasing labor costs.

Financial experience of the U.S. industry

To collect data on the financial experience of orange growers, the Commission sent questionnaires to samples of 148 small Florida growers (believed to own less than 50 acres of round orange groves) and 121 medium-sized Florida growers (believed to own 50-300 acres), and to the 116 largest Florida orange growers, whose acreages are over 300. The groups of small- and medium-size Florida growers each include growers from all orange-producing counties; the selected growers also include cash sellers as well as members of cooperatives and participation plans. Thirty-one large-sized Florida growers, 21 medium-sized Florida growers, and 12 small-sized Florida growers provided the Commission with usable financial data. Aggregate financial data for all U.S. growers are presented in this section of the report. Detailed income-and-loss data by grower size (i.e., small, medium, and large) are shown in appendix E.

Questionnaires were also sent to all U.S. producers of FCOJ, i.e., to all U.S. firms that extract orange juice from U.S. oranges. Their financial experience is discussed after that of the growers, and is presented separately for corporations and cooperatives.

Financial experience of all U.S. growers.--Usable financial data were received from 64 U.S. growers on their round orange 1/ grove operations, as well as on the overall operations of their farms.

Operations on round orange groves yielding less than 200 boxes of round oranges per acre 2/.--Selected financial data for all growers of round

---

1/ Early, midseason, Valencia, and navel varieties.

2/ Data were collected separately for groves with yields of less than 200 boxes per acre (generally recently planted groves or groves adversely affected by freezes, disease, etc.), and for groves with yields of 200 or more boxes per acre.

orange groves yielding less than 200 boxes per acre are presented in table 18. Aggregate total proceeds from the sale of round oranges increased from $18.2 million in 1983 to $23.9 million in 1984, an increase of 31.1 percent. However, total proceeds fell by 17.3 percent to $19.7 million in 1985, and further declined to $13.3 million in 1986, a decrease of 32.5 percent.

Aggregate net income before taxes increased to $7.4 million in 1984, up significantly from a $922,000 loss experienced in 1983, but then declined to $3.7 million during 1985, or by approximately 50 percent. During 1986, a pretax loss of $1.7 million was experienced. The pretax income (loss) margins for the U.S. growers were (5.1) percent, 31.1 percent, 18.8 percent, and (13.1) percent, respectively, for the 1983-86 period. Fifteen of the U.S. growers experienced net losses in 1983, 1984, and 1985, and 21 growers reported losses in 1986.

Operations on round orange groves yielding 200 or more boxes of round oranges per acre.—Selected financial data for all growers for round orange groves yielding 200 or more boxes per acre are presented in table 19. Aggregate total proceeds from the sale of round oranges increased from $58.7 million in 1983 to $74.3 million in 1984, or by 26.7 percent, then rose further to $85.9 million during 1985, an increase of 15.5 percent. Aggregate total proceeds decreased during 1986 to $75.2 million, or by 12.4 percent.

Table 18
Income-and-loss experience of 33 U.S. growers on round orange groves yielding less than 200 boxes of round oranges per acre, accounting years 1983-86

Item	1983	1984	1985	1986
Total proceeds...1,000 dollars..	18,192	23,857	19,732	13,324
Total growing and operating expenses.....1,000 dollars..	19,114	16,435	16,016	15,071
Net income or (loss) before income taxes...1,000 dollars..	(922)	7,422	3,716	(1,747)
Gains or (losses), net, on futures transactions 1,000 dollars..	***	***	***	***
As a share of total proceeds:				
Total growing and operating expenses.....percent..	105.1	68.9	81.2	113.1
Net income or (loss) before income taxes.....percent..	(5.1)	31.1	18.8	(13.1)
Number of firms reporting net losses.....	15	15	15	21
Number of firms reporting.....	33	33	33	33
Quantity.....1,000 boxes..	3,331	3,105	2,695	2,626
Unit value.....per box..	$5.46	$7.68	$7.32	$5.07

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

Table 19
Income-and-loss experience of 35 U.S. growers on round orange groves yielding 200 or more boxes of round oranges per acre, accounting years 1983-86

Item	1983	1984	1985	1986
Total proceeds...1,000 dollars..	58,664	74,344	85,863	75,247
Total growing and operating expenses.....1,000 dollars..	37,206	44,126	50,655	55,330
Net income before income taxes.....1,000 dollars..	21,458	30,218	35,208	19,917
Gains or (losses), net, on futures transactions 1,000 dollars..	***	***	***	***
As a share of total proceeds:				
Total growing and operating expenses.....percent..	63.4	59.4	59.0	73.5
Net income before income taxes.....percent..	36.6	40.6	41.0	26.5
Number of firms reporting net losses.....	9	5	5	8
Number of firms reporting.....	35	35	35	35
Quantity.....1,000 boxes..	9,132	9,969	10,528	12,921
Unit value.....per box..	$6.42	$7.46	$8.16	$5.82

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

Aggregate net income before taxes followed the trend of total proceeds, increasing from $21.5 million in 1983 to $30.2 million in 1984, or by 40.8 percent, and then to $35.2 million during 1985, an increase of 16.5 percent. During 1986, however, net income before taxes fell to $19.9 million, or by 43.4 percent. The pretax margins for the U.S. growers during the 1983-86 period were 36.6 percent, 40.6 percent, 41.0 percent, and 26.5 percent, respectively. Nine growers reported net losses during 1983, five growers experienced losses in 1984 and 1985, and eight growers reported losses in 1986.

Operations on all round orange groves.--Selected financial data for all round orange groves of the 64 growers that provided usable data (i.e., aggregated data for the previous two sections plus data from firms that could not separate their data by yield) are presented in table 20. Aggregate total proceeds from the sale of round oranges increased from $141.5 million in 1983 to $176.6 million in 1984, or by 24.8 percent, then rose to $194.1 million during 1985, an increase of 9.9 percent. Aggregate total proceeds decreased in 1986 to $162.7 million, a decline of 16.2 percent.

Aggregate net income before taxes followed a pattern similar to total proceeds, increasing from $30.7 million in 1983 to $55.4 million in 1984, or by 80.4 percent, and then to $61.3 million in 1985, an increase of 10.7 percent. During 1986, however, net income before taxes fell to $25.3 million, or by 58.7 percent. The pretax margins for the U.S. growers were 21.7 percent, 31.4 percent, 31.6 percent, and 15.6 percent, respectively, for the 1983-86 period. Twenty-two growers incurred a net loss during 1983, 20 reported losses in 1984, 19 in 1985, and 33 experienced net losses during 1986.

Table 20
Income-and-loss experience of 64 growers, on all round orange groves, accounting years 1983-86

Item	1983	1984	1985	1986
Total proceeds...1,000 dollars..	141,540	176,593	194,059	162,695
Total growing and operating expenses.....1,000 dollars..	110,821	121,171	132,717	137,364
Net income before income taxes.....1,000 dollars..	30,719	55,422	61,342	25,331
Gains or (losses), net, on futures transactions 1,000 dollars..	***	***	***	***
As a share of total proceeds:				
Total growing and operating expenses.....percent..	78.3	68.6	68.4	84.4
Net income before income taxes.....percent..	21.7	31.4	31.6	15.6
Number of firms reporting net losses.....	22	20	19	33
Number of firms reporting.....	64	64	64	64
Quantity.....1,000 boxes..	23,653	23,402	24,927	28,372
Unit value.....per box..	$5.98	$7.55	$7.79	$5.73

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

Selected income and loss data by grower size (i.e., large, medium, and small) on all round orange groves, as well as on their round orange groves yielding less than 200 boxes per acre and 200 or more boxes per acre are shown in table 21. The unit values of their sales are shown in table 22.

Table 21
Selected income-and-loss data of 64 U.S. growers, by sizes, on round orange groves yielding less than 200 boxes per acre, 200 or more boxes per acre, and on all round orange groves, accounting years 1983-86

Item	No. of growers	1983	1984	1985	1986
		1,000 dollars			
Total proceeds:					
Less than 200 boxes/acre:					
Large growers.....	17	16,292	21,540	17,448	11,459
Medium growers.....	11	1,644	2,140	2,191	1,845
Small growers.....	5	286	177	93	20
Total.....	33	18,222	23,857	19,732	13,324
200 or more boxes/acre:					
Large growers.....	20	56,242	71,827	82,794	73,481
Medium growers.....	8	2,008	2,087	2,515	1,389
Small growers.....	7	414	430	554	377
Total.....	35	58,664	74,344	85,863	75,247

Table 21
Selected income-and-loss data of 64 U.S. growers, by sizes, on round orange groves yielding less than 200 boxes per acre, 200 or more boxes per acre, and on all round orange groves, accounting years 1983-86—Continued

Item	No. of growers	1983	1984	1985	1986
		1,000 dollars			
All round orange groves: 1/					
Large growers	31	135,882	170,852	187,839	158,482
Medium growers	21	4,717	4,935	5,573	3,816
Small growers	12	941	806	647	397
Total	64	141,540	176,593	194,059	162,695
Pretax income or (loss):					
Less than 200 boxes/acre:					
Large growers	17	(1,136)	7,149	3,476	(422)
Medium growers	11	197	338	317	(1,136)
Small growers	5	17	(65)	(77)	(189)
Total	33	(922)	7,422	3,716	(1,747)
200 or more boxes/acre:					
Large growers	20	21,035	29,643	34,137	20,149
Medium growers	8	278	396	780	(335)
Small growers	7	145	179	291	103
Total	35	21,458	30,218	35,208	19,917
All round orange groves: 1/					
Large growers	31	29,694	54,332	59,800	26,874
Medium growers	21	830	985	1,480	(1,362)
Small growers	12	195	105	62	(181)
Total	64	30,719	55,422	61,342	25,331
		percent			
Pretax margin:					
Less than 200 boxes/acre:					
Large growers	17	(7.0)	33.2	19.9	(3.7)
Medium growers	11	12.0	15.8	14.5	(61.6)
Small growers	5	5.9	(36.7)	(82.8)	(945.0)
Weighted average	33	(5.1)	31.1	18.8	(13.1)
200 or more boxes/acre:					
Large growers	20	37.4	41.3	41.2	27.4
Medium growers	8	13.8	19.0	31.0	(24.1)
Small growers	7	35.0	41.6	52.5	27.3
Weighted average	35	36.6	40.6	41.0	26.5
All round orange groves: 1/					
Large growers	31	21.9	31.8	31.8	17.0
Medium growers	21	17.6	20.0	26.6	(35.7)
Small growers	12	20.7	13.0	9.6	(45.6)
Weighted average	64	21.7	31.4	31.6	15.6

1/ Aggregate data for groves with less than 200 boxes/acre and groves with 200 or more boxes/acre, plus data from firms that could not separate their data by yield.

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

Table 22
Round oranges: Unit value of sales for 64 U.S. growers, by yields and sizes of groves, accounting years 1983-86

Item	No. of growers	1983	1984	1985	1986
		Per box			
Less than 200 boxes/acre:					
Large growers	17	$5.52	$7.99	$7.20	$4.93
Medium growers	11	5.22	5.74	8.53	6.21
Small growers	5	3.97	4.78	6.64	4.00
Weighted average	33	5.46	7.68	7.32	5.07
200 or more boxes/acre:					
Large growers	20	6.47	7.49	8.17	5.86
Medium growers	8	5.58	6.58	7.40	4.23
Small growers	7	5.38	7.41	9.23	6.50
Weighted average	35	6.42	7.46	8.16	5.82
All round orange groves: 1/					
Large growers	31	6.01	7.61	7.78	5.76
Medium growers	21	5.63	5.99	7.82	4.86
Small growers	12	4.98	6.35	8.63	6.20
Weighted average	64	5.98	7.55	7.79	5.73

1/ Aggregate data for groves with less than 200 boxes/acre and groves with 200 or more boxes/acre, plus data from firms that could not separate their data by yield.

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

All of the small and medium growers that provided financial data in their questionnaire responses support the petition in this investigation. Of the 31 large growers 4 oppose the petition. Those four are owned by extractors opposed to the petition. A comparison of the pretax income (loss) margins for the large growers that support the petition versus those that oppose the petition is presented in table 23.

Growing and operating expenses.—The grower questionnaire requested data on 17 growing and operating expense items. The completeness and quality of the expense data reported by growers varied widely. Therefore, in order to present the most consistently reported and comparable expense data in this section, data were used from 27 growers that reported yields of less than 200 boxes per acre, 29 growers that reported yields of 200 or more boxes per acre, and 52 growers that reported data for all round orange groves. The number of growers whose expense data are not included in these 3 categories are 6, 6, and 12, respectively.

Four individual expense items (hired labor, pick and haul, fertilizers, and depreciation) accounted for an average of 60-68 percent of total growing and operating expenses during 1983-86. The 4-year averages for groves with yields under 200 boxes per acre, groves with yields of 200 or more boxes per acre, and all groves were 60 percent, 67 percent, and 68 percent, respectively.

Table 23
Pretax income (loss) margins of large growers, by yield and by their position regarding the petition, accounting years 1983-86

(In percent)

Item	Number of growers	1983	1984	1985	1986
Less than 200 boxes/acre:					
In support	1/ 15	(9.4)	34.1	15.9	(16.9)
In opposition	2	18.6	26.1	37.4	35.1
Total	2/ 17	(7.0)	33.2	19.9	(3.7)
200 or more boxes/acre:					
In support	3/ 17	40.0	42.8	43.4	29.3
In opposition	2	13.9	29.5	16.1	(4.5)
Total	4/ 19	37.4	41.3	41.2	27.4
All round orange groves:					
In support	27	26.5	34.2	35.7	19.7
In opposition	4	9.9	25.8	20.1	8.8
Total	31	21.9	31.8	31.8	17.0
Overall farm operations:					
In support	27	13.8	23.8	23.9	14.3
In opposition	4	3.6	23.4	16.5	10.3
Total	31	11.8	23.7	22.7	13.6

1/ 15 in 1983-84, 14 in 1985, and 13 in 1986.
2/ 17 in 1983-84, 16 in 1985, and 15 in 1986.
3/ 17 in 1983 and 18 in 1984-86.
4/ 19 in 1983 and 20 in 1984-86.

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

The ratios of selected individual expense items to total growing and operating expenses for each of these three categories are presented in table 24.

A comparison of individual ratios in the three categories in table 24 reveals relatively minor variations in most expense items, with certain exceptions, which are presented in the following tabulation:

	1983	1984	1985	1986
Pick and haul:				
Under 200 boxes....percent..	13.9	16.6	14.7	13.2
200 or more boxes.....do....	29.3	25.7	26.0	27.9
All groves.....do....	29.0	26.3	26.2	27.0
Replanting/pruning of freeze damaged groves:				
Under 200 boxes....percent..	2.6	2.1	4.3	5.9
200 or more boxes.....do....	1.0	0.8	0.8	0.9
All groves.....do....	1.1	0.8	1.5	1.8
Depreciation and amortization:				
Under 200 boxes....percent..	10.8	10.0	9.9	13.5
200 or more boxes.....do....	8.9	9.1	9.2	9.4
All groves.....do....	7.9	9.1	9.3	10.0

Table 24
Ratio of growers' individual expense items to total growing and operating expenses, by sizes of yields, accounting years 1983-86

Item	1983	1984	1985	1986
Yields less than 200 boxes per acre:				
Hired labor.....percent..	12.4	12.4	11.4	12.5
Pick and haul.....do....	13.9	16.6	14.7	13.2
Replanting/pruning of freeze-damaged groves.....do....	2.6	2.1	4.3	5.9
Planting round oranges on new land.....do....	1.4	1.0	1.1	0.7
Fertilizers, lime, and chemicals.....do....	24.0	25.4	20.9	19.7
Depreciation and amortization.....do....	10.8	10.0	9.9	13.5
Officers' or partners' salaries.....do....	1.9	1.8	1.8	1.8
Interest expense.....do....	5.0	3.8	3.9	5.3
All other expenses.....do....	28.0	26.9	32.0	27.4
Total growing and operating expenses..do....	100.0	100.0	100.0	100.0
Number of growers included in data.....	27	27	26	25
Yields of 200 or more boxes per acre:				
Hired labor.....percent..	12.3	11.2	10.3	11.7
Pick and haul.....do....	29.3	25.7	26.0	27.9
Replanting/pruning of freeze-damaged groves.....do....	1.0	0.8	0.8	0.9
Planting round oranges on new land.....do....	0.4	0.2	1.4	1.0
Fertilizers, lime, and chemicals.....do....	17.9	18.7	19.7	20.9
Depreciation and amortization.....do....	8.9	9.1	9.2	9.4
Officers' or partners' salaries.....do....	0.8	0.9	0.9	0.8
Interest expense.....do....	2.2	2.3	2.4	2.3
All other expenses.....do....	27.2	31.1	29.3	25.1
Total growing and operating expenses..do....	100.0	100.0	100.0	100.0
Number of growers included in data.....	28	29	29	29
All round orange groves:				
Hired labor.....percent..	12.2	12.1	11.6	12.1
Pick and haul.....do....	29.0	26.3	26.2	27.0
Replanting/pruning of freeze-damaged groves.....do....	1.1	0.8	1.5	1.8
Planting round oranges on new land.....do....	0.4	0.3	1.0	0.5
Fertilizers, lime, and chemicals.....do....	19.0	20.7	19.2	20.4
Depreciation and amortization.....do....	7.9	9.1	9.3	10.0
Officers' or partners' salaries.....do....	1.0	1.1	0.8	0.8
Interest expense.....do....	2.4	2.4	2.6	2.5
All other expenses.....do....	27.0	27.2	27.8	24.9
Total growing and operating expenses..do....	100.0	100.0	100.0	100.0
Number of growers included in data.....	52	52	52	52

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

In addition, although the fertilizer ratio for "under 200 boxes" was substantially higher in 1983 and 1984, it is in line with the other two categories in 1985 and 1986.

Unit cost data for large growers 1/.—The total cost per box of round oranges and total cost per acre for the large growers included in table 24, and the number of growers in each category, are presented in the following tabulation:

	1983	1984	1985	1986
Cost per box of round oranges:				
Under 200 boxes	$6.61	$5.45	$5.58	$5.50
200 or more boxes	3.80	4.39	4.88	4.22
All groves	4.22	4.76	4.85	4.29
Cost per acre:				
Under 200 boxes	$735	$732	$683	$710
200 or more boxes	1,172	1,267	1,448	1,415
All groves	915	965	1,061	1,087
Number of growers:				
Under 200 boxes	15	15	14	13
200 or more boxes	17	18	18	18
All groves	27	27	27	27

Cash flow.—Cash-flow data for large, medium, and small growers are presented in appendix F, tables F-1, F-2, and F-3, respectively. A summary of cash flow data for groves with yields under 200 boxes per acre, groves with yields of 200 or more boxes per acre, all round orange groves, and overall farm operations is presented in the tabulation below (in thousands of dollars):

	1983	1984	1985	1986
Under 200 boxes/acre:				
Pretax income (loss)	(922)	7,422	3,716	(1,747)
Depreciation	1,892	1,468	1,433	1,808
Cash flow	970	8,890	5,149	61
200 or more boxes/acre:				
Pretax income (loss)	21,458	30,218	35,208	19,917
Depreciation	2,926	3,593	4,306	4,878
Cash flow	24,384	33,811	39,514	24,795
All groves:				
Pretax income (loss)	30,719	55,422	61,342	25,331
Depreciation	8,531	10,561	11,839	13,031
Cash flow	39,250	65,983	73,181	38,362
Overall farm operations:				
Pretax income (loss)	26,207	66,314	70,709	37,400
Depreciation	15,046	16,666	18,198	19,594
Cash flow	41,253	82,980	88,907	56,994

1/ Because of inconsistent reporting, unit cost data are not available for small or medium growers.

Overall establishment farm operations.—Selected financial data for the 64 growers responding to the Commission's questionnaire on the overall operations of their farms within which round oranges are grown are presented in table 25. Aggregate total farm income for these growers increased from $218.6 million in 1983 to $281.0 million in 1984, or by 28.5 percent, then rose to $310.3 million in 1985, or by 10.4 percent. During 1986, however, total farm income declined to $287.1 million, or by 7.5 percent.

Aggregate net income before taxes followed a pattern similar that of to total farm income, increasing from $26.2 million in 1983 to $66.3 million during 1984, or by 153.0 percent, and then to $70.7 million in 1985, an increase of 6.6 percent. During 1986, however, net income before taxes fell to $37.4 million, or by 47.1 percent. The pretax margins for the U.S. growers were 12.0 percent, 23.6 percent, 22.8 percent, and 13.0 percent, respectively, for the 1983–86 period. Twenty-one growers incurred a net loss during 1983, 18 reported losses in 1984, 19 in 1985, and 28 during 1986.

Table 25
Income-and-loss experience of 64 U.S. growers on the overall operations of their farms within which round oranges are grown, accounting years 1983–86

Item	1983	1984	1985	1986
Proceeds from all oranges 1,000 dollars..	154,657	182,050	206,255	176,593
Proceeds from other citrus crops.....1,000 dollars..	33,046	54,806	61,932	63,636
Other farm income.....do....	30,918	44,167	42,101	46,856
Total farm income.....do....	218,621	281,023	310,288	287,085
Total growing and operating expenses.....1,000 dollars..	192,414	214,709	239,579	249,685
Net income before income taxes.....1,000 dollars..	26,207	66,314	70,709	37,400
Gains or (losses), net, on futures transactions 1,000 dollars..	***	***	***	***
As a share of total proceeds:				
Total growing and operating expenses.....percent..	88.0	76.4	77.2	87.0
Net income before income taxes.....percent..	12.0	23.6	22.8	13.0
Number of firms reporting net losses.....	21	18	19	28
Number of firms reporting.....	64	64	64	64

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

Capital expenditures of U.S. growers.—The data provided by the U.S. growers relative to their capital expenditures for land, buildings, and machinery and equipment, as well as their capital expenditures relating to new plantings of orange trees and non-orange crops, are presented in table 26.

Table 26
Capital expenditures, by categories, by U.S. growers, accounting years 1983-86

Item	1983	1984	1985	1/ 1986
Capital expenditures for farm machinery, equipment, buildings, and other long-term assets				
1,000 dollars..	46,801	57,949	61,674	22,414
Number of growers reporting..	52	52	52	48
Capital expenditures relating to new planting of round orange trees and planting of other non-orange crops 2/				
1,000 dollars..	13,630	13,242	14,754	10,394
Number of growers reporting..	50	50	50	46
Capital expenditures relating only to new planting of round orange trees for juice production				
1,000 dollars..	***	***	***	***
Number of growers reporting..	49	49	49	45
Capital expenditures relating only to new planting of other orange trees not for juice production				
1,000 dollars..	***	***	***	***
Number of growers reporting..	49	49	49	45
Capital expenditures relating only to new planting of other non-orange crops				
1,000 dollars..	***	***	***	***
Number of growers reporting..	49	49	49	45

1/ 4 of the growers that provided 1983-85 data were unable to provide 1986 data relating to capital expenditures.
2/ 1 of the growers was unable to break out capital expenditures specifically for new planting of round orange trees for juice production, round orange trees for non-juice production, and other non-orange crops, and therefore included the information only under the combined heading of capital expenditures relating to new plantings of orange trees and plantings of other non-orange crops.

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

Total capital expenditures for farm machinery, equipment, buildings, and other long-term assets increased from $46.8 million in 1983 to $57.9 million in 1984, or by 23.8 percent, then to $61.7 million during 1985, an increase of 6.4 percent. Reported capital expenditures in 1986 were $22.4 million, but fewer firms reported in this year, and its data cannot be compared with that reported for 1983-85.

Total capital expenditures relating only to new planting of round orange trees for juice production increased from *** million in 1983 to *** million in 1984, or by 10.3 percent, then rose further to *** million in 1985, an increase of 2.0 percent. 1/ Reported capital expenditures in 1986 were *** million, but fewer firms reported in this year and its data cannot be compared with that reported for 1983-85.

Return on investment.--Growers were requested to furnish total assets, total liabilities, and equity for the overall operations of their farms within which round oranges were grown. Nineteen large growers and nine medium growers provided usable data in at least 2 of the 4 years. The ratios of pretax income (loss) to total assets (return on total assets 2/) and the ratio of pretax income (loss) to equity (return on equity 2/) are presented in the following tabulation:

Item	1983	1984	1985	1986
Large growers:				
Return on total assets...percent..	6.5	14.3	14.9	7.9
Return on equity.....do....	13.4	29.0	28.5	15.0
Number of growers reporting data..	19	19	19	16
Medium growers:				
Return on total assets...percent..	1.7	3.4	5.9	(2.4)
Return on equity.....do....	2.9	5.3	9.5	(9.5)
Number of growers reporting data..	8	9	9	6

Financial experience of U.S. corporations (extractor/processors).--Usable data were received from 10 U.S. corporations 3/ on their operations producing FCOJM, FCOJR, SSOJ, and other orange juice as well as on their overall establishment operations. Because the accounting methods of corporations and cooperatives differ significantly, the financial data for cooperatives are presented separately.

Operations producing FCOJM only 4/.--Selected financial data for U.S. corporations producing FCOJM are presented in table 27. Aggregate net sales increased from $81.3 million in 1982 to $127.4 million in 1983, or by 56.7 percent. From 1984 to 1986, however, sales steadily declined, from $107.0 million in 1984 to $91.4 million in 1985 and then to $73.9 million in 1986.

1/ One of the growers was unable to break out capital expenditures specifically for new planting of round orange trees for juice production, round orange trees for non-juice production, and other non-orange crops, and therefore included the information only under the combined heading of capital expenditures relating to new plantings of orange trees and plantings of other non-orange crops.

2/ Return on investment is normally calculated by dividing after-tax income (loss) by investment. The Commission did not collect aftertax income (loss) data, however, so the return-on-investment data presented are based on pretax income (loss).

3/ The corporations are ***. These firms accounted for 51 percent of processed oranges in 1985/86. The data reported include profits on sales of imported FCOJM or of products blended therewith.

4/ Some of the corporations that produce FCOJM were unable to break out sales and expense data specifically for FCOJM and therefore included the data under the combined category of FCOJM, FCOJR, SSOJ, and other orange juice.

Aggregate operating losses were incurred in four of the five years (1982, 1983, 1985, and 1986). The losses were particularly heavy in 1983 ($6.6 million) and 1985 ($9.8 million). The operating income (loss) margins for the U.S. corporations were (0.9) percent, (5.2) percent, 2.6 percent, (10.7) percent, and (0.8) percent, respectively, for the 1982-86 period. Three corporations reported operating losses in 1982 and 1983, one suffered a loss in 1984, four experienced losses during 1985, and three incurred operating losses in 1986 (table 27).

The value, quantity, and unit value (dollars per pound) of sales of FCOJM are shown in table 28.

Table 27
Selected financial data of 5 U.S. corporations 1/ on their operations producing FCOJM, accounting years 1982-86

Item	1982	1983	1984	1985	1986
Net sales.....1,000 dollars..	81,307	127,427	106,966	91,399	73,853
Cost of goods sold.....do....	77,921	126,458	99,607	96,719	70,309
Gross profit or (loss).....do....	3,386	969	7,359	(5,320)	3,544
General, selling, and administrative expenses 2/ 1,000 dollars..	4,089	7,545	4,542	4,465	4,131
Operating income or (loss) 1,000 dollars..	(703)	(6,576)	2,817	(9,785)	(587)
Interest expense.....do....	709	433	614	844	1,146
Other income or (expense), net.....1,000 dollars..	***	***	***	***	***
Futures market transactions..... do,...	***	***	***	***	***
Net income or (loss) before income taxes.....1,000 dollars..	(1,498)	(7,222)	2,042	(11,297)	(1,535)
Depreciation and amortization expense included above.....1,000 dollars..	815	873	876	893	1,054
Cash flow.....do....	(683)	(6,349)	2,918	(10,404)	(481)
As a share of net sales:					
Cost of goods sold.....percent..	95.8	99.2	93.1	105.8	95.2
Gross profit or (loss)....do....	4.2	0.8	6.9	(5.8)	4.8
General, selling, and administrative expenses percent..	5.0	5.9	4.2	4.9	5.6
Operating income or (loss) percent..	(0.9)	(5.2)	2.6	(10.7)	(0.8)
Net income or (loss) before income taxes..percent..	(1.8)	(5.7)	1.9	(12.4)	(2.1)
Number of firms reporting operating losses.....	3	3	1	4	3
Number of firms reporting net losses.....	3	4	1	5	3
Number of firms reporting.....	5	5	5	5	5

1/ The corporations are ***.
2/ General, selling, and administrative expenses for *** were allocated on the basis of sales by staff, after telephone consultation with a company official.

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

Table 28
Sales of FCOJM for 4 U.S. corporations, 1/ accounting years 1982-86

Item	1982	1983	1984	1985	1986
Value.....1,000 dollars..	***	***	***	***	***
Quantity...1,000 pounds..	***	***	***	***	***
Unit value....per pound..	$1.36	$1.27	$1.63	$1.73	$1.28

1/ One corporation that produces FCOJM was unable to provide quantity data; therefore, its sales (value) data has been excluded.

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

Operations producing FCOJM and FCOJR 1/.—Selected financial data for U.S. corporations producing FCOJM and FCOJR are presented in table 29. Aggregate net sales increased from $521.6 million in 1982 to $627.8 million in 1983, an increase of 20.4 percent, then rose further to $714.4 million during 1984. However, sales fell slightly to $713.1 million in 1985 then declined further to $520.7 million during 1986, or by 27.0 percent.

Aggregate operating income dropped slightly from $35.6 million in 1982 to $34.9 million in 1983, then increased to $41.9 million during 1984, or by 20.1 percent. Operating income fell sharply to $14.9 million in 1985, a decline of 64.5 percent, then doubled to $30.2 million during 1986. The 1982-86 operating margins for the U.S. corporations were 6.8 percent, 5.6 percent, 5.9 percent, 2.1 percent, and 5.8 percent, respectively. Three corporations experienced operating losses in 1982, three reported losses in 1983, two incurred a loss during 1984, and three reported losses in 1985 and 1986.

1/ Some of the corporations that produce FCOJM and FCOJR were unable to break out sales and expense data specifically for FCOJM and FCOJR and therefore included the data under the combined category of FCOJM, FCOJR, SSOJ, and other orange juice.

Table 29
Selected financial data of 7 U.S. corporations 1/ on their operations producing FCOJM and FCOJR, accounting years 1982-86

Item	1982	1983	1984	1985	1986
Net sales....1,000 dollars..	521,588	627,770	714,379	713,081	520,702
Cost of goods sold....do....	407,235	493,991	546,087	558,319	390,880
Gross profit.....do....	114,353	133,779	168,292	154,762	129,822
General, selling, and administrative expenses 2/ 1,000 dollars..	78,711	98,859	126,370	139,861	99,585
Operating income.....do....	35,642	34,920	41,922	14,901	30,237
Interest expense .....do....	3,320	1,755	1,993	5,865	6,116
Other income or (expense), net.....1,000 dollars..	***	***	***	***	***
Futures market transactions..... do....	***	***	***	***	***
Net income before income taxes.....1,000 dollars..	32,620	33,027	40,906	7,584	25,215
Depreciation and amortization expense included above.....1,000 dollars..	5,068	6,799	7,703	7,642	6,502
Cash flow.....do....	37,688	39,826	48,609	15,226	31,717
As a share of net sales:					
Cost of goods sold percent..	78.1	78.7	76.4	78.3	75.1
Gross profit.....do....	21.9	21.3	23.6	21.7	24.9
General, selling, and administrative expenses percent..	15.1	15.7	17.7	19.6	19.1
Operating income....do....	6.8	5.6	5.9	2.1	5.8
Net income before income taxes.....percent..	6.3	5.3	5.7	1.1	4.8
Number of firms reporting operating losses.....	3	3	2	3	3
Number of firms reporting net losses.....	3	4	2	6	3
Number of firms reporting...	7	7	7	7	7

1/ The corporations are ***
2/ General, selling, and administrative expenses for *** were allocated on the basis of sales by staff, after telephone consultation with a company official.

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

The value, quantity, and unit value (dollars per pound) of sales of FCOJM and FCOJR are shown in table 30.

Table 30
Sales of FCOJM and FCOJR for 5 U.S. corporations, 1/ accounting years 1982–86

Item	1982	1983	1984	1985	1986
Value.....1,000 dollars..	***	***	***	***	***
Quantity...1,000 pounds..	***	***	***	***	***
Unit value....per pound..	$1.92	$1.82	$2.26	$2.42	$1.82

1/ Two corporations that produce FCOJM and FCOJR were unable to provide quantity data; therefore their sales (value) data have been excluded.

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

Operations producing FCOJM, FCOJR, SSOJ, and other orange juice.—Selected financial data for U.S. corporations producing FCOJM, FCOJR, SSOJ, and other orange juice (i.e., all orange juice combined) are presented in table 31. Aggregate net sales steadily increased during the 1982–85 period, rising from $1.1 billion in 1982 to $1.3 billion in 1983 (a gain of 19.1 percent), $1.6 billion in 1984 (a gain of 20.5 percent), and $1.7 billion during 1985 (a gain of 6.2 percent). In 1986, however, sales fell by 16.0 percent to $1.4 billion.

Aggregate operating income declined from $75.8 million in 1982 to $52.3 million in 1983, or by 31.0 percent, then fell slightly to $49.5 million during 1984. Operating income rose by 7.1 percent to $53.1 million in 1985, then increased sharply to $91.4 million during 1986, a gain of 72.3 percent. The operating margins during 1982–86 were 6.9 percent, 4.0 percent, 3.2 percent, 3.2 percent, and 6.5 percent, respectively. Five corporations reported operating losses in 1982, five incurred losses in 1983, three suffered losses during 1984, and four reported operating losses in 1985 and 1986.

Table 31
Selected financial data of 10 U.S. corporations 1/ on their operations producing FCOJM, FCOJR, SSOJ, and other orange juice, accounting years 1982-86

Item	1982	1983	1984	1985	1986
Net sales....1,000 dollars..	1,091,301	1,299,664	1,565,491	1,662,663	1,396,171
Cost of goods sold....do....	853,997	1,025,135	1,243,435	1,293,569	1,025,324
Gross profit.....do....	237,304	274,529	322,056	369,094	370,847
General, selling, and administrative expenses 2/ 1,000 dollars..	161,488	222,187	272,534	316,040	279,443
Operating income.....do....	75,816	52,342	49,522	53,054	91,404
Interest expense .....do....	7,737	8,513	14,028	38,315	38,999
Other income or (expense), net.....1,000 dollars..	***	***	***	***	***
Futures market transactions..... do....	***	***	***	***	***
Net income before income taxes.....1,000 dollars..	69,298	46,007	40,618	14,379	51,433
Depreciation and amortization expense included above.....1,000 dollars..	17,097	21,151	23,395	26,243	23,333
Cash flow.....do....	86,395	67,158	64,013	40,622	74,766
As a share of net sales:					
Cost of goods sold percent..	78.3	78.9	79.4	77.8	73.4
Gross profit.....do....	21.7	21.1	20.6	22.2	26.6
General, selling, and administrative expenses percent..	14.8	17.1	17.4	19.0	20.0
Operating income....do....	6.9	4.0	3.2	3.2	6.5
Net income before income taxes.....percent..	6.4	3.5	2.6	0.9	3.7
Number of firms reporting operating losses.....	5	5	3	4	4
Number of firms reporting net losses.....	5	6	3	7	4
Number of firms reporting...	10	10	10	10	10

1/ The corporations are ***.
2/ General, selling, and administrative expenses for *** were allocated on the basis of sales by staff, after telephone consultation with a company official.

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

The value, quantity, and unit value (dollars per pound) of sales of FCOJM, FCOJR, SSOJ, and other orange juice are shown in table 32.

Table 32
Sales of FCOJM, FCOJR, SSOJ, and other orange juice for 8 U.S. corporations, 1/ accounting years 1982-86

Item	1982	1983	1984	1985	1986
Value.....1,000 dollars..	***	***	***	***	***
Quantity...1,000 pounds..	***	***	***	***	***
Unit value....per pound..	$2.05	$1.96	$2.41	$2.65	$2.03

1/ 2 corporations that produce FCOJM, FCOJR, SSOJ, and other orange juice were unable to provide quantity data; therefore their sales (value) data have been excluded.

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

Overall establishment operations.--Selected financial data for U.S. corporations on their overall establishment operations within which FCOJM, FCOJR, SSOJ, and other orange juice are produced are presented in table 33. Aggregate net sales steadily increased from 1982 to 1985. They increased from $1.9 billion in 1982 to $2.0 billion in 1983, an increase of 1.8 percent, rose further to $2.3 billion during 1984, or by 18.2 percent, and then increased to $2.5 billion in 1985, a gain of 8.4 percent. During 1986, however, sales fell by 13.8 percent to $2.2 billion.

Aggregate operating income was erratic throughout the 1982-86 period, increasing slightly from $154.8 million in 1982 to $156.0 million during 1983, then falling to $140.4 million in 1984, a decline of 10.0 percent. Operating income rose by 12.6 percent to $158.1 million in 1985, then increased further to $177.4 million during 1986, or by 12.3 percent. The operating margins for the U.S. corporations during 1982-86 were as follows: 8.0 percent, 7.9 percent, 6.0 percent, 6.3 percent, and 8.2 percent, respectively. Two corporations experienced operating losses during 1982, 1983, and 1984; five reported losses in 1985, and three incurred losses during 1986.

Table 33
Selected financial data of 10 U.S. corporations 1/ on their overall operations within which FCOJM, FCOJR, SSOJ, and other orange juice are produced and/or sold, accounting years 1982–86

Item	1982	1983	1984	1985	1986
Net sales....1,000 dollars..	1,933,022	1,967,439	2,326,354	2,521,901	2,173,536
Cost of goods sold....do....	1,457,933	1,455,779	1,758,388	1,858,849	1,511,270
Gross profit.....do....	475,089	511,660	567,966	663,052	662,266
General, selling, and administrative expenses 1,000 dollars..	320,251	355,639	427,615	504,988	484,833
Operating income.....do....	154,838	156,021	140,351	158,064	177,433
Interest expense.....do....	25,439	21,264	24,913	56,716	52,035
Other income or (expense), net.....1,000 dollars..	(1)	9,383	17,525	14,808	(5,348)
Net income before income taxes.....1,000 dollars..	129,398	144,140	132,963	116,156	120,050
Depreciation and amortization expense included above.....1,000 dollars..	36,169	39,017	40,838	44,883	41,121
Cash flow.....do....	165,567	183,157	173,801	161,039	161,171
As a share of net sales:					
Cost of goods sold percent..	75.4	74.0	75.6	73.7	69.5
Gross profit.....do....	24.6	26.0	24.4	26.3	30.5
General, selling, and administrative expenses percent..	16.6	18.1	18.4	20.0	22.3
Operating income....do....	8.0	7.9	6.0	6.3	8.2
Net income before income taxes.....percent..	6.7	7.3	5.7	4.6	5.5
Number of firms reporting operating losses.....	2	2	2	5	3
Number of firms reporting net losses.....	4	2	2	5	3
Number of firms reporting...	10	10	10	10	10

1/ The corporations are ***.

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

Operating income (loss) margins for corporations that support, oppose, and take no position on the petition for this investigation are compared in the following tabulation:

	Number of firms	1982	1983	1984	1985	1986
				Percent		
FCOJM:						
In support	2	***	***	***	***	***
In opposition	2	***	***	***	***	***
No position	1	***	***	***	***	***
Total	5	(0.9)	(5.2)	2.6	(10.7)	(0.8)
FCOJM and FCOJR:						
In support	2	***	***	***	***	***
In opposition	4	***	***	***	***	***
No position	1	***	***	***	***	***
Total	7	6.8	5.6	5.9	2.1	5.8
FCOJM, FCOJR, SSOJ, and other orange juice:						
In support	2	***	***	***	***	***
In opposition	7	***	***	***	***	***
No position	1	***	***	***	***	***
Total	10	6.9	4.0	3.2	3.2	6.5
Overall establishment:						
In support	2	***	***	***	***	***
In opposition	7	***	***	***	***	***
No position	1	***	***	***	***	***
Total	10	8.0	7.9	6.0	6.3	8.2

Value of plant, property, and equipment.—The data provided by the U.S. corporations on their end-of-period investment in productive facilities in which orange juice is produced are shown in table 34. The aggregate investments in productive facilities for extracting, concentrating, and freezing orange juice to produce bulk FCOJM, valued at cost, for the 1982–86 period were as follows: $81.0 million, $82.8 million, $84.6 million, $87.3 million, and $90.8 million, respectively. The book value of such assets steadily declined from $47.9 million in 1982 to $36.0 million in 1986.

The asset valuations for extracting, concentrating, and freezing orange juice to produce FCOJR and SSOJ, at original cost, for the 1982–86 period were as follows: $71.7 million, $76.6 million, $103.6 million, $119.7 million, and $130.2 million, respectively. Similarly, the book value of such assets steadily increased from $49.4 million at the end of 1982 to $74.5 million at the end of 1986.

Table 34
Value of property, plant, and equipment of U.S. corporations producing orange juice by production processes, accounting years 1982-86

(In thousands of dollars)

Item	1982	1983	1984	1985	1986
Producing all products of the establishment:					
Original cost	549,127	577,900	637,265	687,636	711,827
Book value	358,356	358,472	347,638	367,986	369,757
Number of firms reporting	10	10	10	10	10
Extracting, concentrating, freezing orange juice from U.S. oranges to produce bulk FCOJM:					
Original cost	81,009	82,776	84,619	87,258	90,821
Book value	47,936	45,495	38,111	36,915	35,977
Number of firms reporting	9	9	9	9	9
Extracting, concentrating, freezing orange juice from U.S. oranges to produce FCOJR and SSOJ directly:					
Original cost	71,656	76,566	103,566	119,705	130,197
Book value	49,374	50,230	61,367	68,223	74,467
Number of firms reporting	4	4	4	4	4
Packaging retail and/or institutional packed FCOJR:					
Original cost	53,939	55,539	57,924	60,895	61,776
Book value	34,081	32,781	31,585	31,258	28,996
Number of firms reporting	5	5	5	5	5
Packaging retail and/or institutional packed SSOJ and/or other orange juice:					
Original cost	109,337	114,228	122,180	137,940	143,166
Book value	79,587	76,603	63,142	67,846	60,831
Number of firms reporting	5	5	5	5	5

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

Capital expenditures and research and development expenses.—The data provided by the U.S. corporations relative to their capital expenditures for land, buildings, and machinery and equipment used in the manufacture of orange juice are shown in table 35. Total capital expenditures relating to extracting, concentrating, and freezing orange juice to produce bulk FCOJM for the 1982–86 period were as follows: $15.2 million, $11.7 million, $13.4 million, $15.2 million, and $17.1 million, respectively. Total capital expenditures relating to extracting, concentrating, and freezing orange juice to produce FCOJ and SSOJ were as follows for the 1982–86 period: $17.7 million, $6.3 million, $27.0 million, $17.1 million, and $11.3 million, respectively.

Research and development expenses for the U.S. corporations are shown in table 36.

Table 35
Orange juice: Capital expenditures by U.S. corporations, accounting years 1982–86

(In thousands of dollars)

Item	1982	1983	1984	1985	1986
All products of the establishments:					
Land and land improvements...	4,608	2,480	2,914	5,801	4,454
Building or leasehold improvements.....	16,094	5,687	11,621	3,814	4,723
Machinery, equipment, and fixtures.....	56,890	27,598	72,854	60,858	40,508
Total.....	77,592	35,765	87,389	70,473	49,685
Number of firms reporting....	8	8	8	8	8
Extracting, concentrating, freezing of orange juice from U.S. oranges to produce bulk FCOJM and the warehousing, marketing, etc. thereof:					
Land and land improvements...	1,302	1,940	2,109	2,181	2,304
Building or leasehold improvements.....	2,549	1,356	2,190	1,505	1,915
Machinery, equipment, and fixtures.....	11,373	8,386	9,056	11,482	12,867
Total.....	15,224	11,682	13,355	15,168	17,086
Number of firms reporting....	8	8	8	8	8

Table 35
Orange juice: Capital expenditures by U.S. corporations, accounting years 1982-86--Continued

(In thousands of dollars)

Item	1982	1983	1984	1985	1986
Extracting, concentrating, freezing of orange juice from U.S. oranges to produce FCOJR and SSOJ directly, and the warehousing, marketing, thereof:					
Land and land improvements..	***	***	***	***	***
Building or leasehold improvements.....	***	***	***	***	***
Machinery, equipment, and fixtures.....	11,077	5,893	25,179	16,530	10,633
Total.....	17,684	6,258	27,043	17,106	11,325
Number of firms reporting...	4	4	4	4	4
Packaging of retail and institutional FCOJR and marketing, warehousing of same:					
Land and land improvements..	***	***	***	***	***
Building or leasehold improvements.....	***	***	***	***	***
Machinery, equipment, and fixtures.....	4,219	90	2,305	1,657	2,035
Total.....	5,129	147	2,640	3,314	2,374
Number of firms reporting...	4	4	4	4	4
Packaging of retail and institutional SSOJ and other orange juice and marketing of same:					
Land and land improvements..	***	***	***	***	***
Building or leasehold improvements.....	***	***	***	***	***
Machinery, equipment, and fixtures.....	6,236	2,644	11,568	9,592	5,082
Total.....	7,977	4,008	14,240	12,461	5,625
Number of firms reporting...	6	6	6	6	6

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

Table 36
Research and development expenses by U.S. corporations producing orange juice, by processing method and products, accounting years 1982-86

(In thousands of dollars)

Item	1982	1983	1984	1985	1986
Extracting, concentrating, and freezing of orange juice from U.S. oranges to produce bulk FCOJM	***	***	***	***	***
Number of firms reporting..	2	2	2	2	2
Extracting, concentrating, freezing of orange juice from U.S. oranges to produce FCOJR and SSOJ directly.....	1,215	1,541	1,835	2,909	2,396
Number of firms reporting..	4	4	4	4	4
Packaging of retail and/or institutional packed FCOJR.....	542	720	762	812	715
Number of firms reporting..	4	4	4	4	4
Packaging of retail and institutional packed SSOJ and other orange juice.....	***	***	***	***	***
Number of firms reporting..	1	1	1	1	1

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

Financial experience of U.S. cooperatives (extractors/processors).—Usable data were received from six U.S. cooperatives 1/ on their operations producing FCOJM, FCOJR, SSOJ, and other orange juice, as well as on their overall establishment operations.

Operations producing FCOJM only 2/.—Selected financial data for U.S. cooperatives producing FCOJM are presented in table 37. Aggregate net proceeds resulting from member and nonmember sales before income taxes declined from $29.6 million in 1982 to $26.0 million in 1983, or by 11.9 percent, then increased to $38.7 million in 1984, a gain of 48.7 percent. Net proceeds fell in both 1985 and 1986; net proceeds of $24.9 million in 1986 were down 35.8 percent from 1984. The net proceeds margins (ratio of net proceeds to net sales, in percent) during 1982-86 were 45.6, 37.0, 46.0, 44.0,

1/ The cooperatives are ***. These firms accounted for 25 percent of processed oranges in 1985/86. The data reported include profits on sales of imported FCOJM or of products blended therewith.
2/ One cooperative that produces FCOJM was unable to break out sales and expense data specifically for FCOJM and therefore included the data under the combined category of FCOJM, FCOJR, SSOJ, and other orange juice.

Table 37
Selected financial data of 4 U.S. cooperatives 1/ on their operations producing FCOJM, accounting years 1982-86

Item	1982	1983	1984	1985	1986
Net sales.....1,000 dollars..	64,816	70,400	84,250	75,223	52,943
Costs and expenses 2/.....do....	35,249	44,365	45,523	42,151	28,063
Net proceeds resulting from member and nonmember sales before income taxes 1,000 dollars..	29,567	26,035	38,727	33,072	24,880
Profit or (loss) from nonmember business before contract processing income and income taxes 1,000 dollars..	(1,079)	71	2,348	(219)	(532)
Profit from contract processing 3/...1,000 dollars..	***	***	***	***	***
Profit or (loss) from nonmember business before income taxes 1,000 dollars..	***	***	***	***	***
Net gain or (loss) from futures market transactions 4/.....1,000 dollars..	***	***	***	***	***
Ratio of net proceeds resulting from member and nonmember sales before income taxes to net sales.....percent..	45.6	37.0	46.0	44.0	47.0

1/ The cooperatives are ***.
2/ Includes the cost of nonmember fruit, but does not include the cost of member fruit.
3/ ***.
4/ Not included above.

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

and 47.0, respectively. The trend of the net proceeds margins followed that of the corporation extractors exactly—down in 1983, up in 1984, down in 1985, and up in 1986.

Pretax income (loss) from nonmember business before profit from contract processing was negative in 1982, 1985, and 1986. However, profit from contract processing ***.

The value, quantity, and unit value (dollars per pound) of sales of FCOJM are shown in table 38.

Table 38
Sales of FCOJM for 4 U.S. cooperatives, accounting years 1982-86

Item	1982	1983	1984	1985	1986
Value.....1,000 dollars..	64,816	70,400	84,250	75,223	52,943
Quantity...1,000 pounds..	50,116	55,844	51,128	46,443	46,287
Unit value....per pound..	$1.29	$1.26	$1.65	$1.62	$1.14

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

Operations producing FCOJM and FCOJR 1/.—Selected financial data for U.S. cooperatives producing FCOJM and FCOJR are presented in table 39. Aggregate net proceeds resulting from member and nonmember sales before income taxes increased by 14.8 percent to $126.4 million in 1983, then declined by 26.7 percent to $92.7 million in 1984, decreased again, by 39.3 percent, to $56.3 million in 1985, and then increased to $66.6 million in 1986, a gain of 18.4 percent. The net proceeds margins (percent of net sales) during 1982-86 were 54.5, 56.6, 44.4, 29.2, and 46.8 percent, respectively. Pretax income (loss) from nonmember business before profit from contract processing was negative in 1982, 1985, and 1986. ***; however, even after profit from contract processing of *** million in 1985, there was a pretax loss from nonmember business of *** million.

The value, quantity, and unit value (dollars per pound) of sales of FCOJM and FCOJR are shown in table 40.

1/ One cooperative that produces FCOJM and FCOJR was unable to break out sales and expense data specifically for FCOJM and FCOJR and therefore included the data under the combined category of FCOJM, FCOJR, SSOJ, and other orange juice.

Table 39
Selected financial data of 5 U.S. cooperatives 1/ on their operations producing FCOJM and FCOJR, accounting years 1982-86

Item	1982	1983	1984	1985	1986
Net sales.....1,000 dollars..	202,085	223,379	208,726	192,486	142,405
Costs and expenses 2/.....do....	91,924	96,961	116,007	136,202	75,785
Net proceeds resulting from member and nonmember sales before income taxes 1,000 dollars..	110,161	126,418	92,719	56,284	66,620
Profit or (loss) from non-member business before contract processing income and income taxes 1,000 dollars..	(1,149)	1,269	3,112	(6,655)	(567)
Profit from contract processing 3/...1,000 dollars..	***	***	***	***	***
Profit or (loss) from nonmember business before income taxes 1,000 dollars..	***	***	***	***	***
Net gain or (loss) from futures market trans-actions 4/.....1,000 dollars..	***	***	***	***	***
Ratio of net proceeds resulting from member and nonmember sales before income taxes to net sales.....percent..	54.5	56.6	44.4	29.2	46.8

1/ The cooperatives are ***.
2/ Includes the cost of nonmember fruit, but does not include the cost of member fruit.
3/ ***.
4/ Not included above.

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

Table 40
Sales of FCOJM and FCOJR for 5 U.S. cooperatives, accounting years 1982-86

Item	1982	1983	1984	1985	1986
Value.....1,000 dollars..	202,085	223,379	208,726	192,486	142,405
Quantity...1,000 pounds..	148,382	151,373	126,876	109,330	107,034
Unit value....per pound..	$1.36	$1.48	$1.65	$1.76	$1.33

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

Operations producing FCOJM, FCOJR, SSOJ, and other orange juice.—Selected financial data for U.S. cooperatives producing FCOJM, FCOJR, SSOJ, and other orange juice (i.e., all orange juice combined) are presented in table 41. Aggregate net proceeds resulting from member and nonmember sales before income taxes increased by 15.2 percent to $168.4 million in 1983, then declined in both 1984 and 1985 to $95.0 million in 1985, a drop of 43.6 percent from 1983. Net proceeds increased by 18.0 percent to $112.1 million in 1986. Net proceeds margins (percent of net sales) fluctuated widely and irregularly—up from 44.6 percent in 1982 to 50.4 percent in 1983, then down to 42.1 percent in 1984 and 28.0 percent in 1985. The net proceeds margin improved in 1986 to 41.4 percent. The six cooperatives had aggregate pretax income from nonmember business in all years except 1985, when a pretax loss of *** million was incurred even after including a *** million profit from contract processing.

The value, quantity, and unit value (dollars per pound) of sales of FCOJM, FCOJR, SSOJ, and other orange juice are shown in table 42.

Table 41
Selected financial data of 6 U.S. cooperatives 1/ on their operations producing FCOJM, FCOJR, SSOJ, and other orange juice, accounting years 1982–86

Item	1982	1983	1984	1985	1986
Net sales.....1,000 dollars..	327,807	333,935	333,630	339,138	270,963
Costs and expenses 2/.....do....	181,635	165,543	193,234	244,119	158,859
Net proceeds resulting from member and nonmember sales before income taxes 1,000 dollars..	146,172	168,392	140,396	95,019	112,104
Profit or (loss) from non-member business before contract processing income and income taxes.....1,000 dollars..	2,514	2,818	7,619	(8,685)	819
Profit from contract processing 3/...1,000 dollars..	***	***	***	***	***
Profit or (loss) from nonmember business before income taxes 1,000 dollars..	***	***	***	***	***
Net gain or (loss) from futures market trans-actions 4/.....1,000 dollars..	***	***	***	***	***
Ratio of net proceeds resulting from member and nonmember sales before income taxes to net sales.....percent..	44.6	50.4	42.1	28.0	41.4

1/ The cooperatives are ***.
2/ Includes the cost of nonmember fruit, but does not include the cost of member fruit.
3/ ***.
4/ Not included above.

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

Table 42
Sales of FCOJM, FCOJR, SSOJ, and other orange juice for 6 U.S. cooperatives, accounting years 1982-86

Item	1982	1983	1984	1985	1986
Value.....1,000 dollars..	327,807	333,935	333,630	339,138	270,963
Quantity...1,000 pounds..	220,386	224,599	199,086	183,915	213,539
Unit value....per pound..	$1.49	$1.49	$1.68	$1.84	$1.27

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

Overall establishment operations.--Selected financial data for U.S. cooperatives on their overall establishment operations within which FCOJM, FCOJR, SSOJ, and other orange juice are produced are presented in table 43. Aggregate net proceeds resulting from member and nonmember sales before income taxes increased steadily from $130.3 million in 1982 to $162.1 million in 1984, or by 24.5 percent, then decreased to $113.8 million in 1985, a decline of 29.8 percent. Net proceeds then increased by 16.1 percent to $132.1 million in 1986. Net proceeds margins (percent of net sales) improved steadily from 31.7 percent in 1982 to 37.5 percent in 1984, dropped to 25.2 percent in 1985, and then rebounded to 35.6 percent in 1986. Aggregate pretax income from nonmember business, after profit from contract processing, increased from *** million in 1982 to *** million in 1983, and then to *** million in 1984. During 1985, however, a loss of *** million was incurred. Operations recovered in 1986 when a *** pretax profit was reported.

Table 43
Selected financial data of 6 U.S. cooperatives 1/ on their overall operations within which FCOJM, FCOJR, SSOJ, and other orange juice are produced and/or sold, accounting years 1982-86

Item	1982	1983	1984	1985	1986
Net sales.....1,000 dollars..	410,766	417,181	432,172	451,189	370,920
Costs and expenses 2/.....do....	280,502	278,281	270,043	337,390	238,830
Net proceeds resulting from member and nonmember sales before income taxes 1,000 dollars..	130,264	138,900	162,129	113,799	132,090
Profit or (loss) from nonmember business before contract processing income and income taxes 1,000 dollars..	3,895	4,041	9,415	(8,995)	(465)
Profit from contract processing 3/.....do....	***	***	***	***	***
Profit or (loss) from nonmember business before income taxes 1,000 dollars..	***	***	***	***	***
Net gain or (loss) from futures market transactions 4/.....do....	***	***	***	***	***
Ratio of net proceeds resulting from member and nonmember sales before income taxes to net sales.....percent..	31.7	33.3	37.5	25.2	35.6

1/ The cooperatives are ***.
2/ Includes the cost of nonmember fruit, but does not include the cost of member fruit.
3/ ***.
4/ Not included above.

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

Net proceeds margins for cooperatives that support and take no position on the petition for this investigation (no cooperatives opposed the petition) are compared in the following tabulation:

	Number of firms	1982	1983	1984	1985	1986
				Percent		
FCOJM:						
In support	3	***	***	***	***	***
No position	1	***	***	***	***	***
Total	4	45.6	37.0	46.0	44.0	47.0
FCOJM and FCOJR:						
In support	3	***	***	***	***	***
No position	2	***	***	***	***	***
Total	5	54.5	56.6	44.4	29.2	46.8
FCOJM, FCOJR, SSOJ, and other orange juice:						
In support	4	***	***	***	***	***
No position	2	***	***	***	***	***
Total	6	44.6	50.4	42.1	28.0	41.4
Overall establishment:						
In support	4	***	***	***	***	***
No position	2	***	***	***	***	***
Total	6	31.7	33.3	37.5	25.2	35.6

Value of plant, property, and equipment.--The data provided by the U.S. cooperatives on their end-of-period investment in productive facilities in which orange juice is produced are shown in table 44. The aggregate investments in productive facilities for extracting, concentrating, and freezing orange juice to produce bulk FCOJM, valued at cost, for the 1982-86 period were as follows: $35.0 million, $37.0 million, $38.5 million, $39.9 million, and $41.3 million, respectively. The book value of such assets steadily declined from $15.0 million in 1982 to $12.4 million in 1986.

The asset valuations for extracting, concentrating, and freezing orange juice to produce FCOJR and SSOJ, at original cost, for the 1982-86 period were as follows: ***. The book values of such assets were as follows: ***.

Table 44
Value of property, plant, and equipment of U.S. cooperatives producing orange juice by production processes, accounting years 1982-86

(In thousands of dollars)

Item	1982	1983	1984	1985	1986
Producing all products of establishment:					
Original cost	88,413	93,353	96,720	98,486	97,922
Book value	39,684	40,147	39,603	37,881	35,847
Number of firms reporting	6	6	6	6	6
Extracting, concentrating, freezing of orange juice from U.S. oranges to produce bulk FCOJM:					
Original cost	34,989	37,025	38,491	39,939	41,309
Book value	14,983	14,836	14,252	13,415	12,412
Number of firms reporting	5	5	5	5	5
Extracting, concentrating, freezing of orange juice from U.S. oranges to produce FCOJR and SSOJ directly:					
Original cost	***	***	***	***	***
Book value	***	***	***	***	***
Number of firms reporting	3	3	3	3	3
Packaging of retail and/or institutional packed FCOJR:					
Original cost	***	***	***	***	***
Book value	***	***	***	***	***
Number of firms reporting	2	2	2	2	2
Packaging of retail and/or institutional packed SSOJ and/or other orange juice:					
Original cost	***	***	***	***	***
Book value	***	***	***	***	***
Number of firms reporting	2	2	2	2	2

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

Capital expenditures and research and development expenses.—The data provided by the U.S. cooperatives relative to their capital expenditures for land, buildings, and machinery and equipment used in the manufacture of orange juice are shown in table 45. Total capital expenditures relating to extracting, concentrating and freezing orange juice to produce bulk FCOJM for the 1982-86 period were as follows: $1.6 million, $2.3 million, $1.5 million, $2.2 million, and $1.4 million, respectively. Total capital expenditures relating to extracting, concentrating, and freezing orange juice to produce FCOJR and SSOJ were as follows for the 1982-86 period: ***.

Research and development expenses for the U.S. cooperatives are shown in table 46.

Table 45
Orange juice: Capital expenditures by U.S. cooperatives, accounting years 1982-86

Item	1982	1983	1984	1985	1986
All products of the establishments:					
Land and land improvements					
1,000 dollars..	2,251	124	71	288	111
Building or leasehold improvements..do....	1,274	422	982	498	292
Machinery, equipment, and fixtures..do....	3,484	4,487	3,133	2,695	2,159
Total.....do....	7,009	5,033	4,186	3,481	2,562
Number of firms reporting.....	6	6	6	6	6
Extracting, concentrating, freezing of orange juice from U.S. oranges to produce bulk FCOJM and the warehousing, marketing, etc. thereof:					
Land and land improvements					
1,000 dollars..	48	30	60	288	78
Building or leasehold improvements..do....	545	149	268	385	54
Machinery, equipment, and fixtures..do....	967	2,164	1,211	1,509	1,291
Total.....do....	1,560	2,343	1,539	2,182	1,423
Number of firms reporting.....	5	5	5	5	5
Extracting, concentrating, freezing of orange juice from U.S. oranges to produce FCOJR and SSOJ directly, and the warehousing, marketing, thereof:					
Land and land improvements					
1,000 dollars..	***	***	***	***	***
Building or leasehold improvements..do....	***	***	***	***	***
Machinery, equipment, and fixtures..do....	***	***	***	***	***
Total.....do....	***	***	***	***	***
Number of firms reporting.....	3	3	3	3	3
Packaging of retail and institutional FCOJR and the marketing and warehousing of same:					
Land and land improvements					
1,000 dollars..	***	***	***	***	***
Building or leasehold improvements..do....	***	***	***	***	***
Machinery, equipment, and fixtures..do....	***	***	***	***	***
Total.....do....	***	***	***	***	***
Number of firms reporting.....	2	2	2	2	2
Packaging of retail and institutional SSOJ and other orange juice and marketing of same:					
Land and land improvements					
1,000 dollars..	***	***	***	***	***
Building or leasehold improvements..do....	***	***	***	***	***
Machinery, equipment, and fixtures	***	***	***	***	***
Total.....do....	***	***	***	***	***
Number of firms reporting.....	1	1	1	1	1

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

Table 46
Research and development expenses by U.S. cooperatives producing orange juice, by processing method and product, accounting years 1982-86

(In thousands of dollars)

Item	1982	1983	1984	1985	1986
Extracting, concentrating, freezing of orange juice from U.S. oranges to produce bulk FCOJM.....	***	***	***	***	***
Number of firms reporting..	5	5	5	5	5
Extracting, concentrating, freezing of orange juice from U.S. oranges to produce FCOJR and SSOJ directly.....	***	***	***	***	***
Number of firms reporting..	5	5	5	5	5
Packaging of retail and/or institutional-packed FCOJR.....	***	***	***	***	***
Number of firms reporting..	4	4	4	4	4
Packaging of retail and institutional-packed SSOJ and other orange juice.....	***	***	***	***	***
Number of firms reporting..	4	4	4	4	4

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

The Question of the Causal Relationship Between LTFV Imports and Alleged Material Injury

U.S. imports

U.S. imports of FCOJM 1/ from Brazil rose steadily, from 349 million gallons in crop year 1982/83 to 578 million gallons in crop year 1984/85, or by 66 percent, then declined to 501 million gallons in 1985/86, or by 13 percent (table 47). As noted earlier, one Brazilian producer (Cutrale) was excluded from the scope of Commerce's final affirmative LTFV determination. Imports from Brazil that are subject to investigation (i.e., total imports less imports from Cutrale) rose from *** million gallons in crop year 1982/83 to *** million gallons in crop year 1983/84, fell to *** million gallons in 1984/85, and then rose to *** million gallons in 1985/86.

Total imports mirrored the trend exhibited by imports from Brazil, rising steadily from 377 million gallons in 1982/83 to 597 million gallons in 1984/85, representing an overall increase of 58 percent, then declining to 546 million gallons, or by 8 percent, in 1985/86.

The average unit value of imports from Brazil (based on c.i.f., duty-paid values) increased from $1.23 per gallon in 1982/83 to $1.62 per gallon during 1984/85, before declining sharply to $1.15 in 1985/86. Unit values of imports from Mexico, Belize, and Honduras also decreased sharply in 1985/86.

Market penetration

As mentioned earlier, no statistics exist on the portion of exported FCOJ that consists of the imported product. This casts doubt on the meaningfulness of traditional market penetration analysis (i.e., the ratio of imports to apparent U.S. consumption) since at least some imported FCOJ is known to be exported. Such exports of imported FCOJ should be subtracted from total imports before analyzing market penetration. However, since most imported FCOJ is blended with the domestic product, albeit in varying proportions, exporter-processors have generally been unable to determine the specific composition of each shipment. In this section, therefore, the quantity of imports from Brazil is compared with total available FCOJ (U.S. production plus imports plus carryover stock) and with total U.S. production of FCOJ from the Florida crop.

The ratio of LTFV imports from Brazil (i.e., total imports less imports from Cutrale) to total available FCOJ increased from *** percent in 1982/83 to *** percent in 1983/84, decreased to *** percent in 1984/85, and then rose to *** percent during 1985/86 (table 48).

The ratio of LTFV imports from Brazil to production from the Florida crop was *** percent in 1982/83; it more than doubled to *** percent the next year, and then fell to *** percent in 1984/85. Such imports decreased to *** percent of Florida production during 1985/86.

1/ All quantity data on imports of FCOJM are collected and reported in single-strength-equivalent form.

Table 47
FCOJM: U.S. imports for consumption, by countries, crop years 1982/83 to 1985/86

Country	1982/83	1983/84	1984/85	1985/86
	Quantity (1,000 gallons) 1/			
Brazil	349,084	510,056	578,133	500,510
Mexico	26,050	17,124	8,949	32,043
Belize	–	2,123	3,785	6,725
Canada	371	105	1,722	3,506
Honduras	–	–	1,371	489
Other	1,585	4,121	2,627	2,896
Total	377,090	533,529	596,587	546,170
	Customs value (1,000 dollars)			
Brazil	280,581	525,548	696,357	366,205
Mexico	19,727	19,130	10,731	18,362
Belize	–	3,296	6,131	6,371
Canada	390	159	3,288	5,310
Honduras	–	–	1,801	352
Other	2,990	4,841	3,490	3,196
Total	303,688	552,974	721,798	399,796
	Customs unit value (per gallon)			
Brazil	$0.80	$1.03	$1.20	$0.73
Mexico	.76	1.12	1.20	.57
Belize	–	1.55	1.62	.95
Canada	1.05	1.51	1.91	1.51
Honduras	–	–	1.31	.72
Other	1.89	1.17	1.33	1.10
Average	.81	1.04	1.21	.73
	C.i.f. plus duty value (1,000 dollars)			
Brazil	429,980	742,287	938,602	574,449
Mexico	28,865	25,171	13,887	29,567
Belize	–	3,423	6,349	7,042
Canada	534	195	3,889	6,540
Honduras	–	–	1,890	385
Other	3,743	6,131	4,241	4,035
Total	463,122	777,207	968,858	622,018
	C.i.f. plus duty unit value (per gallon)			
Brazil	$1 23	$1.45	$1.62	$1.15
Mexico	1.11	1.47	1.55	.92
Belize	–	1.61	1.68	1.05
Canada	1.44	1.86	2.26	1.86
Honduras	–	–	1.37	.79
Other	2.36	1.49	1.61	1.39
Average	1.23	1.46	1.62	1.14

1/ Single-strength equivalent.

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

Table 48
FCOJ: U.S. imports from Brazil and total available FCOJ, crop years 1982/83 to 1985/86

Item	1982/83	1983/84	1984/85	1985/86
	Quantity (million SSE gallons)			
Imports from Brazil sold at:				
Less than fair value	***	***	***	***
Not less than fair value	***	***	***	***
Total imports from Brazil	349	510	578	501
Total available FCOJ	1,278	1,196	1,295	1,276
Production from the Florida crop	685	490	479	535
	Value (million dollars)			
Imports from Brazil sold at:				
Less than fair value	***	***	***	***
Not less than fair value	***	***	***	***
Total imports from Brazil	412	776	862	189
Total available FCOJ	1,604	2,043	2,079	1,431
Production from the Florida crop	860	832	769	600
	Percent of total quantity			
Ratio to total available FCOJ of imports from Brazil sold at—				
Less than fair value	***	***	***	***
Not less than fair value	***	***	***	***
Total imports from Brazil	27	43	44	41
Ratio to production from the Florida crop of imports from Brazil sold at—				
Less than fair value	***	***	***	***
Not less than fair value	***	***	***	***
Total imports from Brazil	51	104	121	94
	Percent of total value			
Ratio to total available FCOJ of imports from Brazil sold at—				
Less than fair value	***	***	***	***
Not less than fair value	***	***	***	***
Total imports from Brazil	26	38	42	36
Ratio to production from the Florida crop of imports from Brazil sold at—				
Less than fair value	***	***	***	***
Not less than fair value	***	***	***	***
Total imports from Brazil	48	93	112	87

Source: Compiled from official statistics of the U.S. Department of Commerce, from data of the Florida Citrus Processors Association, and from data received in response to the questionnaires of the U.S. International Trade Commission.

Prices

Prices for FCOJ are determined in a market composed of orange growers, extractor-processors, and reconstitutor-purchasers. Oranges grown for FCOJ production are sold in three ways: on the spot (cash) market, through participation contracts, and through cooperatives. Only the oranges transacted on the spot market carry an actual transaction ("cash") price. Growers who sell oranges through participation contracts either receive a negotiated minimum per box price plus a return per box based on the prices received for sales of FCOJM, or receive a return per box as members of cooperatives. Representative prices for oranges sold to cooperatives and through participation contracts can be derived from the price for FCOJM by subtracting out processing and pick-and-haul costs. 1/ This process produces what are known as "on-tree" prices for oranges.

While spot market transactions historically have accounted for only a small share of all oranges purchased by extractors, in recent years the quantity of oranges sold through the cash market has increased (see tables 6, 7, and 8). The high prices for round oranges which prevailed in some of the 1980-85 crop-years led to higher minimum per box prices under participation contracts. In the recent crop-year, as orange production has risen and cash-market prices have declined, extractors have been moving out of contract purchases in order to take advantage of these lower cash prices. Bobby McKown of Florida Citrus Mutual stated that another reason growers shifted away from participation contracts were cash flow shortages. He stated that growers were unable to wait for payments under participation contracts and were forced to sell their fruit on a cash basis. 2/

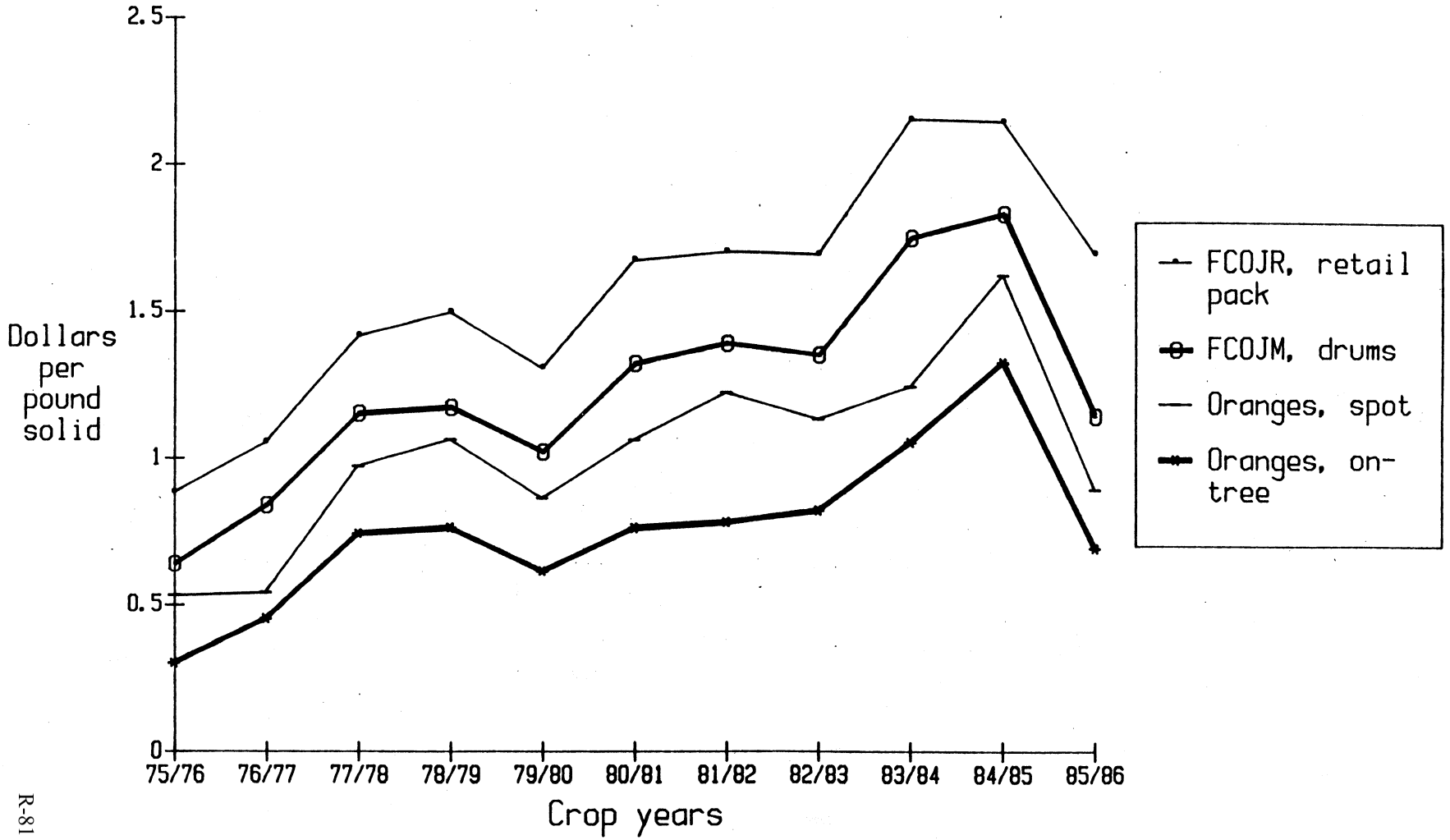
Because the cost of oranges is the primary component of FCOJM and FCOJR production costs, the prices of FCOJM, FCOJR, and oranges are closely related. Figure 5 demonstrates that FCOJR retail pack prices and Florida FCOJM drum prices move with spot and on-tree orange prices.

Frozen concentrated orange juice is sold either as FCOJM in 55 gallon drums and/or tankers, or as FCOJR in the retail and institutional market. Both FCOJM and FCOJR may be entirely of U.S. origin, entirely imported, or a blend/mix of U.S. and imported product. The firms that sell FCOJM and/or FCOJR may be U.S. extractor-processors, importers, or reconstitutors. 3/

The unit of sale depends on the market where it is being sold. Retail and institutional purchasers buy FCOJR already packaged, and prices are quoted per case. Purchasers of FCOJM buy in 55-gallon drums or tanker truckloads, and prices are quoted per pound of solids. 4/ The bulk FCOJM (in drums and tankers) is mostly used by repackers to make reconstituted, single-strength orange juice, which is sold "ready to drink"; some repackers also pack FCOJR, as well.

1/ Adjusted for the value of byproducts recovered in the processing of oranges.
2/ Hearing transcript at pp. 94-95.
3/ Not all processors participate in both retail and bulk markets.
4/ Pounds of solids is a measurement of the internal quality of citrus fruit. In determining the pounds of solids per 90-pound box of oranges, two factors are used: (1) the amount of juice per box (in pounds) and (2) the amount of fruit sugars in the juice (expressed as percent solids or degrees Brix). When these two factors are known, multiplying them together produces the pounds of solids per box.

Figure 5.--FCOJR, FCOJM, and orange prices: Season-average prices received for domestic FCOJR in retail containers, Fcojm in 55-gallon drums, spot market prices for oranges, and derived on-tree prices, by crop years, 1975/76 to 1985/86.



R-81

R-81

Source: Compiled from data provided by the Florida Department of Citrus and Florida Citrus Mutual.

There is also a futures market for FCOJM in which domestic, imported, or blended FCOJM is traded. In order for FCOJM to be bought and sold on the futures market it must meet two criteria: (1) it must be futures grade; 1/ and (2) it must be warehoused in Florida. 2/ The futures price for FCOJM has been important in the determination of contract prices for FCOJM in recent years. Questionnaire responses indicate that contract prices are often based on the futures price. 3/ For example, ***, reported a contract price based on the following formula: (***). In addition, some sources indicate that spot-market prices are also being tied to the futures price for FCOJM.

Various discounts are given on purchases of both domestic and Brazilian FCOJM. Besides the usual 2-percent discount for payment within 10 days, many retailers meet industry-wide promotional discounts, and some producers offer discounts for large quantity purchases of FCOJM.

Domestic supply-side factors.—Orange production varies with weather conditions and is highly susceptible to cold weather. In freeze years the domestic orange crop may be damaged and reduced. When this happens, prices for the existing oranges generally increase, driving up production costs for FCOJM. If damage to the trees is extensive enough, orange production may be reduced in the following season, as well.

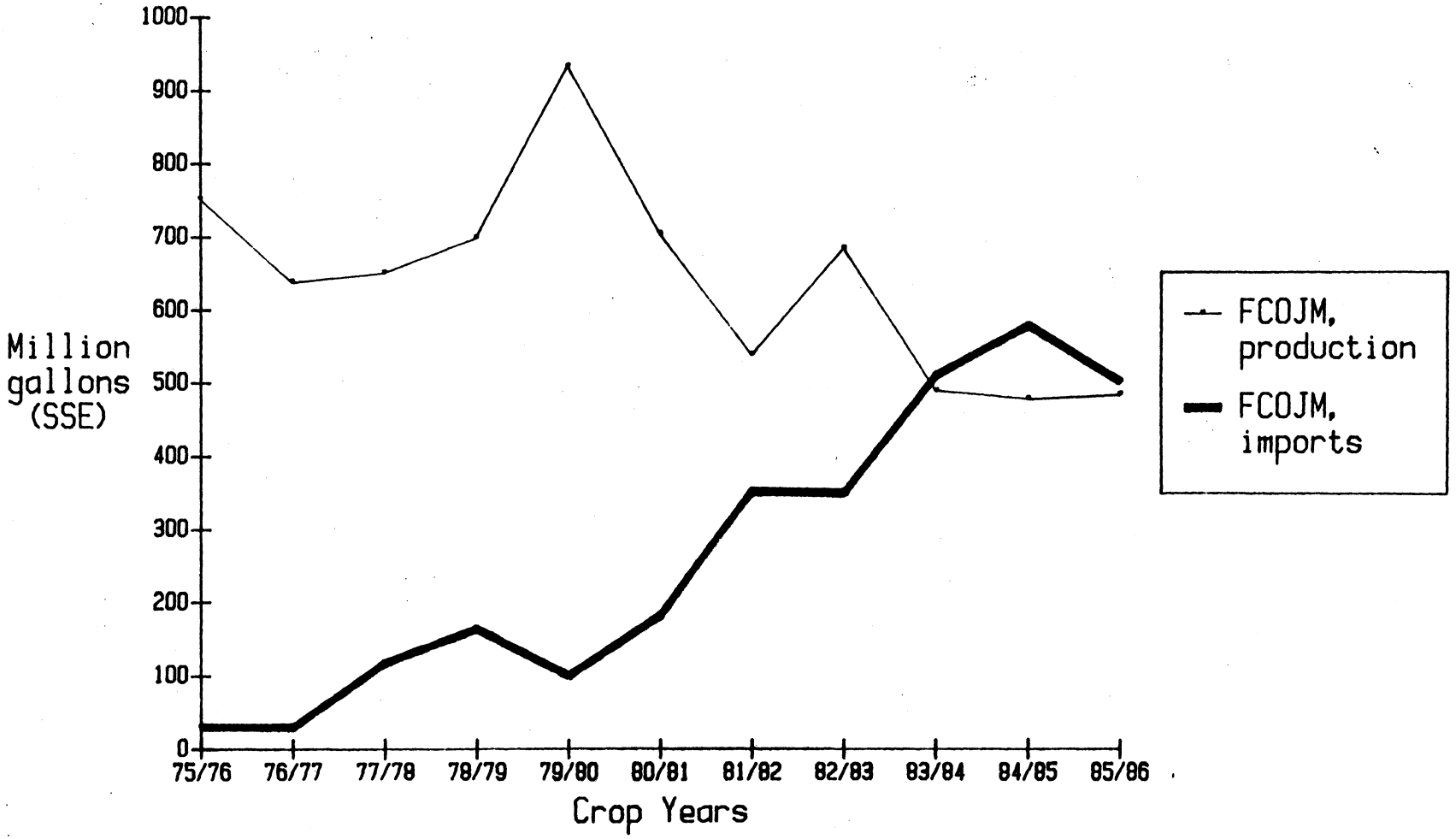
Processors may use comparatively more imported FCOJM in freeze years as a supplement to reduced domestic supplies. Figure 6 depicts the movement in production and imports of FCOJM over the 1975/76-1985/86 period. It is clear from figure 6 that production has generally been declining from it's peak in the 1979/80 season, that imports have generally been increasing, and that imports and domestic production tend to move in opposite directions. In periods of reduced domestic supplies, imports keep FCOJM prices from being as high as they would otherwise be. This price effect is partially transferred through to growers, as processors are less willing to pay premium prices for oranges. Also, this price effect may reduce extractors' potential receipts for various orange juice products, which may, in turn, reduce the returns received by growers participating in cooperatives and participation contracts. 4/

Changes in domestic output and changes in import levels simultaneously influence the price of FCOJM in the United States. Because of the lingering damage of four freezes during the five growing seasons between 1980/81 and 1984/85, domestic output of FCOJM declined markedly, exerting upward pressure

---

1/ The FCOJM must be grade A with a Brix value of at least 51 degrees; a BAR of not less than 13 and no more than 19; and a combined score of at least 94, with individual minimums of 37 for color, 37 for flavor, and 19 for defects.
2/ Until September 1986 only drums of FCOJM were allowed to be traded on the futures market; since then tanker deliveries have also been allowed. Futures contracts are in units of 15,000 pounds of solids.
3/ See also hearing transcript at pp. 112 and 133-134.
4/ However, extractors' receipts may rise in the presence of increased imports if the concomitant reduction in prices results in an even larger increase in consumption.

Figure 6.--FCOJM production and imports: Total domestic production of FCOJM from oranges, and total imports of FCOJM, by crop years, 1975/76 to 1985/86.



Source: Florida Citrus Mutual, Annual Statistical Report, 1985-86 Season, and updates.

R-83

on prices (figure 7). The lack of U.S. product caused processors to source FCOJM from abroad, particularly from Brazil. Imports rose noticeably during the freeze years in the 1980-85 period (figure 6).

In the current growing season, domestic production has recovered somewhat, because no freeze occurred this season. This factor has contributed to the decline of prices for both oranges and FCOJM.

Domestic demand-side factors.--Demand for FCOJM in the United States is derived through the combined retail demand for FCOJR, SSOJ, and other non-100 percent juice beverages that contain orange juice. 1/ Domestic consumption has a seasonal pattern and tends to be highest in the fall, winter, and spring months, and then tends to drop off in the summer. Processors contend that as consumption begins to increase in the fall, inventories are drawn down, and imports tend to rise at this time to offset this draw-down. Imports then tend to level off and gradually decline as domestic oranges are harvested and processed throughout the winter and spring.

The Florida Department of Citrus administers two programs designed to increase the demand for orange juice. The first is an advertising rebate program for domestic purchasers of 100-percent Florida FCOJM. This program began in the 1983-84 season and was set up to rebate advertising funds to sellers of licensed brands of FCOJR and single-strength juice when their products were made of 100-percent Florida FCOJM. Mr. Dan Gunther of the Florida Department of Citrus estimates that in the current crop year between $2.7 and $3.0 million dollars will be rebated by the end of the fiscal year in June 1987.

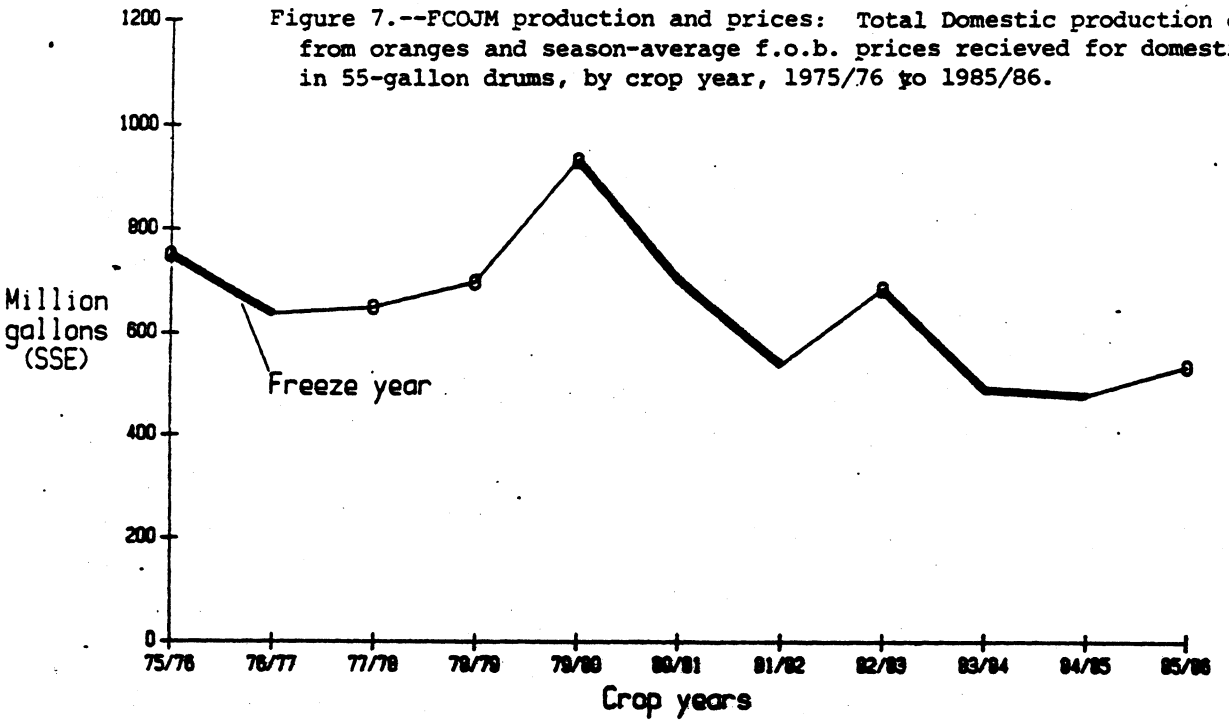
The second program is an advertising program to promote the sale of orange juice. This program, which began in the fall of 1985, was originally designed to promote orange juice over adulterated products that contained little or no juice. These products contained orange base but were packaged and sold as orange juice. During the current crop-year the program was modified to promote Florida juice and juice that met Florida standards. Florida standards are slightly higher than USDA standards and juices that meet these specifications are encouraged to carry the Florida seal of approval. Products that carry this seal may be of pure domestic product or blend of domestic and imported juice. These programs are funded by a citrus tax of 16 cents per box that is collected from the growers by the processors.

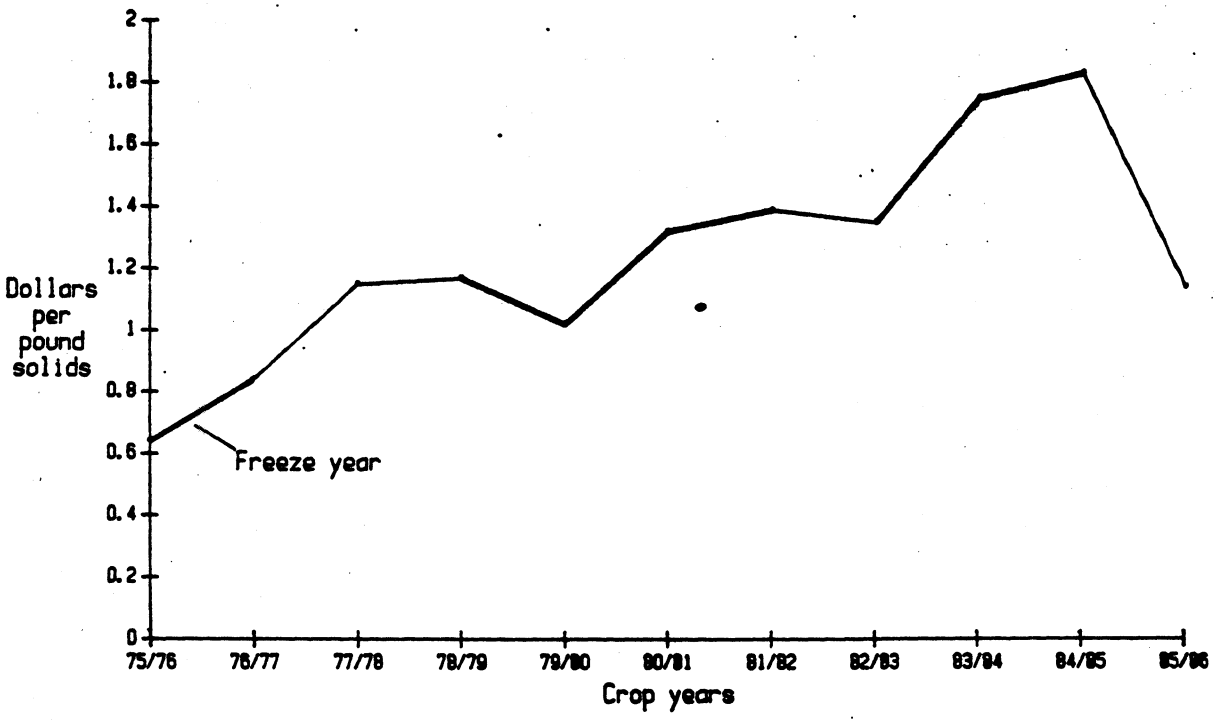
Industry sources indicate that domestic consumption of FCOJR seems to be declining at the retail level, but that ready-to-drink products (SSOJ and other orange juice containing beverages) seem to be gaining in popularity among consumers. Mr. Phillip Herndon indicated at the Commission hearing that the ready-to-drink market was now the industry's largest retail market. This change has increased the demand for FCOJM in bulk form for reconstitution and

---

1/ A detailed description of how prices are determined using regression results is presented in App. G.

Figure 7.--FCOJM production and prices: Total Domestic production of FCOJM from oranges and season-average f.o.b. prices recieved for domestic FCOJM in 55-gallon drums, by crop year, 1975/76 to 1985/86.





Source: Data provided by Florida Department of Citrus, and Florida Citrus MUtual.
Note; Heavier lines denote freeze years

repackaging. In addition, the ready-to-drink market has become more competitive in recent years, as many new products have become available. Industry sources report that it will be difficult for FCOJR to maintain its market share in the face of such competition. 1/ This factor may influence retailers and manufacturers to lower prices for FCOJR in retail cans in an attempt to attract consumers.

International factors in the FCOJM market.—The increasing levels of imports of FCOJM from Brazil may be traced to a number of sources. First, Brazilian production of oranges and FCOJM has been on the increase. 2/ Since the consumption of orange juice in Brazil has been relatively flat during 1982-87, this increased output contributed to higher levels of exports of Brazilian FCOJM to the world market. 3/

Second, the recent and successive freezes in Florida reduced the domestic orange crop dramatically, which meant that more imported FCOJM was required to maintain production levels for U.S. consumers. 4/ Traditionally, Florida freezes have served to drive U.S. and world FCOJM prices to higher levels, perhaps inducing Brazil to increase production destined for the world market. Exports of Brazilian FCOJM to Europe were at a record high in 1981 as a result of strong demand in Europe resulting from relatively lower prices; such exports declined drastically in 1982, increased in 1983 and 1984, then declined sharply in 1985, probably because of the record high prices. 5/ As the European market shrank, Brazil, which exported much of its production to Europe, looked to other markets to sell its FCOJM. Thus, the U.S. market may have received some of the Brazilian FCOJM in 1985 that would otherwise have gone to Europe. 6/ Another factor that may have influenced Brazil to sell its FCOJM in the United States was the strength of the U.S. dollar prior to the 1985/86 crop year. Because Brazil prices it's FCOJM in dollar terms internationally, the strength of the U.S. dollar made the U.S. market an attractive source of foreign exchange currency. Conversely, the strength of the U.S. dollar vis-a-vis European currencies made the Brazilian FCOJM relatively more expensive in those countries and may have caused a reduction of sales to that market.

However, these recent trends could reverse themselves. The recent drought in Brazil is expected to reduce 1986/87 Brazilian orange production

---

1/ Based on an interview with Bobby McKown and Jerry Graham of Florida Citrus Mutual, May 22, 1986.
2/ Transcript of staff conference, June 2, 1986, p. 22, testimony of Bobby McKown.
3/ See this report at table 58.
4/ Based on an interview with Cliff Beasley, Florida Citrus Processors Association, May 22, 1986.
5/ European imports from Brazil were 445 million SSE gallons in 1981, 234 in 1982, 321 in 1983, 354 in 1984, and 200 in 1985. (Source: Bank of Brazil for 1980-83, Foodnews/Eurostat for 1984-85.)
6/ Based on an interview with Dan Gunter, Economic Research Director, Florida Department of Citrus, May 21, 1986; and Mark G. Brown and Jonq-Ying Lee, "World Orange Juice Trends," paper presented to the Florida Citrus Commission, Jan. 20, 1987.

substantially. 1/ In addition, Florida production is on the rise and is expected to grow over time as groves are replanted further south to escape the threat of future freezes. In the absence of future freezes, the current and anticipated increase in domestic production may reduce the need for imports as a supplement to domestic production. 2/ Furthermore, the recent weakening of the U.S. dollar makes exports of Brazilian FCOJM to Europe relatively less expensive, and this may divert some Brazilian exports to that market in response.

Trends in prices.—Price data on FCOJM and oranges were gathered from a variety of sources. Florida Citrus Mutual, the Florida Citrus Processors Association, and the Florida Department of Citrus provided data to the Commission. The Commission also received questionnaires with usable pricing information from 52 producers, importers, and purchasers of FCOJM. The Commission requested producers and importers to separate their pricing data by a variety of specifications. These categories included contract and spot prices; sales to extractors versus sales to nonextractors; sales of FCOJM with or without oils and essence; and sales of FCOJM in 55-gallon drums or tankers. The weighted-average prices received by the Commission showed virtually no price differences between any of the categories listed above. One reason for this may be that FCOJM prices can fluctuate daily. Because the price of FCOJM can change daily, weighted-average prices collected on a monthly bases may not include small price differentials resulting from the aforementioned categories. Another factor that may dilute price differentials between contract and spot prices is that both prices are based largely on the prices in the futures market. A number of questionnaire respondents indicated that their contract prices were derived from a futures price. In addition, representatives from both the petitioners and respondents indicated at the Commission hearing that the futures market was a good indicator of prices. 3/ If the futures market is indeed a good indicator of future prices, then differences in long-term contract prices and spot prices will be minimal. Therefore, pricing information reported by producers, importers, and purchasers are presented in the following discussion in their aggregate form.

Questionnaire respondents were also requested to provide information on the USDA grade, the USDA total score, and the Brix-acid ratio of individual sales. Testimony at the public hearing and questionnaire responses indicated that virtually no FCOJM is sold at grade B or with less that a 94 total score. Also, as long as the Brix-acid ratio falls within a fairly wide range, there are no price differences. 4/

1/ Transcript of staff conference at pp. 25-26 and 62-63 and Hearing transcript at pp. 214-217.
2/ Based on an interview with representatives of Florida Citrus Mutual, May 21, 1986 cited above.
3/ Phillip Herndon (Alcoma), pp. 70-71; William Tinklepaugh, pp. 111-113.
4/ Hearing transcript pp. 54-56.

Sales prices reported by importers and producers followed a similar trend. Prices rose irregularly during the first 6 months of 1984, then stabilized through approximately May 1985 before beginning a steady decline through October 1986. Prices reported for November and December 1986 showed an increase (table 49).

Purchasers reported prices paid for 100-percent domestic, Brazilian, and blended FCOJM. These price trends are similar to those reported by producers and importers. The prices reported for 100-percent domestic FCOJM may be slightly overstated because purchasers are eligible to receive advertising funds from the Florida Department of Citrus as detailed above. These advertising allowances are not reflected in the reported price trends (table 50).

Table 49
FCOJM: Weighted-average f.o.b. sales prices as reported by producers and importers, and quantities sold, by months, January 1984-December 1986

Period	U.S. Quantity	U.S. Price	Brazil Quantity	Brazil Price
	1,000 pounds solid	Per pound	1,000 pounds solid	Per pound
1984:				
January	1,157	$1.26	4,068	$1.31
February	1,897	1.33	13,346	1.62
March	1,559	1.55	9,559	1.21
April	1,509	1.53	9,124	1.60
May	1,860	1.63	9,932	1.58
June	1,831	1.58	6,631	1.58
July	3,272	1.76	6,922	1.59
August	2,874	1.76	8,284	1.76
September	1,270	1.72	9,413	1.67
October	1,438	1.75	6,646	1.71
November	1,130	1.66	8,471	1.65
December	1,042	1.66	9,762	1.63
1985:				
January	1,273	1.68	12,026	1.63
February	989	1.73	2,166	1.53
March	1,270	1.68	9,434	1.77
April	1,113	1.69	7,257	1.76
May	1,846	1.61	9,749	1.64
June	1,254	1.59	10,654	1.54
July	1,518	1.48	8,130	1.51
August	1,336	1.49	11,184	1.43
September	1,212	1.43	19,236	1.42
October	1,231	1.41	18,859	1.41
November	911	1.31	20,575	1.20
December	1,382	1.20	15,509	1.18
1986:				
January	2,092	1.12	20,891	1.12
February	1,062	1.08	12,434	1.06
March	1,138	1.00	18,256	1.06
April	1,207	1.04	26,542	1.01
May	1,633	.97	13,760	.97
June	1,247	1.03	20,478	1.00
July	1,509	1.03	23,854	.98
August	1,791	1.03	31,831	.99
September	1,333	1.03	19,968	.99
October	1,787	.99	23,400	1.05
November	1,295	1.10	26,337	1.15
December	3,719	1.17	27,966	1.18

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

Table 50
FCOJM: Weighted-average f.o.b. purchase prices of U.S., Brazilian, and blended FCOJM, as reported by purchasers, and quantities purchased, by months, January 1984-December 1986

Period	U.S.		Brazil		Blended	
	Quantity	Price	Quantity	Price	Quantity	Price
	1,000 pounds solid	Per pound	1,000 pounds solid	Per pound	1,000 pounds solid	Per pound
1984:						
January	5,275	$1.46	7,147	$1.20	675	$1.32
February	4,281	1.61	5,971	1.45	713	1.33
March	2,802	1.67	28,759	1.57	736	1.39
April	4,261	1.82	19,678	1.57	784	1.49
May	4,584	1.82	2,061	1.61	1,407	1.61
June	1,195	1.79	15,088	1.60	876	1.62
July	396	1.82	918	1.45	1,015	1.66
August	378	1.82	8,198	1.51	1,174	1.65
September	1,759	1.82	21,857	1.60	829	1.61
October	1,884	1.79	24,969	1.61	1,008	1.74
November	1,550	1.61	13,795	1.52	935	1.79
December	5,039	1.79	45,417	1.62	846	1.81
1985:						
January	5,297	1.71	33,828	1.66	1,743	1.62
February	4,407	1.79	2,923	1.72	1,724	1.75
March	3,267	1.75	19,942	1.77	1,153	1.80
April	4,977	1.71	17,067	1.76	1,218	1.76
May	2,895	1.64	9,900	1.73	1,176	1.57
June	821	1.52	5,296	1.69	229	1.66
July	1,206	1.54	11,028	1.56	2,568	1.53
August	1,262	1.52	3,981	1.49	1,869	1.54
September	1,139	1.50	9,983	1.42	622	1.45
October	977	1.34	21,463	1.41	544	1.36
November	970	1.28	13,963	1.47	890	1.34
December	1,040	1.29	11,030	1.20	523	1.23
1986:						
January	1,822	1.16	20,677	1.10	909	1.12
February	1,619	1.18	11,225	1.03	950	1.03
March	1,152	1.06	15,221	1.04	1,104	.94
April	2,058	1.10	14,373	1.01	1,122	.97
May	2,172	1.06	20,699	1.01	865	1.09
June	2,532	.89	12,502	1.02	450	.98
July	1,415	1.05	33,870	.98	514	.99
August	2,203	1.05	16,889	1.01	517	.98
September	3,167	1.05	14,554	1.01	721	1.01
October	926	1.07	24,962	1.07	526	1.01
November	976	1.12	20,700	1.16	410	1.16
December	3,315	1.23	23,330	1.17	446	1.15

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

As mentioned, figure 7 shows the trend in domestic FCOJM drum prices over the past 10 crop years. Prices tend to rise sharply in freeze years, as shown in the figure, and the successive freezes between 1980/81 and 1984/85 drove domestic prices to an all-time high in 1984-85. Since that time, however, domestic production has rebounded somewhat, and domestic prices have declined. Table 51 lists published monthly FCOJM prices in tankers and drums.

Table 51
FCOJM: F.o.b. prices reported by Florida processors to Florida Citrus Mutual, by months, January 1985-January 1987 1/

(Per pound solids)

Period	Tankers	Drums
1985:		
January	$1.76	$1.83
February	1.80	1.85
March	1.80	1.85
April	1.72	1.77
May	1.65	1.70
June	1.57	1.62
July	1.50	1.55
August	1.44	1.49
September	1.41	1.46
October	1.37	1.42
November	1.26	1.31
December	1.22	1.27
1986:		
January	1.14	1.19
February	1.10	1.15
March	1.01	1.06
April	1.01	1.06
May	1.01	1.06
June	1.01	1.06
July	1.01	1.06
August	1.01	1.06
September	1.01	1.06
October	1.12	1.17
November	1.19	1.24
December	1.19	1.24
1987:		
January	1.29	1.34

1/ Prices reported for January 1987 are prices in effect as of January 5, 1987.

Source: Compiled from data submitted by processors to Florida Citrus Mutual.

Brazilian minimum export prices.—In the past, the Brazilian Government had a minimum export price for FCOJM, which placed a floor on the amount Brazilian exporters had to repatriate to Brazil on sales of FCOJM. Actual transaction prices may have differed from this minimum price, and there may have been transactions that took place at less than the legal minimum. During the 1985/86 season, the minimum export price was revised downward in November 1985 and January 1986. In April 1986, the minimum export price was abolished, and an export license price was established. This price is likely to be identical in effect to the minimum export price; Brazilian exporters now can only receive an export license if they agree to repatriate no less than the export license price. When put into place, the export license price represented another downward adjustment of Brazil's minimum acceptable price. The tabulation below shows the trend in the minimum export price in recent years:

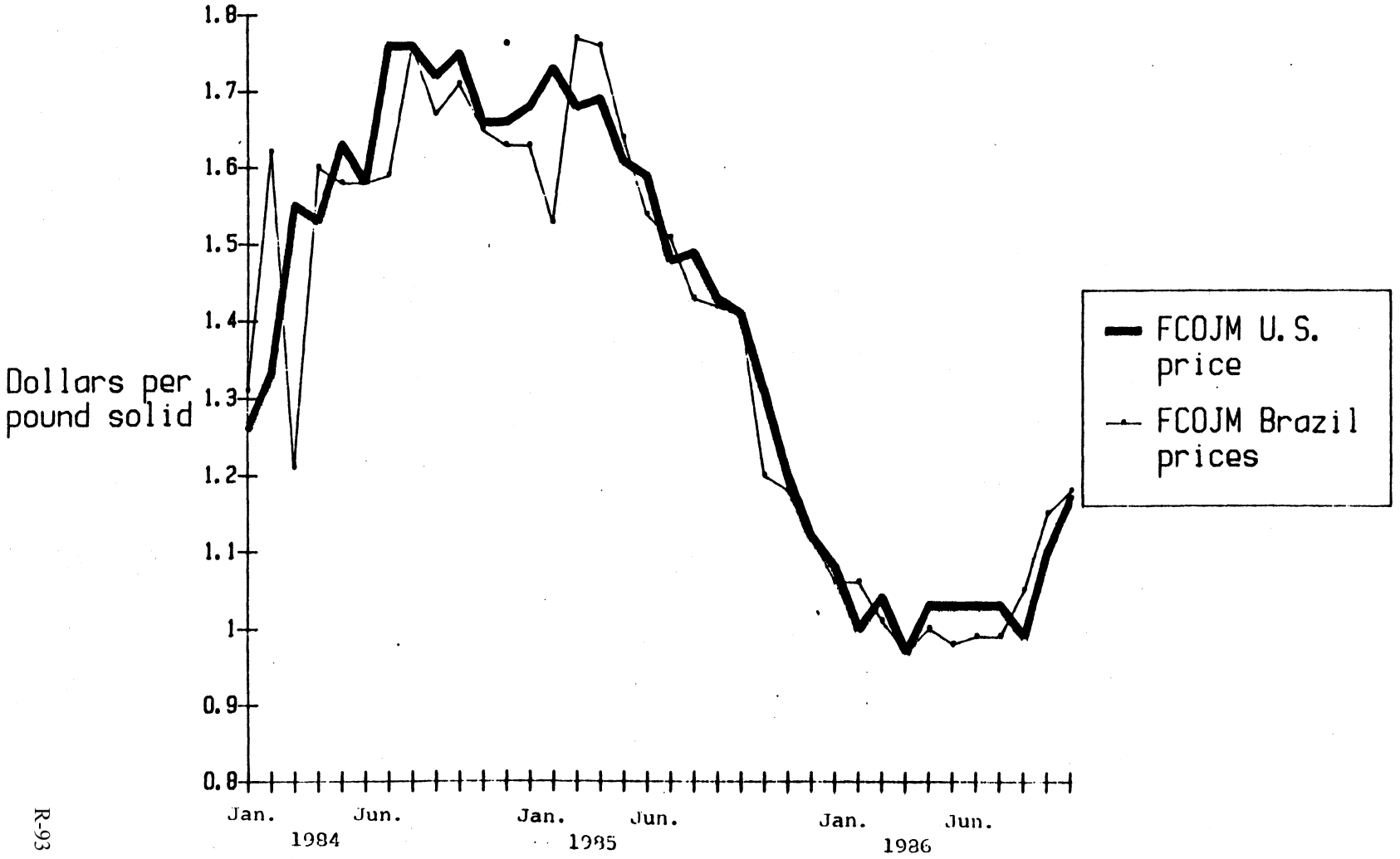
Crop year	MEP (per metric ton)
1978/79	$900
1979/80	900
1980/81	900
1981/82	1200
1982/83	1200
1983/84:	
January	1250
October	1700
1984/85:	
January	1800
October	1400
November	1150
1985/86:	
January	1000
April 1/	800

1/ Export license price.

Price comparisons.—Comparing monthly sales prices of U.S. FCOJM with the price of the Brazilian product, in table 49, shows the United States as having the lowest price during 11 months in 1984–86. Brazil had a lower price on 20 occasions, and during 5 months the FCOJM sold at the same price. The difference in pricing ranged from the Brazilian FCOJM selling 34 cents per pound below the U.S. price to 29 cents above the price of U.S. FCOJM. Usually, however, the difference in price was less than 5 cents per pound solid (fig. 8).

Comparing purchase prices paid for U.S. and Brazilian FCOJM in table 50 yielded 26 instances where the Brazilian FCOJM was lower priced and 9 months where the U.S. product was priced lower. During 1 month both products sold for the same price. Brazilian FCOJM was priced lower than blended product during 16 months, on 15 occasions the blended was the least expensive, and during 5 months the products were priced the same.

Figure 8.-- FCOJM prices: Domestic and Brazilian f.o.b. prices as reported by producers and importers, by month, 1984-86.



Source: Compiled from data submitted in responce to questionnaires of the United States International Trade Commission.

R-93

Inland transportation costs

Information on transportation costs obtained in the investigation indicates that most domestic producers and importers quote prices as f.o.b. plant or port, and that the majority of purchasers pay transport costs. Freight costs as a percentage of the f.o.b. price commonly range from 2 to 5 percent, although they may exceed that for longer distance shipments. Some industry sources suggest that Florida extractor-processors might have trouble competing with imported FCOJM from Brazil in markets far from Florida that are served by a nearby port. Brazil charges essentially the same delivered price to both Florida and non-Florida ports. Transportation differentials have apparently become significant in recent crop years as much more Brazilian FCOJM is entering the United States in non-Florida ports. The following tabulation shows the percentage of Brazilian FCOJM entering Florida ports and ports other than Florida:

	December-November					Dec-July
Port	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86
Florida.....	80	81	66	63	55	46
Other.....	20	19	34	37	45	54

These data may suggest that importers are selling directly to the marketplace, rather than landing juice in Florida for blending with domestic FCOJM before selling to the U.S. market. Another reason for selling directly to the marketplace besides the transportation differentials may be the Florida Equalization Tax. This tax is a 3-percent tax on all FCOJM products that move through Florida. FCOJM landed at non-Florida ports avoids this tax.

Exchange rates

Quarterly data reported by the International Monetary Fund indicate that during January 1984-December 1986 the nominal value of the Brazilian cruzado 1/ depreciated relative to the U.S. dollar in every successive interval except one, by an overall 91.9 percent (table 52). 2/ However, vastly higher levels of inflation in Brazil relative to those in the United States over the 12-quarter period erased the export price advantage gained through currency depreciation. The value of the Brazilian cruzado adjusted for the relative economic movement of each currency fluctuated during 1984-85 and then increased in 1986, such that by October-December 1986 3/ the real value had achieved a level that was 12.3 percent above its January-March 1984 level.

1/ Nominal Brazilian exchange-rate data for October-December 1986, the last quarter of the interval under investigation, are reported for October-November only.
2/ International Financial Statistics, February 1987.
3/ Real Brazilian exchange-rate data for October-December 1986, the last quarter of the interval under investigation, is derived from the Brazilian Producer Price Index covering October only and from the nominal Brazilian exchange rate index covering October-November only.

Table 52
U.S.-Brazilian exchange rates: 1/ Nominal-exchange-rate equivalents of the Brazilian cruzado in U.S. dollars, real-exchange-rate equivalents, and producer price indicators in the United States and Brazil, 2/ indexed by quarters, January 1984-December 1986

(January-March 1984=100)

Period	U.S. Producer Price Index	Brazilian Producer Price Index	Nominal-exchange-rate index	Real-exchange-rate index 3/
			——US dollars/cruzado——	
1984:				
January-March.....	100.0	100.0	100.00	100.0
April-June.....	100.7	132.9	75.36	99.5
July-September.....	100.4	177.3	56.91	100.5
October-December....	100.2	247.8	41.76	103.3
1985:				
January-March.....	100.0	342.6	30.32	103.9
April-June.....	100.1	438.2	21.81	95.5
July-September.....	99.4	575.5	16.78	97.2
October-December....	100.0	815.1	12.67	103.2
1986:				
January-March.....	98.5	1,236.9	8.97	112.6
April-June.....	96.6	1,285.5	8.24	109.7
July-September.....	96.2	1,309.2	8.24	112.2
October-December....	96.5	4/ 1,333.3	5/ 8.13	6/ 112.3

1/ Exchange rates expressed in U.S. dollars per Brazilian cruzado.
2/ Producer price indicators—intended to measure final product prices—are based on average quarterly indexes presented in line 63 of the International Financial Statistics.
3/ The indexed real exchange rate represents the nominal exchange rate adjusted for the relative economic movement of each currency as measured here by the Producer Price Index in the United States and Brazil. Producer prices in the United States decreased 3.5 percent during the period January 1984 through December 1986. In contrast, producer prices in Brazil increased 1,233.3 percent during the period under investigation.
4/ Brazilian Producer Price data is reported for October only.
5/ Nominal exchange rate data for the currency of Brazil is reported for October-November only.
6/ Data for the final quarter presented above is derived from the Brazilian Producer Price Index covering October only and from the nominal Brazilian exchange rate index covering October-November only..

Source: International Monetary Fund, International Financial Statistics, February 1987.

The Question of Threat of Material Injury

The rate of increase of LTFV imports from Brazil

LTFV imports of FCOJM from Brazil (i.e., total imports less imports from Cutrale) increased *** percent from 1982/83 to 1983/84, and then decreased by *** percent to *** million gallons in 1984/85. Such imports rose by *** percent to *** million gallons in 1985/86, as shown in the following tabulation:

	LTFV Imports from Brazil	
	Million SSE gallons	Percentage change
1982/83.....	***	***
1983/84.....	***	***
1984/85.....	***	***
1985/86.....	***	***

Table 53 shows the distribution of general imports and imports for consumption by customs districts. Imports entered for consumption through Florida ports (Tampa district) increased through 1984 and decreased thereafter. The latter decrease is offset by the increase of imports through the New York and Philadelphia districts combined.

The amount of FCOJM from Brazil in bonded warehouses

As a result of the relatively high tariff on FCOJM, there is an incentive for importers (both extractors and nonextractors) to store their imports in bonded warehouses or a Foreign Trade Zone. 1/ FCOJM imports are withdrawn from the bonded warehouses, and the duties paid, only at the time the FCOJM is needed for use or delivery to a purchaser.

U.S. bonded-warehouse inventories of FCOJM from Brazil subject to this investigation (i.e., total inventories less those from Cutrale), as reported by importers in response to the Commission's questionnaire, are presented in table 54.

1/ FCOJM may be stored for 3 or 4 years without product degradation.

Table 53
FCOJM: U.S. general imports and imports for consumption from Brazil, by customs districts, 1981-86

(In million of SSE gallons)

Item	1981	1982	1983	1984	1985	1986
Boston, MA:						
General imports	8	4	1	-	-	1/
Imports for consumption	6	4	2	-	-	1/
Laredo, TX:						
General imports	-	1	1	-	19	5
Imports for consumption	-	1	1	-	2	7
Los Angeles, CA:						
General imports	25	26	32	39	17	18
Imports for consumption	27	27	34	36	19	19
Miami, FL:						
General imports	-	5	8	3	4	1
Imports for consumption	-	-	1/	-	-	-
New York City, NY:						
General imports	1/	2	1/	1/	29	159
Imports for consumption	1/	1/	1/	1	29	103
Philadelphia, PA:						
General imports	30	50	98	194	97	173
Imports for consumption	7	36	84	138	207	113
Savannah, GA:						
General imports	1/	4	5	3	1	-
Imports for consumption	-	-	1/	2	1	-
Tampa, FL:						
General imports	249	242	174	446	270	281
Imports for consumption	163	303	215	350	300	255
All other:						
General imports	1	4	-	9	2	2
Imports for consumption	-	2	-	7	4	3
Total:						
General imports	313	337	319	695	439	640
Imports for consumption	203	374	337	534	562	501

1/ Less than 0.5.

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

Source: Compiled from data of the U.S. Department of Commerce.

Table 54
FCOJM: U.S. importers' 1/ bulk storage capacity and inventories of product from Brazil in bonded warehouses, as of December 1, 1983-86

(In millions of SSE gallons)

Item	As of December 1— 1983	1984	1985	1986
All non-extractor importers:				
Bulk storage capacity 2/	***	***	***	***
Inventories of Brazilian FCOJM	***	***	***	***
LTFV non-extractor importers:				
Bulk storage capacity 2/	***	***	***	***
Inventories of Brazilian FCOJM	***	***	***	***
Extractor importers:				
Bulk storage capacity	345	367	371	385
Drum storage capacity	319	319	323	318
Total storage capacity	664	686	694	703
Inventories of Brazilian FCOJM	22	90	53	34
Inventories of LTFV Brazilian FCOJM	***	***	***	***
Inventories of domestic FCOJM	146	86	119	107
Total Brazilian LTFV inventories of FCOJM	***	***	***	***

1/ Accounting for all major non-extractor importers and for extractors that accounted for 82 percent of all oranges processed in the United States in 1985/86.
2/ These importers have additional bulk storage available at Florida extractors' tank farms. When drum storage is needed, importers use public refrigerated warehouses. Practically, there is no limit to the quantities of drums of FCOJM that can be stored in public warehouses.

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

Bulk storage capacity for non-extractor importers increased from *** million gallons in 1983 to *** million gallons in 1984, *** million gallons in 1985, and *** million gallons in 1986. Non-extractor importers' end-of-period inventories of product subject to this investigation (i.e., excluding Cutrale product) increased from *** million SSE gallons in 1983 to *** million SSE gallons in 1984 and *** million SSE gallons in 1985, and then declined to *** million gallons in 1986.

U.S. extractor importers also held inventories of Brazilian FCOJM subject to this investigation. Such end-of-period inventories increased from *** million SSE gallons in 1983 to *** million in 1984, and thereafter declined to *** million gallons in 1986. Extractors' bulk storage capacities increased continuously from 345 million SSE gallons in 1984 to 385 million gallons in 1986.

The capacity of Brazil to generate exports and the availability of other export markets

Past and current production.—According to data published by the USDA, 1/ Brazil displaced the United States as the world's largest producer of oranges in crop year 1981/82, 2/ when production reached 180 million boxes. 3/ Brazil's production increased to 195 million boxes in 1982/83, declined to 180 million boxes in 1983/84, and again reached 190 million boxes 1984/85 (table 55). For 1985/86, only estimates are available, because production data are finalized only 1 year or more after the harvests. The latest estimate by USDA and the Bank of Brazil 4/ (likely to be the same as the final data) for Brazil's 1985/86 production was 230 million boxes, an increase of 21 percent from the previous season.

In recent years, 80 to 92 percent of the Brazilian orange crop was utilized in the production of FCOJM, which totaled 766 million SSE gallons in 1982/83. Production declined in 1983/84 to 707 million gallons. Production of FCOJM in 1984/85 was 954 million gallons, and production is estimated to have reached a record 1.2 billion gallons in 1985/86. The large amount of FCOJM produced in 1984/85 and 1985/86 is due, in part, to very high yields achieved during those crop years, as well as to very favorable prices for growers in 1985/86. 5/

Projected production.—Projections made by the agricultural attache in Brazil but not yet issued as official USDA data are also shown in table 55. Production is projected at 220 million boxes for 1986/87, down 4 percent from the previous season. These current projections are up 10 million boxes from earlier projections that expected a greater production decline because of draught during the 1986 blooming season. These same projections, shown in table 55, indicate a 293-percent increase in fresh orange consumption in Brazil, as a result of the drastic reduction of the fruit price to the Brazilian public under new monetary regulations (cruzado plan). If the projected increase in fresh-market consumption materializes, the amount of fruit available for processing, 155 million boxes, would be a decline of 27 percent from the 1985/86 year, and down from the earlier projected 170 million boxes.

Production of FCOJM is projected at 808 million gallons for 1986/87, and exports are projected to be between 808 and 1,115 million SSE gallons, resulting in a substantial drawdown of stocks.

1/ BR 4029, BR 4036, FHORT 7-84, and FHORT 4-86.
2/ The Brazilian crop year runs from July 1 through June 30 of the following calendar year, compared with the U.S. crop year of Dec. 1 to Nov. 30. For purposes of production, however, the Brazilian and U.S. crop years are comparable.
3/ Comparable to the boxes used to describe the U.S. crop.
4/ Foreign trade statistics by the Bank of Brazil are often referred to as CACEX statistics.
5/ TOFAS Br 6016, May 15, 1986.

Table 55
Selected historic data and estimates and projections on orange and FCOJM production in Brazil, crop years 1982/83 to 1986/87

Item	Crop year 1/— 1982/83	1983/84	1984/85	Estimated 1985/86 2/	Projected 1986/87 3/
Oranges:					
Production...million boxes..	195	180	190	230	220
Fresh consumption.....do....	33	33	13	16	63
Fresh exports.....do....	2	2	2	2	2
Processed 4/.....do....	160	145	175	212	155
Share of total processed percent..	82	80	92	92	70
FCOJ:					
Beginning stocks million SSE gallons..	28	142	14	15	340
Production.....do....	766	707	954	1,181	808
Domestic consumption..do....	22	22	18	21	21
Exports.....do....	629	813	933	836	808-1,115
Ending stocks.....do....	142	14	15	340	33-340

1/ Processing seasons in Brazil run from July 1 to June 30.
2/ Official USDA data: estimated by the USDA and Cacex.
3/ Projection by USDA attache in Brazil, not yet official USDA data; Foreign Service Telegram BR 8708, March 13, 1987.
4/ Includes 3 to 8 million boxes of tangerines and tangors.

Source: Compiled from data published by the USDA in FHORT 4-86, April 1986, and in BR 8708.

Exports.—As shown in table 56, the United States is Brazil's largest export market for FCOJM, accounting for 58 percent of total Brazilian exports during 1983-85. Exports to Europe from Brazil have increased in 1986 as the value of the U.S. dollar declined. 1/ During January-June 1986 exports to Europe totaled 218.9 million SSE gallons, up sharply from the 79.6 million gallons exported to Europe during January-June 1985.

1/ Brazil's exports to Europe are priced in U.S. dollars.

Table 56
FCOJ: Brazil's exports, by selected markets, calendar years 1983-85, January-June 1985, and January-June 1986

(In millions of gallons) 1/

Market	1983	1984	1985	January-June 1985	January-June 1986
United States	365.5	791.2	399.1	164.4	260.0
European Community	260.4	323.0	2/ 181.5	79.6	218.9
Canada	44.6	66.1	30.5	17.1	32.7
All other	99.6	79.8	64.0	33.8	32.8
Total	770.1	1,260.1	675.1	294.9	544.4

1/ Single-strength equivalent.
2/ Some exports to the European Community included in all other.

Source: Compiled from official statistics of the USDA and Banco do Brazil/Cacex.

Brazil is the major supplier of FCOJM to Europe. A trade magazine 1/ published imports of FCOJM by the European Community (EC) from sources outside the EC in 1982-84. Although updates for such data are not available, Those contained in the magazine are shown in the following tabulation (in millions of SSE gallons) to illustrate the relative roles the various suppliers play on the European market, which is the second largest market for FCOJM in the world after the United States:

Source	1982	1983	1984
Brazil	240	299	273
Israel	108	131	146
USA	24	25	20
Morocco	15	13	21
Spain	12	8	14
Cyprus	1	1	2
Argentina	4	3	1
South Africa/Swaziland	2	2	1
Others	3	1	3

Major Brazilian producers.--The Commission requested capacity and production data from the Brazilian producers that were represented at the Commission's public hearing. These are Brazil's largest FCOJM producers.

Hourly extracting capacity in terms of oranges and orange solids increased in every year throughout the period 1984-87 (table 57). Orange extracting capacity increased from *** million pounds of fruit per hour on

1/ Foodnews, July 5, 1985.

January 1, 1984, to *** million pounds on January 1, 1987, an increase of 35 percent. During the same period, the capacity to extract orange solids increased from *** pounds per hour to *** pounds per hour, an increase of 38 percent.

Production reported by the four largest Brazilian extractors of FCOJM increased irregularly from *** million pounds solids, in crop year 1982/83 to *** million pounds in crop year 1985/86 (table 58), an increase of 33 percent. During the first eight months of the 1986/87 crop year, production of FCOJM totaled *** million pounds.

Table 57
Brazilian orange juice extracting capacity, for the four largest firms, 1/ as of Jan. 1, 1984-87

(In thousand pounds per hour)

Item	As of Jan. 1—			
	1984	1985	1986	1987
Fresh oranges	***	***	***	***
Orange solids	***	***	***	***

1/ The firms reporting data were Coopercitrus Industrial Frutesp, S.A., Sucocitrico Cutrale, Cargill Citrus Ltda., and Citrosuco Paulista, S.A.

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

End-of-period inventories reported by these firms declined from *** million pounds solids in June 1983 to *** million pounds in June 1985, before rising *** million pounds in June 1986. Ending inventories declined to *** million pounds by the end of February 1987.

Exports of FCOJM by these firms increased from *** million pounds solids in 1982/83 to *** million pounds in 1984/85, before declining to *** million pounds in 1985/86. During the first months of 1986/87, exports totaled *** million pounds. The U.S. and European markets (East and West) accounted for almost all of the export shipments by these firms. Exports to the United States accounted for a low of 46 percent of Brazil's exports in 1982/83 and a high of 63 percent in 1984/85.

Major Brazilian producers of LTFV products.—The Commission requested capacity and production data from the three major Brazilian producers whose products were found to have been sold at LTFV.

Hourly extracting capacity in terms of oranges and orange solids increased in every year throughout the period 1984-87 (table 59). Orange extracting capacity increased from *** million pounds of fruit per hour on January 1, 1984, to *** million pounds on January 1, 1987, an increase of *** percent. During the same period, orange solids' extracting capacity increased from *** pounds per hour to *** pounds per hour, an increase of *** percent.

Table 58
FCOJ: Brazilian producers' production, domestic shipments, exports, and inventories, for the four largest firms, crop years 1982/83 to 1985/86 and July 1986 to February 1987 1/

(In thousands of pounds of orange solids)

Item	July 1982-June 1983	July 1983-June 1984	July 1984-June 1985	July 1985-June 1986	July 1986-Feb. 1987
Production:					
FCOJM	***	***	***	***	***
All other	***	***	***	***	***
Total	***	***	***	***	***
Shipments for Brazilian consumption:					
FCOJM	***	***	***	***	***
All other	***	***	***	***	***
Total	***	***	***	***	***
Exports (FCOJM) to—:					
United States	***	***	***	***	***
Europe	***	***	***	***	***
All other	***	***	***	***	***
Total	***	***	***	***	***
Beginning inventory: 2/					
FCOJM	***	***	***	***	***
All other	***	***	***	***	***
Total	***	***	***	***	***
Ending inventory: 2/					
FCOJM	***	***	***	***	***
All other	***	***	***	***	***
Total	***	***	***	***	***

1/ The firms reporting data were Coopercitrus Industrial Frutesp, S.A., Sucocitrico Cutrale, Cargill Citrus Ltda., and Citrosuco Paulista, S.A.
2/ Inventories do not include blending stocks that must be blended before they can be sold.

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

Production reported by the three Brazilian extractors of FCOJM increased from *** million pounds solids, in crop year 1982/83 to *** million pounds in in crop year 1985/86 (table 60), an increase of *** percent. During the first eight months of the 1986/87 crop year, production of FCOJM totaled *** million pounds.

End-of-period inventories reported by these firms declined from *** million pounds (solids) in June 1983 to *** million pounds in June 1985, before rising sharply to *** million pounds in June 1986. Ending inventories declined to *** million pounds by the end of February 1987.

Table 59
Brazilian orange juice extracting capacity, for the three largest LTFV firms, 1/ as of Jan. 1, 1984-87

(In thousand pounds per hour)

Item	As of January 1—			
	1984	1985	1986	1987
Fresh oranges	***	***	***	***
Orange solids	***	***	***	***

1/ The firms reporting data were Coopercitrus Industrial Frutesp, S.A., Cargill Citrus Ltda., and Citrosuco Paulista, S.A.

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

Exports of FCOJM by these firms increased from *** million pounds solids in 1982/83 to *** million pounds in 1984/85, before declining to *** million pounds in 1985/86. During the first eight months of 1986/87, exports totaled *** million pounds. The U.S. and European markets (East and West) accounted for almost all of the export shipments by these firms. Exports to the United States accounted for between *** and ***percent of these firms' total exports during 1982/83 to 1985/86.

Table 60
Brazilian producers' production, domestic shipments, exports, and inventories, for the three largest LTFV firms, crop years 1982/83 to 1985/86 and July 1986 to February 1987 1/

(In thousand pounds of orange solids)

Item	July 1982-June 1983	July 1983-June 1984	July 1984-June 1985	July 1985-June 1986	July 1986-Feb. 1987
Production:					
FCOJM	***	***	***	***	***
All other	***	***	***	***	***
Total	***	***	***	***	***
Shipments for Brazilian consumption:					
FCOJM	***	***	***	***	***
All other	***	***	***	***	***
Total	***	***	***	***	***
Exports (FCOJM) to—:					
United States	***	***	***	***	***
Europe	***	***	***	***	***
All other	***	***	***	***	***
Total	***	***	***	***	***
Beginning inventory: 2/					
FCOJM	***	***	***	***	***
All other	***	***	***	***	***
Total	***	***	***	***	***
Ending inventory: 2/					
FCOJM	***	***	***	***	***
All other	***	***	***	***	***
Total	***	***	***	***	***

1/ The firms reporting data were Coopercitrus Industrial Frutesp, S.A., Cargill Citrus Ltda., and Citrosuco Paulista, S.A.
2/ Inventories do not include blending stocks that must be blended before they can be sold.

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

APPENDIX A

FEDERAL REGISTER NOTICES

[Investigation No. 731-TA-326 (Final)]

Frozen Concentrated Orange Juice From Brazil

AGENCY: International Trade Commission.

ACTION: Institution of a final antidumping investigation and scheduling of a hearing to be held in connection with the investigation.

SUMMARY: The Commission hereby gives notice of the institution of final antidumping investigation No. 731-TA-326 (Final) under section735(b) of the Tarff Act of 1930 (19 U.S.C. 1673(b)) to determine whether an industry in the United States is materially injured, or is threatened with material injury, or the establishment of an industry in the United States is materially retarded, by reason of imports from Brazil of frozen concentrated orange juice, provided for in item 165.29 of the Tariff Schedules of the United States, which have been found by the Department of Commerce, in a preliminary determination, to be sold in the United States at less than fair value (LTFV). Commerce has extended this investigation pursuant to section 735(a)(2) of the act and will make its final LTFV determination on or before March 9, 1987; the Commission will make its final injury determination by April 22, 1987 (see sections 735(a) and 735(b) of the act (19 U.S.C. 1673d(a) and 1673d(b))).

For further information concerning the conduct of this investigation, hearing procedures, and rules of general application, consult the Commission's rules of practice and procedure, Part 207, Subparts A and C (19 CFR Part 207), and Part 201, Subparts A through E (19 CFR Part 201).

EFFECTIVE DATE: October 23, 1986.

FOR FURTHER INFORMATION CONTACT: Stephen Vastagh (202-523-0293), Office of Investigations, U.S. International Trade Commission, 701 E Street NW., Washington, DC 20436. Hearing-impaired individuals are advised that information on this matter can be obtained by contacting the Commission's TDD terminal on 202-724-0002.

SUPPLEMENTARY INFORMATION:

Background

This investigation is being instituted as a result of an affirmative preliminary determination by the Department of Commerce that imports of frozen concentrated orange juice from Brazil are being sold in the United States at less than fair value within the meaning of section 731 of the act (19 U.S.C. 1673). The investigation was requested in a petition filed on May 9, 1986, by Florida Citrus Mutual, an association of growers of citrus fruit for processing. In response to that petition the Commission conducted a preliminary antidumping investigation and, on the basis of information developed during the course of that investigation, determined that there was a reasonable indication that an industry in the United States was materially injured by reason of imports of the subject merchandise (51 FR 24238, July 2, 1986).

Participation in the investigation

Persons wishing to participate in this investigation as parties must file an entry of appearance with the Secretary to the Commission, as provided in § 201.11 of the Commission's rules (19 CFR 201.11), not later than twenty-one (21 days after the publication of this notice in the Federal Register. Any entry of appearance filed after this date will be referred to the Chairman, who will determine whether to accept the late entry for good cause shown by the person desiring to file the entry.

Service list

Pursuant to § 201.11(d) of the Commission's rules (19 CFR 201.11(d)), the Secretary will prepare a service list containing the names and addresses of all persons, or their representatives, who are parties to this investigation upon the expiration of the period for filing entries of appearance. In accordance with § 201.16(c) and 207.3 of the rules (19 CFR 201.16(c) and 207.3), each document filed by a party to the investigation must be served on all other parties to the investigation (as identified by the service list), and a certificate of service must accompany the document. The Secretary will not accept a document for filing without a certificate of service.

Staff report

A public version of the prehearing staff report in this investigation will be placed in the public record on February 27, 1987, pursuant to § 207.21 of the Commission's rules (19 CFR 207.21).

Hearing

The Commission will hold a hearing in connection with this investigation beginning at 9:30 a.m. on March 12, 1987, at the U.S. International Trade Commission Building, 701 E Street NW., Washington, DC. Requests to appear at the hearing should be filed in writing with the Secretary to the Commission not later than the close of business (5:15 p.m.) on March 2, 1987. All persons desiring to appear at the hearing and make oral presentations should file prehearing briefs and attend a prehearing conference to be held at 9:30 a.m. on March 5, 1987, in room 117 of the U.S. International Trade Commission Building. The deadline for filing prehearing briefs is March 9, 1987.

Testimony at the public hearing is governed by § 207.23 of the Commission's rules (19 CFR 207.23). This rule requires that testimony be limited to a nonconfidential summary and analysis of material contained in prehearing briefs and to information not available at the time the prehearing brief was submitted. Any written materials submitted at the hearing must be filed in accordance with the procedures described below and any confidential materials must be submitted at least three (3) working days prior to the hearing (see § 201.6(b)(2) of the Commission's rules (19 CFR 201.6(b)(2))).

Written submissions

All legal arguments, economic analyses, and factual materials relevant to the public hearing should be included in prehearing briefs in accordance with § 207.22 of the Commission's rules (19 CFR 207.22). Posthearing briefs must conform with the provisions of 207.24 (19 CFR 207.24) and must be submitted not later than the close of business on March 19, 1987. In addition, any person who has not entered an appearance as a party to the investigation may submit a written statement of information pertinent to the subject of the investigation on or before March 19, 1987.

A signed original and fourteen (14) copies of each submission must be filed with the Secretary to the Commission in accordance with § 201.8 of the Commission's rules (19 CFR 201.8). All written submissions except for confidential business data will be available for public inspection during regular business hours (8:45 a.m. to 5:15 p.m.) in the Office of the Secretary to the Commission.

Any business information for which confidential treatment is desired must be submitted separately. The envelope and all pages of such submissions must be clearly labeled "Confidential Business Information." Confidential submissions and requests for confidential treatment must conform with the requirements of § 201.6 of the Commission's rules (19 CFR 201.6).

Authority

This investigation is being conducted under authority of the Tariff Act of 1930, title VII. This notice is published pursuant to § 207.20 of the Commission's rules (19 CFR 207.20).

Issued: November 17, 1986.
By order of the Commission.

Kenneth R. Mason,
Secretary.

[FR Doc. 86-26701 Filed 11-25-86; 8:45 am]
BILLING CODE 7020-02-M

International Trade Administration

[A-351-605]

Frozen Concentrated Orange Juice From Brazil: Final Determination of Sales at Less Than Fair Value

AGENCY: International Trade Administration/Import Administration/ Commerce.

ACTION: Notice.

SUMMARY: We have determined that frozen concentrated orange juice (FCOJ) from Brazil is being, or is likely to be, sold in the United States at less than fair value. We have notified the U.S. International Trade Commission (ITC) of our determination. We have also directed the United States Customs Service to continue to suspend the liquidation of all entries of FCOJ from Brazil, except those from Sucocitrico Cutrale, S.A., that are entered, or withdrawn from warehouse, for consumption, on or after the date of publication of this notice, and to require a cash deposit or bond for each entry in an amount equal to the estimated dumping margins as described in the "Continuation of Suspension of Liquidation" section of this notice.

EFFECTIVE DATE: March 17, 1987.

FOR FURTHER INFORMATION CONTACT: Raymond G. Busen (202/377-3464) or Mary S. Clapp (202/377-1769), Office of Investigations, Import Administration, International Trade Administration, U.S. Department of Commerce, 14th Street and Constitution Avenue, NW., Washington, DC 20230.

SUPPLEMENTARY INFORMATION

Final Determination

We have determined that FCOJ from Brazil is being, or is likely to be, sold in the United States at less than fair value, as provided in section 735 of the Tariff Act of 1930, as amended (19 U.S.C. 1673d) (the Act). The weighted-average margins are shown in the "Continuation of Suspension of Liquidation" section of this notice. Cutrale is excluded from this determination since it had no sales at less than fair value during the period of investigation.

Case History

On May 9, 1986, we received a petition from Florida Citrus Mutual (FCM), a voluntary cooperative marketing association of growers of citrus fruit for processing, filed on behalf of the United States industry producing FCOJ. In compliance with the filing requirements of section 353.36 of the Commerce Regulations (19 CFR 353.36), the petition alleged that imports of FCOJ from Brazil are being, or are likely to be, sold in the United States at less than fair value within the meaning of section 731 of the Act, and that these imports are materially injuring, or are threatening material injury to, a United States industry. The petition also alleged that sales of the subject merchandise in Brazil were too small to use as a basis for determining foreign market value and that sales to third countries are at less than the cost of production.

After reviewing the petition, we determined that it contained sufficient grounds upon which to initiate an antidumping duty investigation. We notified the ITC of our action and initiated such an investigation on May 29, 1986 (51 FR 20321, June 4, 1986). On June 23, 1986, the ITC determined that there is reasonable indication that imports of FCOJ from Brazil are materially injuring a U.S. industry (51 FR 24238, July 2, 1986).

On June 30, 1986, and July 3, 1986, respectively, we presented an antidumping duty questionnaire to Sucocitrico Cutrale, S.A. (Cutrale) and Citrosuco Paulista, S.A. (Citrosuco). Our questionnaire to Cutrale included questions on home market sales, as we had determined that Cutrale had sufficient home market sales to form the basis for determining fair value. Our questionnaire to Citrosuco included questions relating to third country sales and cost of production and/or constructed value, because we determined that Citrosuco's home market sales were not adequate for determining foreign market value. Respondents Cutrale and Citrosuco were requested to answer the questionnaire by August 6, 1986, and August 11, 1986, respectively. At the request of Citrosuco, we granted that firm an extension until August 25, 1986. On August 6 and 8, 1986, we received incomplete responses from Cutrale. In a letter dated August 18, 1986, the Department requested supplemental information from Cutrale. On August 25, 1986, we received Citrosuco's response. On September 2, 8, and 11, 1986, we received supplemental information from Cutrale.

On September 19, 1986, petitioners alleged that Cutrale's home market sales were at less than the cost of production and requested that the Department conduct a cost investigation. On September 22, 1986, we requested supplemental information from Citrosuco. On September 29 and 30, 1986, we received supplemental information from Citrosuco. Also, on September 29, we notified Cutrale that we had accepted petitioners' allegation of below cost home market sales and requested that Cutrale submit cost of production information by October 20, 1986.

On October 9, October 14, October 30, November 7, and December 10, 1986, respectively, Alcoma Packing Company, Inc., Berry Citrus Products Inc., Citrus World, Inc., B&W Canning Co., Caulkins Indiantown Citrus Co., and Citrus Belle, producers of FCOJ and growers which produce oranges for processing into FCOJ, filed as co-petitioners.

We denied a request by petitioners to postpone the preliminary determination, because the request was not timely, pursuant to § 353.39(b) of our regulations. On October 16, 1986, we issued an affirmative preliminary determination of sales at less than fair value (51 FR 37613, October 23, 1986). At the request of respondent Citrosuco, we postponed our final determination until March 9, 1987 (51 FR 39692, October 30, 1986).

On October 27, 1986, we received an incomplete cost of production response from Cutrale. On December 2 and 12, 1986, respectively, we requested and received supplemental cost of production information from Cutrale.

We provided interested parties with an opportunity to submit views orally or in writing. Accordingly, we held a public hearing on February 6, 1987.

Standing Issue

The petition in this case was brought by FCM, an association of growers of citrus fruit for processing "on behalf of the U.S. industry producing FCOJ, including growers and processors." During the investigation, the petition was amended to add six FCOJ processors as co-petitioners.

Various parties, including the National Juice Products Association, Cargill Citrus Ltda., Procter & Gamble, Coca-Cola Company, and Citrosuco, have argued that petitioners do not have standing because the two necessary statutory requirements have not been

met. Section 732(b)(1) of the Act, 19 U.S.C. 1673a(b)(1), requires that petitions be brought by an "interested party . . . on behalf of an industry."

The term "interested party" is defined, in relevant part, as "a manufacturer, producer or wholesaler in the United States of a like product," or as "a trade or business association a majority of whose members manufacture, produce or wholesale a like product in the United States." 19 U.S.C. 1677(9) (C) and (E). The Act defines "industry" also in terms of production of a like product; the term is defined as "the domestic producers as a whole of a like product, or those producers whose collective output of the like product constitutes a major proportion of the total domestic production of that product." 19 U.S.C. 1677(4)(A). The like product in this investigation has been defined by the ITC as FCOJ.

The parties opposing this investigation maintain that FCM is not an interested party because its members do not produce the like product. We find that it is not necessary to reach a determination on this issue. As we indicated in our preliminary determination, even if FCM were not considered to be an interested party, this does not invalidate the petition, in terms of the interested party requirement. The six co-petitioners, processors of FCOJ, are indisputably producers of the like product, and thus interested parties.

In addition to arguing that FCM is not an interested party, the parties opposing this investigation maintain that the addition of the processors as co-petitioners cannot serve to "cure" a defect in as fundamental a matter as standing. Instead, it is suggested, the processors could file a new petition. The statute provides that a "[p]etition may be amended at such time, upon such conditions, as the [Department] . . . may permit." 19 U.S.C. 1673a(b)(1). The Department has exercised its discretion to permit petition amendments on matters of standing in previous cases. *See, e.g. Certain Textile Mill Products and Apparel from Malaysia*, (50 FR 9852, March 12, 1985); *Live Swine and Fresh, Chilled and Frozen Pork Products from Canada*, (50 FR 25097, June 17, 1985). We believe that the circumstances of this case also call for permitting the petition amendments. The law on standing in cases involving processed agricultural products, in which the industry has been defined to include the growing and processing sectors, is not well developed. Moreover, in light of the earlier countervailing duty case on FCOJ from Brazil, *Frozen Concentrated Orange Juice from Brazil*, (48 FR 25245, June 6, 1983), in which FCM was the sole petitioner and in which standing was not raised as an issue, FCM had good reason to believe that it would qualify as an interested party in this case.

With respect to the second requirement for standing, that a petition be brought "on behalf of an industry," the parties opposing this investigation offer, in essence, two arguments. First, they argue that petitioners must establish affirmatively that they have filed "on behalf of" the industry involved, and that petitioners have not done so. Second, they maintain that it has been established in this case that a majority of the industry opposes the investigation.

For the proposition that a petitioner must *ab initio* establish majority industry support, the opposing parties rely on *Gilmore Steel Corp.* v. *United States*, 585 F. Supp. 670 (Ct. Int'l Trade 1984), in which the court made the statement that a petitioner "must also show that a majority of [the] industry backs its petition." However, this statement is *dicta*. That case involved an altogether different situation. The court was considering whether the Department had the authority to terminate an investigation where a majority of the domestic industry affirmatively opposed the petition and had voiced its opposition to the Department. As we have frequently stated, *see e.g. Certain Stainless Steel Hollow Products from Sweden*, (52 FR 5794, February 26, 1987); *Certain Fresh Atlantic Groundfish from Canada*, (51 FR 10041, March 24, 1986), there is nothing in the statute, its legislative history, or our regulations which requires that petitioners establish affirmatively that they have the support of a majority of their industries. In many cases, such a requirement would be so onerous as to preclude access to import relief under the antidumping and countervailing duty laws.

The opposing parties also argue that it has been shown that a majority of the industry opposes this investigation. Between the time of the initiation of this investigation and our preliminary determination, we received evidence of industry opposition to this case sufficient to provide a clear indication that there were grounds to doubt petitioners' standing, and to warrant our reviewing whether the opposing parties do, in fact, represent a major proportion of the domestic industry. Accordingly, on December 10, 1986, we sent a questionnaire to those firms that had expressed opposition to the case, to elicit data on the extent of industry opposition. We received responses through February 1987, which show that fourteen, and perhaps sixteen, FCOJ processors oppose the case (two of these firms submitted contradictory data).

In its most recent submission, the National Juice Products Association has calculated that the sixteen firms account for 52.9 percent of FCOJ production in the United States, and 51.9 percent of the total number of boxes of oranges processed (for all purposes, including uses other than FCOJ production).

The validity of these percentages is questionable, since the data from which they are derived is not entirely firm. The 52.9 percent measure of opposition, based on FCOJ production in the United States, is calculated using a denominator (to represent total FCOJ production in the United States) which is based upon a survey by the A.C. Nielsen Reporting Service of selected retail outlets to measure retail orange juice consumption in the United States. To arrive at an *estimate* of the total domestic orange juice market, these survey results were then adjusted on the basis of an *estimate* of the proportion of this total market which is accounted for by retail sales. A further *estimate* was used to calculate the proportion of the total domestic orange juice market attributable to FCOJ. Furthermore, this 52.9 percent measure of opposition includes data from one firm which may not, in fact, oppose the investigation. (It submitted contradictory information.) Also included are data from another firm of which we are unsure whether it produces FCOJ. (It also submitted contradictory information.)

In addition to the succession of steps of estimations, rather than calculation, which resulted in this number, the denominator in the fraction leading to the percentage has varied across responding companies. The estimated size of the market varies substantially according to letters we received from processors which themselves object to the case. The 51.9 percent measure of opposition is based on total number of domestic oranges processed. This is not an appropriate basis for defining the FCOJ industry, because it includes oranges processed for purposes other than the production of FCOJ.

Many of these firms are significant importers of FCOJ from Brazil. In our preliminary determination we sought comments on whether it would be appropriate to exclude these firms from the definition of the domestic industry, for purposes of measuring standing, pursuant to section 771(4)(B) of the Act.

19 U.S.C. 1677(4)(B). Section 771(4)(B) provides that "[w]hen some producers are related to the exporters or importers, or are themselves importers of the allegedly subsidized or dumped merchandise, the term 'industry' may be applied in *appropriate circumstances* by excluding such producers from those included in the industry." (emphasis added).

The parties opposing this investigation have argued that exclusion is not appropriate in this case because most domestic FCOJ processors allegedly are also importers of Brazilian FCOJ. Under these circumstances, we agree that it would not be appropriate to exclude *all* processor-importers. However, the analysis is not the same for *all* such firms; obviously, much depends upon the degree to which a firm is an importer.

The National Juice Products Association argues that under the Department's decision in *Fabricated Automotive Glass from Mexico*, (50 FR 1906, January 14, 1985), a domestic firm must be both an importer and related for it to be excluded. It is true that the domestic manufacturers which the Department excluded from the definition of the domestic industry in that case met both of the criteria for exclusion. However, the statute clearly states that related firms *or* importers may be excluded.

Procter & Gamble has argued that the decision to invoke the exclusion provision is uniquely within the province of the ITC. This interpretation is completely at odds with the applicable statutory language. The Department must determine when a case is brought "on behalf of an *industry*." Section 771(4)(B) provides that this term industry may be applied in appropriate circumstances by excluding related producers or importers." Moreover, the Court of International Trade has suggested that importers or related firms may be excluded "from the industry headcount" for standing purposes. *Gilmore*, 585 F. Supp., at 677 (dictum).

Procter & Gamble argues, in the alternative, that it would be inappropriate for the Department to apply the exclusion provision in this case because the ITC did not do so in its preliminary determination. We do not agree. The considerations which underlie the decisions of the Department and the ITC on whether to apply the exclusion provision, although perhaps related, are not the same. The ITC, we believe, must consider whether the inclusion of domestic firms which are related or are themselves importers might conceal the extent of injury to the domestic industry. *See e.g., Frozen Concentrated Orange Juice from Brazil*, Inv. No. 731-TA-326 (Preliminary), USITC Pub. 1873 at 9 (1986). The Department, on the other hand, must consider whether these domestic companies are so wed to allegedly dumped imports that their interests would run counter to the imposition of antidumping duties.

We have determined that it is appropriate in this case to exclude from the definition of the industry those firms whose imports of Brazilian FCOJ exceeded 50 percent of their total production. In different circumstances we may exclude firms whose imports are less than 50 percent of production. However, in this case it appears that significant levels of imports are more normal. Clearly, such firms have an overriding interest in avoiding the imposition of antidumping duties on dumped imports from Brazil. This leads to the exclusion from the definition of the domestic industry of six of the domestic processors opposing the investigation. (We note that a number of the processors opposing the investigation did not provide us with information as to whether they imported from Brazil, despite the fact that we requested such data in our standing questionnaire. Had this information been provided, it may have led to the exclusion of a greater number of companies from the definition of the domestic industry.) With the domestic industry so redefined, the remaining processors opposing the petition account for 38.64 percent of FCOJ production in the United States. Thus, the processors opposing the petition do not represent a major proportion of the domestic industry, as appropriately defined.

The petitioners in this case and the parties opposing the investigation have argued extensively over whether the industry on behalf of which the petition was brought includes orange growers as well as FCOJ processors. If growers are considered part of the industry, the degree of opposition to the case would be significantly diluted. Having found that the processors which oppose the case do not represent a majority of the processing sector, we need not address whether the industry should be defined for standing purposes to also include growers.

Scope of Investigation

The product covered by this investigation is frozen concentrated orange juice (FCOJ) in a highly concentrated form for transport and further processing, sometimes referred to as frozen concentrated orange juice for manufacturing, currently provided for under the Tariff Schedules of the United States (TSUS) item number 165.29.

Fair Value Comparisons

To determine whether sales of the subject merchandise in the United States were made at less than fair value, we compared the United States price with foreign market value as specified below.

We made comparisons on virtually all of the sales of the product during the period of investigation, November 1, 1985 through April 30, 1986.

United States Price

For Citrosuco, we based United States price on exporter's sales price (ESP) for those sales which were made after importation, in accordance with section 772(c) of the Act. For those sales to the United States which were made prior to importation, we determined that the merchandise had been purchased from the manufacturer or producer and, therefore, based United States price on purchase price in accordance with section 772(b) of the Act. These sales which we have treated as purchase price transactions involved a related U.S. sales agent. We used purchase price for those sales based on the following facts: (1) The related selling agent located in the United States acted only as a processor of sales related documentation establishing a communication link with the manufacturer with regard to those transactions. This arrangement represents a mere geographical relocation of a normal and routine selling function; (2) the related U.S. sales agent at no time maintained an inventory from which sales were made; and (3) all shipments of the merchandise were made directly from the manufacturer to unrelated U.S. buyers.

We calculated purchase price and ESP based on the packed, duty paid, f.o.b. or c.i.f., delivered prices to unrelated purchasers in the United States. We made deductions for foreign inland freight, foreign customs and wharfage fees, export taxes, ocean freight, marine insurance, and U.S. inspection fees. For ESP sales, we also deducted other expenses normally incurred in selling the merchandise in the United States.

For Cutrale, as provided in section 772(b) of the Act, we used the purchase price of the subject merchandise, since it was sold prior to the date of importation to unrelated purchasers in the United States. We calculated purchase price based on f.o.b., packed prices. We made deductions for foreign port charges, inland freight, and export taxes.

Section 772(d)(1)(C) of the Act requires that indirect taxes imposed upon home market merchandise that have not been collected on exported merchandise by reason of its exportation to the United States be added to the United States price to the extent that such taxes are added to or included in the price of such or similar merchandise when sold in the country of exportation. Such a tax, the Tax on Circulation of Merchandise (ICM), is imposed on home market sales, but the rate of this tax varies with the destination of the merchandise in the home market. Therefore, no single tax rate can be applied as an addition to United States price. Because of this, for Cutrale, we deducted this tax as well as the Financial Social Tax from the home market prices in which they are included.

Foreign Market Value

As noted in the "Case History" section of this notice, petitioners alleged that third country sales were made at less than the cost of production and that constructed value should be used to compute foreign market value. Petitioners further alleged that sales in Brazil were inadequate for purposes of determining foreign market value and that third country sales should be examined.

We determined that Cutrale had an adequate number of home market sales for determining foreign market value. Petitioners' allegation that Cutrale's home market sales were below the cost of production was not received until September 19, 1986. While the cost of production information was received too late to be considered for the preliminary determination, the information has been considered for our final determination.

The constructed values and the costs of production were based on the respondents' submissions, adjusted, where appropriate.

For the first four months of the period of investigation, Brazil's economy was considered to be hyperinflationary. Effective March 1, 1986, the government of Brazil instituted controls which resulted in lower rates of inflation.

In calculating cost of production and constructed value, we used the nominal cruzeiro price of oranges and the related pick and haul labor expenses. This is because the price for these inputs remained fixed throughout the period. Thus, the orange price and the pick and haul labor in nominal cruzeiro terms represented the replacement price in each month.

Conversion costs were adjusted to reflect the effects of inflation by linking such costs with the Brazilian inflation index (ORTN). The total actual costs were allocated to the months using both the inflation index and production volume.

Pellets and other products manufactured from the orange rind were considered to be by-products of FCOJ production. Therefore, all costs incurred by the company for the manufacturing of these products were included in the costs of production. Revenues accruing from the sales of these products were credited against the costs.

Interest expense, offset by interest revenues accruing from investments for operations, was included. A deduction was made to adjust such expenses for the credit expenses included as part of selling expenses. Selling expenses related to the appropriate market, home or third country, were included.

The monetary correction to the balance sheet, per se, was not included as a cost of production of FCOJ. Since the Department used replacement value for its inputs, many of those cost adjustments captured by the monetary correction have been included. We have, however, included as a cost an amount reflecting the erosion of the value of the finished goods inventory and an adjustment to the financial expenses so that only the actual interest expenses have been included.

In all cases, general expenses exceeded the statutory minimum of ten percent of materials and fabrication. Therefore, actual general expenses were used. The statutory eight percent for profit was included because the department could not verify home market or third country profit. We added U.S. packing charges.

We compared Cutrale's home market prices to the cost of production in the same month. We used constructed value as the basis for calculating foreign market value since there were no sales of such or similar merchandise at prices above the cost of production, as defined in section 773(b) of the Act.

For Cutrale, we made a circumstance of sale adjustment for differences in credit expenses in accordance with § 353.15(b) of Commerce's regulations.

With regard to Citrosuco, we determined that all its sales to Canada were at prices above the cost of production. Therefore, in accordance with § 353.4 of our regulations, we used third country sales of identical merchandise to Canada.

We calculated a foreign market value for each month of the period of investigation and compared those sales to U.S. sales in the same month. We made deductions for foreign inland freight, foreign customs and wharfage fees, ocean freight, and marine insurance. We also deducted U.S. inland freight and U.S. inspection fees incurred on sales to Canada which were made through the Port of Wilmington, Delaware. We deducted third country packing costs and added U.S. packing costs. For ESP sales, we offset selling expenses incurred on third country sales up to the amount of the selling expenses incurred for sales in the U.S. market, in accordance with § 353.15(c) of our regulations.

Currency Conversion

For ESP comparisons, we used the official exchange rate for the date of sale since the use of that exchange rate is consistent with section 615 of the Trade and Tariff Act of 1984 (1984 Act). We followed section 615 of the 1984 Act rather than § 353.56(a)(2) of our regulations because the later law supersedes that section of the regulations.

For purchase price comparisons, we used the exchange rate described in § 353.56(a)(1) of our regulations. All currency conversions were made at the rates certified by the Federal Reserve Bank.

Verification

As provided in section 776(a) of the Act, we verified all information provided by the respondents by using standard verification procedures, including on-site inspection of manufacturers' facilities, the examination of relevant sales and financial records, and selection of original source documentation containing relevant information.

Petitioners' Comments

Petitioners' Comment 1: Petitioners argue that Citrosuco's foreign market value should be based on sales for export to West Germany rather than sales for export to Canada because (1) the FCOJ sold in the Canadian market does not meet the statutory requirement that it be "sold for export to" Canada, and (2) the FCOJ sold for export to West Germany is not so dissimilar to that sold in the United States that, despite the much larger size of that European market, only the product sold in Canada may be used for establishing the third country price. Moreover, if the Department elects to use sales to Canada as the basis for foreign market value, it may only use those sales which were verified as destined for Canada on the date of issuance of the export license.

DOC Position: We disagree. By examining Brazilian export licenses, we verified that Citrosuco's Canadian sales

were, in fact, sold for export to Canada. In accordance with section 353.5(c) of Commerce's regulations, we selected Canada rather than West Germany as the third country because the regulation states that, among the criteria for third country selection, preference should be given to the first criteria which is that the product exported to a country "has a greater degree of similarity to the product exported to the United States than does the product exported to other countries, provided the volume of sales to such country is deemed adequate." We found that the product sold to Canada was identical to that sold to the United States, while the product sold to West Germany was different from that sold to the United States, in terms of brix/acid ratio and other characteristics.

Furthermore, although sales to West Germany were more voluminous than those to Canada, we determined that the sales to Canada were adequate for comparison purposes.

Petitioners' Comment 2: Petitioners argue that the respondents have not demonstrated that the petitioners do not have standing to file the petition. They further argue that (1) past practice requires the Department to treat the petition as filed on behalf of an industry until there is reason to believe that a majority of the relevant domestic industry is opposed to the petition, (2) petitioners have standing as interested parties to file the petition, and (3) the petition was filed "on behalf of" an industry.

DOC Position: See section on "Standing Issue."

Petitioners' Comment 3: Petitioners argue that all of Citrosuco's sales to the United States should be treated as exporter's sales price transactions, whether sold through the Wilmington foreign trade zone or to Florida customers. Citing the Court of International Trade's decision in *P.Q. Corporation* v. *United States*, they state that even if sales were made prior to importation, this factor is not controlling because all of Citrosuco's sales to the United States were made by its U.S. affiliate, Juice Farms. Thus, an adjustment to United States price is required for the selling expenses incurred by Juice Farms.

DOC Position: We agree that those shipments through the Wilmington foreign trade zone are importations which were sold to unrelated purchasers after the date of importation and, therefore, are ESP sales. Sales to Florida customers, however, were made prior to importation in a manner that requires the use of purchase price for our comparisons. See section on "United States Price."

Petitioners' Comment 4: Petitioners argue that the Department must consider deliveries under any long-term contracts entered into before the period of investigation and made on the basis of futures prices. They argue that such contracts, with futures-based price provisions, do not constitute sales until the actual prices are set.

DOC Position: We disagree. These long-term contracts constituted binding commitments under which all key elements were firm. The price terms of these contracts, pegged to futures prices, were definite and determinable. To the extent that such contracts were entered into outside of the period of investigation, we have excluded deliveries under them from our calculation of foreign market value. *See, e.g., Final Determination of Sales at Less Than Fair Value: Brass Sheet and Strip from France* (52 FR 812, January 9, 1987).

Petitioners' Comment 5: Petitioners state that the Department must make calculation corrections to Cutrale's home market credit expenses for the months of February and March 1986 (as noted in Cutrale's January 20, 1987 supplemental submission), because Cutrale's submission did not include a revised computer tape.

DOC Position: We agree and have corrected home market credit expenses to reflect the applicable circumstance of sale adjustment.

Petitioners' Comment 6: Petitioners question Cutrale's treatment of the date of issuance of the export license for U.S. sales as the date of sale. Petitioners argue that the Department's verification report does not prove that the issuance dates of CACEX export licenses necessarily represent the date of sale because (1) unless the license includes an agreement by the customer to purchase specific amounts for a specific price, it does not evidence all material elements of the contract, and (2) the additional export license issued when the quantity shipped exceeded the original export license implies that the quantity and/or price of the sale is not fixed as of the date of issuance of the export license.

DOC Position: We disagree. Verification indicated that the export license did indicate a specific amount at a specific price. When the shipment was made, however, the quantity was often slightly larger than the quantity called for in the original export license. Since, at the time of loading bulk shipments, the quantity loaded into the tanker sometimes exceeded the quantity specified in the original export license, an additional license and invoice covering the additional quantity was issued, at the same price, to cover the difference. Issuance of this additional license was treated as a new sale.

Petitioners' Comment 7: Petitioners question the adequacy of Cutrale's home market sales as providing a viable basis for foreign market value because certain reported sales may have been to employees, non-processor customer outlets, or other channels not in the normal course of trade.

DOC Position: We found that sales to employees were arms-length transactions which accounted for less than 0.5 percent of total home market sales. With regard to sales to non-processor customer outlets and others, the sales were found to be in the normal course of trade.

Petitioners' Comment 8: Petitioners contend that Cutrale's United States prices may have been overstated because of unreported shipment costs, some of which may have been borne by a related party.

DOC Position: We disagree. Our verification did not reveal a relationship between either Cutrale and its U.S. customers or the owners of the vessels which transported the FCOJ to the United States.

Petitioners' Comment 9: Petitioners claim that Cutrale did not report actual unit foreign inland freight.

DOC Position: Verification showed that Cutrale did not keep separate accounting records for its trucking division. Therefore, it reported freight rates that local commercial trucking companies would have charged Cutrale had those companies transported Cutrale's FCOJ during the period of investigation. The freight rates reported by the trucking companies were verified and Cutrale's allocation methods were considered reasonable.

Petitioners' Comment 10: Petitioners argue that unless the Department verifies that the export subsidy offset tax was actually paid on each shipment, it should deduct 3.5 percent of the gross unit price from United States price.

DOC Position: Verification showed that the respondents paid the 3.51 percent offset subsidy tax on each shipment.

Petitioners' Comment 11: Petitioners argue that the Department should treat respondents' production of pellets, d'Limonene and orange oil as co-products rather than by-products and, as a result, not reduce the cost of producing FCOJ by the net revenues from the sales of these products. In support of their argument, petitioners point to the fact that these products have separate production lines and are marketed through channels separate from FCOJ.

Moreover, citing the Department's finding in *Titanium Sponge from Japan* (49 FR 38687, October 1, 1984), they claim that these products do not meet our criteria for determining that a product is a by-product: (1) Manufacture in the same facility, (2) the quality and quantity of production are determined by production of the primary product, and (3) production is an unavoidable consequence of producing the primary article. Finally, the value of the secondary products relative to FCOJ is high.

DOC Position: We disagree. The "by-product" in question is primarily pellets for animal feed which is processed from the pulp and rind of the orange. The production of these pulp and rinds are an unavoidable consequence of the production of orange juice, the primary product. Cutrale and Citrosuco began business as orange juice producers and only began pellet production from the rinds and peels when it determined that a market existed for the pellets. The considerations enunciated in *Titanium Sponge* establish that the product in question was an intermediate product. The converse of these considerations as listed above are not criteria for establishing whether a product is a by-product or co-product.

Petitioners' Comment 12: Petitioners urge the Department to index the prices of the fruit, as the Department does with other costs.

DOC Position: The price of fruit remained fixed throughout the period of investigation. Therefore, this price represented the monthly replacement price for fruit. See "Foreign Market Value" section.

Petitioners' Comment 13: Petitioners argue that if the Department decides to treat pellets and other secondary products as by-products, then it should correct Cutrale's by-product revenue to reflect actual revenue received rather than the theoretical amount reported by Cutrale. With respect to Citrosuco, by-product revenue should not include revenues for pineapple or passion fruit juice.

DOC Position: We agree. The Department adjusted by-product revenues for Cutrale to reflect the actual amounts received. The Department did not consider other juices of Citrosuco to be "by-products" of FCOJ and, therefore, the costs incurred pertaining to these separate products were not included for FCOJ, nor were the revenues deducted as a credit to FCOJ costs.

Petitioners' Comment 14: Petitioners contend that if the Department decides not to index fruit costs, it should use actual cruzeiro outlays. Also, the Department should adjust direct and picking labor costs because such costs were affected by inflation during the period.

DOC Position: The Department adjusted the respondents' monthly costs to reflect actual cruzeiro outlays for fruit for the year. The picking labor cost remained fixed during the period of investigation and therefore was not adjusted by the inflation index. See "Foreign Market Value" section for direct labor included in conversion costs.

Petitioners' Comment 15: The petitioners argue that costs of maintaining inventory at the storage warehouses of Cutrale located at the ports exporting orange juice should be included in inventory storage costs and borne by the production of all orange juice, regardless of geographical market.

DOC Position: We disagree. These storage facilities exist only for the export market. All transfers and sales for the home market are made from the local production facilities. As home market sales do not use these export facilities, their costs have not been included in cost of production for home market, or in constructed value.

Petitioners' Comment 16: Petitioners contend that financial expense should not be offset by financial income which is not related directly to production.

DOC Position: We agree. Only financial revenues from the production of orange juice and the by-products were used to offset financial expenses.

Petitioners' Comment 17: The petitioners urge the Department to base Cutrale's general expenses on the cost of goods sold.

DOC Position: We agree. The general expenses more appropriately relate to the current sales, not production quantities. Therefore, we have reallocated Cutrale's general expenses based on cost of goods sold, as adjusted. See Cutrale Comment 2.

Petitioners' Comment 18: Petitioners state that the cost of maintaining the orange juice inventory at storage facilities must be borne by the production of all orange juice for Citrosuco regardless of geographical market.

DOC Position: We agree. Substantially all of Citrosuco's sales are for export. Also, since the cost of production is related to the Canadian sales, the costs appropriately include a proportion of these costs.

Petitioners' Comment 19: Petitioners argue that the cost of production should include the full monetary correction required by the Brazilian government.

DOC Position: We disagree. Many of the costs adjusted by the monetary correction have been captured through the use of current costs of the inputs. We have included, however, the costs associated with the erosion of the value of assets, in this case finished inventory, as an adjustment to the financial expenses so that only the actual interest expenses have been captured.

Petitioners' Comment 20: Petitioners claim that certain general and administrative expenses allocated to prior months by Citrosuco using the inflation index may have been adjusted twice for inflation because these costs were not year end costs.

DOC Position: We agree. The submitted costs were adjusted to reflect the actual amounts paid in the monthly cost calculated for the final determination.

Petitioners' Comment 21: Petitioners state that a portion of the general and administrative expenses incurred by the consolidated subsidiaries of Citrosuco should be allocated to the cost of producing FCOJ.

DOC Position: We disagree. Since the business of these subsidiaries is not related to the production of orange juice, we did not include such amounts.

Petitioners' Comment 22: Petitioners argue that some of Citrosuco's costs may have been allocated to alcohol production. Such allocation would be incorrect, in their view, since the Brazilian government may have absorbed those costs through subsidies.

DOC Position: All costs of alcohol production were included in total cost. Revenue from alcohol sales were deducted from costs. Therefore, the cost of production for orange juice could not have been diverted to alcohol production. Furthermore, we do not attempt to determine if subsidies exist in antidumping investigations.

Petitioners' Comment 23: Petitioners state that the Department did not verify that the price Cutrale pays itself for oranges is an arms-length price. If not, the price should be disregerded. Moreover, the Department did not verify the amount of income by Cutrale for sales of oranges by its related groves.

DOC Position: The price of oranges was negotiated and fixed by the Brazilian government throughout the harvesting and production season. This was the price paid for oranges purchased from related and from the unrelated growers. This "market value" was used in the calculation of the constructed value.

Respondents' Comments

Citrosuco Comment 1: Citrosuco argues that all its U.S. sales, whether to Florida or through the Wilmington,

Delaware, foreign trade zone, are purchase price transactions and that the Department erred in its preliminary determination when it considered those sales to be ESP transactions.

DOC Position: We agree that the sales to Florida are purchase price transactions. The sales through the Wilmington foreign trade zone, however, are ESP transactions. For purposes of the purchase price/ESP distinction, the merchandise was imported before it was sold, even though it was not entered into the customs territory of the United States. See also DOC Position to Petitioners' Comment 3.

Citrosuco Comment 2: Citrosuco argues that petitioners did not have standing to file the petition and that the Department should revoke its initiation of the investigation and terminate the case.

DOC Position: See section on "Standing Issue."

Citrosuco Comment 3: Citrosuco contends that the Department should not have included interest expense in its preliminary determination. This expense was an intra-company expense incurred in conjunction with loans from a Citrosuco subsidiary. Citrosuco further states that the company has a net financial income on a consolidated basis and should receive a cost credit equal to its net financial income.

DOC Position: We agree. The Department, for its final determination, used the consolidated financial expenses. Citrosuco has a net financial income resulting from current operations. Therefore, the net income was included as an offset to the costs.

Citrosuco Comment 4: Citrosuco argues that the Department should not include in cost of production or constructed value the costs of packing in drums for bulk sales because no such expenses are incurred on those sales.

DOC Position: We agree. Packing is not included in cost of bulk sales.

Citrosuco Comment 5: Citrosuco argues that the Department should base its cost of production on historical costs, i.e., actual cruzado costs booked in the month in which the cost was incurred. Indexing, or "ORTNizing," costs is unfair because the costs are being compared to U.S. dollar sales prices to Canada and the costs are converted to dollars on the date of the sale to Canada. The use of this exchange rate in and of itself adjusts for inflation, thereby accomplishing the same thing as indexing.

DOC Position: We disagree. The purpose of the ORTNizing is to allocate costs which fluctuate, on a per unit basis, month by month.

Citrosuco Comment 6: Citrosuco argues that if monetary correction is included as a cost the Department should be careful not to double count or to attribute incorrectly costs that are not relevant to FCOJ production, such as the monetary correction arising from its cattle ranch subsidiary. Moreover, if monetary correction is included, the cruzado value should be converted to dollars at the April 30, 1986 exchange rate, because it is a year end correction.

DOC Position: We agree. We have not included as a cost any of the monetary correction to the cattle ranch subsidiary. Instead we have calculated the current cost of producing FCOJ. Because we did not use monetary correction of the balance sheet, per se, the exchange rate issue is irrelevant.

Citrosuco Comment 7: Citrosuco contends that the Department has no authority to disregard below-cost sales during the period of investigation. In the preliminary determination, the Department found that all of Citrosuco's below cost sales occurred in two months of the investigative period. Below cost sales in these two months cannot, in Citrosuco's view, be considered to have been made over an extended period of time, in substantial quantities, and at prices which do not permit recovery of all costs within a reasonable period of time, as required by the statute. Alternatively, Citrosuco argues, the Department should not disregard below cost sales unless they exceed 50 percent. FCOJ qualifies as a seasonal product and as such is entitled to treatment under the Department's special cost rule developed in *Fresh Winter Vegetables from Mexico.*

DOC Position: In this final determination we have found that all Citrosuco s sales were above cost. Thus, it is not necessary to address these arguments.

Cutrale Comment 1: Cutrale argues that the Department should not deduct the value-added ICM tax on Cutrale's FCOJ exports because the ICM was paid into an escrow account. The ICM was paid into escrow because Cutrale and the state government of Sao Paulo are litigating whether ICM is legally incident on exports of FCOJ. If the Department decides to deduct the ICM on U.S. sales, Cutrale argues that the Department must be consistent by deducting ICM equally on home market sales to Manaus, a free trade zone. As in the case for ICM on exports, the question of the applicability of ICM on sales to Manaus is also in dispute between Cutrale and the government of Sao Paulo.

DOC Position: With regard to sales to the Brazilian free port of Manaus, we viewed these sales in the same manner as if they were sales for export and not subject to the ICM tax. Therefore, for this final determination, we deducted ICM from home market sales, except for those sales to Manaus, and made no deduction for ICM on sales to the United States.

Cutrale Comment 2: Cutrale argues that its general, selling and administrative expenses should be allocated on the basis of cost of goods produced rather than on the basis of cost of goods sold. This is because Cutrale's cost of goods sold in 1985–86 was low because: (1) Large inventories existed, (2) the value of inventories is artificially inflated, and (3) it is primarily a manufacturing rather than a selling company. For these reasons, allocation of general, selling and administrative expenses on the basis of goods produced would achieve a more accurate result.

DOC Position: We disagree. General, selling and administrative expenses are more closely related to sales than cost of production, since these costs were not directly incurred for the production of FCOJ but were incurred relative to the sales and the general operations of the company for a period of time. The submitted costs reported by Cutrale were allocated on the basis of the cost of goods sold. We adjusted the cost of goods sold since the value of the ending inventory is an integral component of the calculation of the cost of goods sold.

Cutrale Comment 3: If the Department does include some portion of the monetary correction as an element of cost, then Cutrale argues that it should not include that portion attributable to inventory costs. This is because including costs incurred in producing for inventory would contradict the Department's practice of comparing the price of the merchandise with the cost of producing that merchandise in the same month. Secondly, inventory appreciation should be excluded because generally accepted accounting principles require that when current costs or replacement costs are used, they must be offset by "income" generated by the appreciation of the inventory.

DOC Position: The Department included the erosion of the asset value for the inventories. Since the value of those inventories, measured in terms of replacement costs, did not increase at the same rate as inflation, the company experienced a "real" loss and only experienced a nominal gain on inventory, not a "real" profit. See "Foreign Market Value" section.

Cutrale Comment 4: Cutrale argues that the Department should use actual rather than imputed credit cost.

DOC Position: We disagree. The credit expense is considered a cost of the sale of the merchandise and, as such, is reflected in the prices in each market. Therefore, when the Department determines the cost of production related to the home market or the third country sales, this credit expense must be included. Likewise, when the constructed value is used as "foreign market value," credit expense must be included in the basis.

Respondents' Comment 1: Respondents contend that the Department should consider pellets and orange oil as by-products of the production of orange juice and deduct from the cost of production of FCOJ the revenue from the sales of these by-products.

DOC Position: We agree. See reply to Petitioners' Comment 11.

Respondents' Comment 2: Respondents contend that the Department should use the actual nominal costs incurred during a month to compare with sales during the month. If the Department does use the Brazilian index factor "ORTN" for production costs, fruit costs should not be included. Only costs which may be affected by inflation, such as fixed costs, should be indexed for inflation.

DOC Position: We agree that fruit costs should not be adjusted by ORTN. See "Foreign Market Value" section and Petitioners' Comment 12.

Respondents' Comment 3: Respondents argue that the Department should not include "monetary correction" as reported in the companies' financial statements as an element of cost. They contend that monetary correction is merely an amount necessary to enable the financial statements to balance after permanent assets and shareholders' equity accounts are adjusted for inflation. Instead of being a cost of production, monetary correction represents an allocation of profits to shareholders' equity.

In addition, by using replacement costs, the Department has already achieved much of what would be accomplished by including monetary correction as a cost. Any additional costs captured through inclusion of monetary correction, such as a "residual" cost of holding money, are not properly attributable to the costs under investigation.

DOC Position: The Department has not included the monetary correction of the balance sheet, per se, as a cost of production. Instead, we have calculated the current cost of producing FCOJ, thus obviating the need for including many of these cost adjustments made by the monetary correction. We have not included a cost of holding money because the companies under investigation routinely deposit their cash in overnight, interest bearing accounts. We have included as a cost, however, the erosion caused by inflation in the value of another current asset, finished goods inventory.

Procter & Gamble Comment: Procter & Gamble argues that if the dumping margin for either of the two respondents is found to be *de minimis*, the Department should not exclude that respondent's margin from the calculation of the weighted-average rate for all other companies.

DOC Position: In this final determination we have found that one company, Cutrale, has not been dumping. We presume that Procter & Gamble intends its argument regarding calculation of the 'all other' rate to apply to this situation as well.

We disagree with Procter & Gamble's argument. It has been our long-standing policy to base the duty deposit rate for companies not investigated on the margin(s) applicable to companies covered by an affirmative determination. Manufacturers or exporters which have demonstrated, through verified information, that they do not sell at less than fair value, including those which have *de minimis* margins, are excluded from the determination. To the extent that other companies have behaved differently than the company or companies covered by an affirmative determination, this will be reflected in actual duty assessment.

Continuation of Suspension of Liquidation

In accordance with section 733(d) of the Act, we are directing the United States Customs Service to continue to suspend liquidation of all entries of FCOJ from Brazil, except those from Cutrale, that are entered, or withdrawn from warehouse, for consumption, on or after the date of publication of this notice in the **Federal Register**. The United States Customs Service shall require a cash deposit or the posting of a bond equal to the estimated weighted-average amount by which the foreign market value of the merchandise subject to this investigation exceeds the United States price as shown in the table below. This suspension of liquidation will remain in effect until further notice. Cutrale is excluded from this determination.

Manufacturer/producer/exporter	Margin percentage
Citrosuco Paulista, S.A.	1.96
Sucocitrico Cutrale, S.A.	[1] 0
All Others	1.96

[1] Excluded.

ITC Notification

In accordance with section 735(d) of the Act, we will notify the ITC of our determination. In addition, we are making available to the ITC all nonprivileged and nonconfidential information relating to this investigation. We will allow the ITC access to all privileged and business proprietary information in our files, provided the ITC confirms that it will not disclose such information, either publicly or under an administrative protective order, without the written consent of the Deputy Assistant Secretary for Import Administration. The ITC will make its determination whether these imports materially injure, or threaten material injury to, a U.S. industry within 45 days of publication of this notice. If the ITC determines that material injury or threat of material injury does not exist, the proceeding will be terminated and all securities posted as a result of the suspension of liquidation will be refunded or cancelled.

However, if the ITC determines that such injury does exist, we will issue an antidumping duty order directing Customs officers to assess an antidumping duty on FCOJ entered, or withdrawn from warehouse, for consumption on or after the date of suspension of liquidation, equal to the amount by which the foreign market value of the merchandise exceeds the United States price.

This determination is being published pursuant to section 735(d) of the Act (19 U.S.C. 1673d(d)).

Paul Freedenberg,

Assistant Secretary for Trade Administration.

March 9, 1987.

[FR Doc. 87-5619 Filed 3-16-87; 8:45 am]
BILLING CODE 3510-DS-M

APPENDIX B

WITNESSES APPEARING AT THE COMMISSION'S HEARING

CALENDAR OF PUBLIC HEARING

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

Subject : Frozen Concentrated Orange Juice from Canada

Inv. No. : 731-TA-326 (Final)

Date and time : March 12, 1987 - 9:30 a.m.

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

In support of the imposition of antidumping duties:

Barnes, Richardson & Colburn--Counsel
Washington, D.C.
on behalf of

Florida Citrus Mutual, Alcoma Packing Company, Berry Citrus Products, Inc., B & W Canning Company, Caulkins Indiantown Citrus Company, Citrus World, Inc., and Citrus Belle

Bobby F. McKown, Executive Vice President of Florida Citrus Mutual

Philip Herndon, Vice President, Alcoma Packing Company

Thomas Taylor, Executive Vice President, Berry Citrus Products

William L. Raley, Raley Groves

Dr. W. Bernard Lester, Deputy Executive Vice President, Alico, Inc.

James H. Lundquist)--OF COUNSEL
Matthew T. McGrath)

- more -

In opposition to the imposition of antidumping duties:

PANEL 1

Collier, Shannon, Rill & Scott--Counsel
Washington, D.C.
on behalf of

The National Juice Products Association,
Lykes Pasco Packing Company, and
Tropicana Products, Inc.

Thomas L. Rankin, President of Lykes Pasco Packing Company

David Hamrick, Senior Vice President, Industry Relations, Tropicana Products, Inc.

Talmadge G. Rice, Executive Vice President, Lykes Pasco Packing Company

David Kerr, General Counsel of the National Juice Products Association

Bruce P. Malashevich, Vice President, Economic Consulting Services, Inc.

Dr. Kenneth H. Button, Ph.D., Chief Economist, Economic Consulting Services Inc.

Paul C. Rosenthal)
Robin H. Beeckman) --OF COUNSEL

Covington & Burling--Counsel
Washington, D.C.
on behalf of

The Procter & Gamble Co. and its wholly-owned subsidiary, Ben Hill Griffin Citrus Company

C. A. (Tony) Parsons, Associate Director-Purchases of Citrus Hill

Harvey M. Applebaum)
O. Thomas Johnson, Jr.) --OF COUNSEL
David R. Grace)

- more -

O'Connor & Hannon--Counsel
Washington, D.C.
on behalf of

Coca-Cola Foods, A Division of The Coca-Cola Company

George Truitt

F. Gordon Lee--OF COUNSEL

PANEL 2

The Milk Industry Foundation, Washington, D.C.

Royce McLintock, Malone & Hyde, Inc., Memphis, Tennessee

Dan Wells from Wells Dairy, Inc., Le Mars, Iowa

William C. Tinklepaugh, Director of Economics

PANEL 3

Juice Farms, Inc.

Elliott Seabrook, President

Potts & Kalik, P.C.--Counsel
Washington, D.C.
on behalf of

Citrosuco Paulista, S.A.

Robert G. Kalik--OF COUNSEL

Wilkie, Farr & Gallagher--Counsel
Washington, D.C.
on behalf of

Sucocitrico Cutrale, a Brazilian producer

Royal Daniel, III)
James P. Durling) --OF COUNSEL

- more -

Ablondi & Foster, P.C.--Counsel
Washington, D.C.
Helfgott and Karas, P.C.--Counsel
New York, N.Y.
on behalf of

Coopercitrus Industrial Frutesp-S.A.

Ablondi & Foster

F. David Foster--OF COUNSEL

Helfgott and Karas, P.C.

Aaron B. Karas--OF COUNSEL

O'Melveny & Myers--Counsel
Washington, D.C.
on behalf of

Cargill Citro-America, Inc. ("Cargill Citro")

John A.L. Hysell, Sales Manager

Kermit W. Almstedt)
Sheila J. Landers)--OF COUNSEL

APPENDIX C

ARTICLE FROM CONSUMER REPORTS

ORANGE JUICE

Frozen, chilled, or boxed? We compared 50 products with the real thing to see which tasted best.

Despite forty years of trying, the orange-juice industry has yet to come up with a processed juice that tastes as if it came fresh from an orange. Something is always lost in the translation. That something is primarily the zesty, eye-opening, sweet taste of a fresh orange, a stimulation of tongue and nose easy to discern but hard to describe.

The best translation turns oranges into frozen concentrated orange juice, a translation that usually manages to save some of the elusive fresh-orange quality. Frozen concentrate was such a huge improvement over canned juice that its development some 40 years ago soon made the orange America's favorite fruit.

By contrast, the high heat used in canning leaves behind little of the orange but its color. Canned juice's best attribute is that it doesn't require refrigeration. In the last few years, canned orange juice has increasingly been crowded off the supermarket shelf by boxed juice, another product that needs no refrigeration.

The most popular type of orange juice now is chilled juice, the ready-to-drink beverage found in the supermarket's dairy case. It accounts for slightly more than half of all the orange juice sold. While chilled juice may look like fresh-squeezed juice, most of it is made from frozen concentrate that's shipped in bulk to a regional plant, where it's reconstituted and packed in bottles or cartons. The extra processing and handling takes its toll: Our tests have consistently shown that the average chilled juice doesn't taste as good as the average juice you make from concentrate. Chilled juice is usually more expensive, too.

Freshly squeezed orange juice is even more expensive, and it adds lots of effort to making breakfast. For people who still hope to find the fresh-squeezed taste without the effort, there's a new product—juice squeezed in Florida, frozen, and shipped north. It costs about 35 cents per six-ounce glass, which is slightly more than the fresh juice we made. It's described in the box on page 80.

From time to time during our blind tastings of juice products, we slipped our trained taste panelists a glass of juice we'd squeezed ourselves from Florida juice oranges—a juice that was excellent by definition. Their descriptions told us what an excellent orange juice tasted like and established the standard against which all the other juices were rated.

Frozen concentrate

A recent advertising campaign for *Citrus Hill* juice features a lovable old grandpa singing the praises of his hand-tended trees. A more accurate picture might show a huge farm truck carrying tons of oranges toward a structure that resembles an oil refinery. When the oranges are off-loaded at the processing plant, they are washed and sorted, then squeezed. The juice, minus the seeds and most of the pulp, is fed continuously into a huge evaporator, where it is heated in several stages, then rapidly cooled. Elapsed time from fruit juice to cooled concentrate: about eight minutes.

Much of the delicate flavor in an orange comes from dozens of volatile esters and aldehydes. During processing, heat vaporizes most of the compounds, but some are captured and condensed into an "orange essence," which is later added back to the frozen concentrate. Cold-pressed peel oil can also restore some zest to frozen concentrate. Or the processor may overconcentrate the juice in the evaporator, then dilute it a little with freshly squeezed juice called "cutback."

But even the best of those processes saves only a fraction of a fresh orange's delicacy, our taste panel found. Processors do better by what our trained tasters call "orange complex," that characteristic aroma and flavor we sense as "orange."

In addition to the zesty fresh-orange flavor and the basic orangey taste, an excellent orange juice should also be sweet, yet refreshingly tart. It should contain a little of the tang that comes from the peel oil but little or no bitterness.

Our panelists also looked for off-flavors. Chief among them: the cooked-orange taste characteristic of overprocessed orange juice, especially canned juice. Other defects bespeak poor treatment after processing. Over time, exposure to air can start orange juice fermenting in the container or give rise to oxidation, which leaves a taste like multivitamins. Another symptom that the orange oils are deteriorating is a cardboard taste.

Our panelists also noted the quantity of pulp they found in each juice, but its presence or absence did not affect the Ratings. If you like appreciable pulp, the Ratings

note which products contained it.

As the graphs in the Ratings show, our tasters rated most of the frozen juices very good on a scale that designated our fresh-squeezed juice excellent. The best frozen concentrates would probably be entirely satisfactory as the morning eye-opener, especially if you were raised on that type of orange juice. Frozen concentrates rated less than very good had either lost too much of that fresh-orange quality or suffered from specific defects.

The big-name brands were not necessarily the best. Three *Minute Maid* varieties and one *Citrus Hill* product (brands representing Coca-Cola and Procter & Gamble, respectively) placed firmly in the top group, but so did store brands such as *Skaggs Alpha Beta*, Pathmark's

Four of the top eight products were inexpensive brands of frozen concentrate. Florida Gold was top-rated.

The state of the Sunshine Tree

Florida's seal now appears on some juice containers.

The "Sunshine Tree" was Florida's first promotion logo.

Most juice oranges grown in the U.S. come from Florida, where the growing conditions are nearly ideal. Juice oranges need warm, moist days, cool nights, and plenty of rain—weather found in Florida for nine months of the year. While some juice oranges, notably the *Sunkist* brand, come from California, the orange-growing counties in that state are hot and dry, a climate that produces a drier fruit with a thicker skin, more suitable to eat than to squeeze.

As the Florida orange season progresses from October to July, different varieties mature on the trees. First come the Hamlins, a tart, thin-skinned orange high in acid and vitamin C. They're followed by Pineapples and, finally, the late-maturing Valencias, which are the biggest crop, and prized for their deep orange color, sweetness, and juiciness.

To produce a uniform-tasting juice year round, processors blend frozen concentrate from different harvests. Thus, concentrate from Valencias—highly colored, sweet, but relatively low in acidity and vitamin C—may be held frozen after the spring harvest and blended the following fall with some high-acid, tart, light-colored Hamlin concentrate.

One factor the orange packers can't control is the weather. Serious freezes in Florida in four of the last six years wiped out nearly a third of the state's citrus trees. The last freeze was in 1985. Normally, after such a freeze, orange-juice prices would double overnight. Instead, prices edged up only 10 percent and have since crept down close to their 1982 levels.

What happened? Brazil filled in where Florida left off. Brazil is now the world's largest producer of concentrate. Last year roughly half the orange juice consumed in the U.S. came from Brazilian concentrate, which was blended with homegrown.

Brazil grows its own orange varieties, including vast acreages of the Pera, an orange quite similar to the Florida Valencia. A scientist at the Florida Citrus Commission conceded that Brazilian concentrate reaching the U.S. was a pretty good product, but maintained that the Pera doesn't have quite the bouquet of a Florida Valencia. That may be a moot point, since the orange juice we drink is nearly always a blended product.

To keep Florida as the orange-juice capital of the world, the Florida juice lobby has erected a series of barricades. A protective tariff levied on imported juice keeps Brazil from swamping the U.S. market. And the state of Florida sets legal standards for orange juice that are a bit more stringent than the Federal Government's standards. While those standards ostensibly ensure that Florida orange juice is a high-quality product, they also tend to tilt the definition of quality toward the type of oranges that Florida produces in abundance.

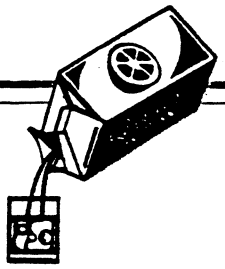
The Florida Department of Citrus has come up with a couple of label logos to distinguish products of the Florida industry from out-of-state competition, launching big advertising campaigns to make the point. The first logo was the "Sunshine Tree," a stylized orange tree. When that symbol shows up on a container, it means that the juice inside is from oranges all grown in Florida.

But since so much juice is now Brazilian, the Sunshine Tree needed a graft. Enter "Florida's Seal of Approval." That seal means that the contents meet Florida's quality standards. It doesn't mean that the juice necessarily comes from Florida. All it really signifies is that the juice was marketed by a Florida shipper. Perfectly good juice from California or Texas won't have the seal. It's worth noting that compliance with the seal program is not total, even in Florida. One of the biggest brands, *Minute Maid*, a Florida-based division of Coca Cola, doesn't carry the seal.

No Frills, and Albertson's *Janet Lee*. The top finisher, though not by much, was *Florida Gold 100% Valencia*. It is the only brand that specifies Valencia oranges, the most prized juice variety, on its label. It was also one of the cheaper products tested.

Chilled juice

Chilled juices are processed more than frozen concentrate, making chilled orange juice more vulnerable to taste defects.



Most chilled juice begins life as extra-concentrated frozen concentrate that is shipped in bulk from a juice plant to a regional center where it is mixed with water and packed in bottles or cartons. At that time, chilled juice is generally pasteurized—a heat treatment that juice sold as frozen concentrate escapes.

The highest-rated chilled juice is *Tropicana Pure Premium*, which undergoes less processing than the rest. It isn't made from concentrate. It's merely flash-pasteurized (quickly heated and cooled).

Tropicana supposedly goes to extra effort and expense to make and transport *Pure Premium*, using only the best available fruit, squeezing it fairly gently, and shipping it in Tropicana's own special

Ratings

Orange juice

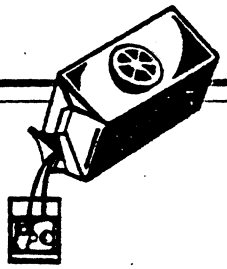
Listed by types. Within types, listed in order of overall sensory quality, as depicted by the Sensory index. Index is based on judgments made by CU's trained taste panel of the freshness and intensity of each product's orange flavor; products lost points for tasting overprocessed or having the defects noted in Comments. Presence or absence of pulp did not affect Ratings; except as noted, pulp was slight in all products. Except as noted, cost per serving is based on average price CU paid for 12-oz. cans of frozen concentrate, half-gallon cartons of chilled juice, and 8-oz. aseptically packed boxes.

Product	Sensory index (0 Poor · Fair · Good · Very good · Excellent 100)	Cost per 6-oz. serving	Comments
Fresh-squeezed		29¢ [1]	Very pulpy.
Frozen concentrate			
Florida Gold 100% Valencia		14	Moderately pulpy.
Minute Maid Country Style		20	Very pulpy.
Citrus Hill Select		17	Moderately pulpy.
Skaggs Alpha Beta		12	Very pulpy.
No Frills (Pathmark)		11	Some vitamin flavor; moderately pulpy.
Minute Maid Reduced Acid		23	Some vitamin flavor; moderately pulpy.
Minute Maid		19	Moderately pulpy.
Janet Lee (Albertson)		15	Some metallic flavor; very pulpy.
Tropicana Home Style		18	Some fermented, metallic, and vitamin flavors; very pulpy.
Bel-Air (Safeway)		11	Moderately pulpy.
Donald Duck Higher Pulp		12	Some vitamin flavor; moderately pulpy.
Kroger		14	Some vitamin flavor; moderately pulpy.
Tree Sweet		14	—
Lady Lee (Lucky)		10	Some vitamin flavor; moderately pulpy.
Pathmark		9	Cardboard flavor; moderately pulpy.
Sunkist		18	Some vitamin flavor.
Donald Duck		13	Some vitamin flavor.
A & P		13	Some vitamin and cardboard flavor.
Tropicana		19	Some metallic and vitamin flavors; moderately pulpy.
Cost Cutter (Kroger)		11	Some vitamin flavor.
Vita Gold		17	Some metallic and vitamin flavors.
Avondale (Kroger)		12	Fermented taste; strong vitamin flavor.
Scotch Buy (Safeway)		11	Some vitamin flavor; strong metallic flavor.

[1] *Based on Florida oranges bought at 39¢ per lb.* [2] *Purchased in 1-liter carton.*

freight trains. For all that, we found *Minute Maid* chilled, made from concentrate, to taste about as good. As the Ratings show, these two chilled products did about as well as a middling frozen juice.

Most of the other chilled juices showed the off-flavors caused by improper handling. Chilled juice is more susceptible to such problems than frozen concentrate. Frozen concentrate can last months in the freezer. Chilled juice has a shelf life of four to five weeks if it's kept properly



chilled at 35°F. But if chilled juice is stored at 45°, it lasts only half that long.

Boxed juice

Boxed orange juice is heated, quickly cooled, then packed in multilayer laminated cartons without any air space. The "aseptic" in this "aseptic packaging" refers to the closed, germ-free environment in which the packing takes place. Like cans, aseptic cartons can be stored at room temperature and packed in a lunchbox or bought from a vending machine without fear of spoilage.

Unfortunately, boxed orange juice tasted just as poor as canned juice we've tasted in the past. The cartoned juice also seems prone to the same sort of metallic

Sensory index

Product	Poor	Fair	Good	Very good	Excellent (0 to 100)	Cost per 6-oz. serving	Comments
Chilled							
Tropicana Pure Premium				◆		25¢	—
Minute Maid						22	Some vitamin and metallic flavors.
Knudsen			◆			23	—
Minute Maid Country Style			◆			16	Some metallic flavor; moderately pulpy.
Citrus Hill Select			◆			14	—
Tropicana Home Style			◆			21	Some vitamin flavor; very pulpy.
Lucerne (Safeway)			◆			16	—
Tropicana (from concentrate—jar)			◆			26	Some vitamin flavor.
Janet Lee (Albertson)			◆			14	Some vitamin flavor.
Tropicana (carton)			◆			17	Fermented taste; some vitamin and metallic flavors.
Sunkist			◆			18	Fermented taste; strong vitamin flavor.
Pathmark			◆			13	—
A & P			◆			12	Fermented taste; some metallic flavor.
Skaggs Alpha Beta			◆			15	Some metallic and vitamin flavors.
Donald Duck			◆			14	Fermented taste; some vitamin and strong metallic flavors.
Safeway (jar)			◆			26	Fermented taste; some metallic flavor.
Tropicana (not from concentrate—jar)			◆			17	Fermented taste.
Kroger		◆				16	Some metallic and vitamin flavors.
Lady Lee (Lucky)		◆				14	Fermented taste; strong metallic flavor.
Bel-Air (Safeway)		◆				18	Strong vitamin and metallic flavors.
Kraft (jar)	◆					26	Strong overprocessed-orange taste; some vitamin and strong metallic flavors.
Boxed							
Minute Maid		◆				33	Fermented taste; strong vitamin and some metallic flavor.
Ocean Spray		◆				31	Strong overprocessed-orange taste; fermented taste; some vitamin and metallic flavors.
Tree Ripe	◆					23	Strong overprocessed-orange taste; fermented taste; strong vitamin and some metallic flavors.
Borden	◆					28	Strong overprocessed-orange taste; fermented taste; strong vitamin and some metallic flavors.
Texsun	◆					17 [2]	Strong overprocessed-orange taste; fermented taste; strong vitamin and metallic flavors.

The best chilled products cost twice what you'd pay for the best frozen concentrates. And they tasted only as good as a middling frozen product.

off-flavors that ruin the taste of canned orange juice. All the boxed juices tasted fermented and vitaminy. That and other off-flavors tended to overwhelm the anemic orange-complex flavor. Boxed juices contained virtually no trace of fresh-orange flavor.

Aseptically packed orange juice is just a small part of the boxed-juice market, a market that's aimed mainly at kids. The individual-portion cartons typical of this product help explain the boxed juices' relatively high cost per serving. Most cost more than *Tropicana Pure Premium*, one of the priciest products in the other categories. The only large aseptic container we came across was a one-liter box of *Texsun*. *Texsun* cost much less per serving than the other boxed juices. But its taste was so bad that it (along with the boxed *Borden*) ended up with an overall sensory-quality score of zero.

Recommendations

Not only are juices made from frozen concentrate apt to taste better than chilled juice, they often cost less, too. The typical chilled juice costs 18 cents per six-ounce serving, compared with around 20 cents per serving for name-brand frozen concentrate and 13 cents for store-brand frozen concentrate. *Florida Gold*, the best of the frozen brands, cost only 14 cents a serving.

People who think they are buying a higher-quality product when they buy chilled juice might switch to frozen concentrate and stop carrying home the extra water. The best of the chilled juices, *Tropicana Pure Premium* and *Minute Maid* regular, were the only ones to be rated very good. They were also among the most expensive chilled products, at 25 and 22 cents per serving.

If frozen and chilled juice aren't stored properly, their flavor—and their vitamin C content—can deteriorate. If you make up more juice than you'll drink within a day or two, store what's left in an airtight jar. Both the orange flavor and vitamin C degrade rapidly in the presence of air.

If you're hooked on the convenience of chilled juice, consider buying it in the one-quart size, rather than the more popular two-quart size. Recently, juice companies have been going the other way—pushing chilled juice in a three-quart carton. If you're interested in preserving freshness, don't be tempted by the mammoth cartons. The undrunk portion sitting in your refrigerator will just go downhill.

Boxed juice is easy to store. But as far as taste goes, the aseptically packed orange juice was a nonstarter. Consider it only for situations in which the package's convenience and portability demand you put up with the poor flavor. ■

One step closer to the orange

Just Pik't promises to be something new under the Sunshine Tree—a commercial orange juice that is not concentrated and not pasteurized. In other words, not heated. The juice in *Just Pik't* is squeezed in Florida, then packed and frozen in an expandable clear plastic bottle. It's kept frozen until you buy it. The idea is to skip as many processing steps as possible, thus delivering a juice that actually tastes like fresh-squeezed.

Just Pik't was introduced in New York City last year. The makers plan to distribute it in other metropolitan areas within the next two years. The product is not cheap. At $1.99 per liter, a six-ounce serving costs 35 cents—more than any other product we tested, more than what our fresh-squeezed juice cost.

Just Pik't didn't fully deliver on its promise to taste just like fresh-squeezed juice, but it did draw higher marks for fresh taste than any of the processed products. We also noted a slight off-taste reminiscent, strangely, of canned juice.

Using *Just Pik't* entailed planning ahead, we found. It took about two days for the one-liter package to thaw in our refrigerator. The instructions are mute on defrosting tips, so we resorted to force, melting the product in a microwave oven. That took about 20 minutes and didn't appear to affect the flavor in any way.

Orange juice as a vitamin pill

Orange juice is the major natural source of vitamin C in the American diet. A six-ounce serving of the average juice made from frozen concentrate provides an adult's Recommended Daily Allowance of 60 milligrams of vitamin C. Our tests showed that the chilled and boxed juices averaged a little less than 60 milligrams per serving, probably due to processing or storage vagaries. But it wasn't enough less to be significant nutritionally.

Orange juice is also a good source of potassium, as are many other common foods, such as meat, potatoes, bananas, and peanut butter. Since potassium is so abundant, healthy people rarely, if ever, develop a potassium deficiency. (Indeed, there is no RDA for potassium. Typical daily intakes range from 800 to 5000 milligrams.) A six-ounce serving of orange juice, of any type, contains about 350 milligrams.

While orange juice is a nutritious drink, it's not a diet drink. Ounce for ounce, orange juice has about as many calories as *Coke* or beer: roughly 80 calories per six-ounce serving. More than 10 percent of orange juice is fruit sugar. That's why people on a diet are advised to eat an orange rather than quaff a glassful of juice, which is the caloric equivalent of three or four oranges.

APPENDIX D

ARTICLES FROM THE WALL STREET JOURNAL AND THE JOURNAL OF COMMERCE

WALL STREET JOURNAL.

THURSDAY, JANUARY 22, 1987 ORLANDO, FLORIDA

Citrus King

Brazil's Jose Cutrale, Helped by Coca-Cola, Is Taking On Florida

His Orange Juice Concentrate Is Sold to Minute Maid; U.S. Growers Cry Foul

Glut and Saturated Markets

By ROGER COHEN
Staff Reporter of THE WALL STREET JOURNAL

SAO PAULO, Brazil—On the night of Dec. 12, 1962, a bitter frost hit central Florida, killing millions of the state's orange trees. And, here in Brazil's industrial capital, an idea was born.

It was simple enough: The orange juice that Florida lost, Brazil could supply. The thought struck Jose Cutrale Jr., a struggling orange wholesaler in this city's bustling market. The son of a Sicilian immigrant, he was restless. "Sometimes he was in here working at 3 in the morning," says Gilberto Bernardini, who still minds the old Cutrale market stall.

Mr. Cutrale (pronounced koo-TRAH-lay) himself has moved on. He now owns 6.7 million orange trees—more than anyone else in the world. His company, Sucocitrico Cutrale S.A., supplies much of the orange juice in Coca-Cola Co.'s Minute Maid frozen concentrate.

Jose Cutrale Jr.

Mr. Cutrale has pioneered a huge citrus industry that has made Brazil the world's leading producer of orange juice. In the process, he has amassed a personal fortune estimated at $600 million, and he has made a lot of enemies.

Angry Florida growers accuse him—and other Brazilian producers—of dumping juice in the U.S. And they are preparing to fight to regain their lost dominance. Brazil now accounts for 90% of the world's exports of orange-juice concentrate and commands 60% of the total world market.

"Those Brazilians are rookies, and we're gonna whip 'em," says Ben Hill Griffin Jr., a millionaire Frostproof, Fla., grower.

Portending a Glut

Mr. Cutrale also has clashed bitterly with his Brazilian competitors. Overplanting and plunging prices have set the stage for a damaging glut in Brazil and throughout the world.

But Mr. Cutrale, whose company alone constitutes nearly 35% of the Brazilian orange-juice-concentrate industry, professes to be unperturbed. A look at this secretive, domineering man tells much about how business is done in developing nations. He has exploited close government ties, subsidies, cheap labor and concessions to exporters to build an empire in which virtually everything is decided by him.

His personal story also illustrates the paradoxes and tensions in U.S. relations with Brazil. For while Florida orange growers are at his throat, a linchpin of Mr. Cutrale's empire is a U.S. company. Coca-Cola helped launch his business, and for nearly 20 years he and Coke have enjoyed what Eugene Amoroso, the president and chief executive officer of Coca-Cola Foods, concedes is a "very special relationship." A competitor, a director of Cargill Corp.'s Brazil citrus unit, estimates that Coke buys, "if not all its Brazilian juice, then 99.9%" from Mr. Cutrale.

Thus, Mr. Cutrale has benefited from one American multinational while angering American orange growers. Meanwhile, Brazil's booming export industries have pleased American bankers dealing with this country's $105 billion foreign debt and angered U.S. trade officials concerned with balancing U.S.-Brazil trade.

Growing Orange Trees

In 25 years, Brazil's annual export of orange-juice concentrate has increased to close to $1 billion from $84,000. The number of orange trees has grown from 39 million in 1970 to 130 million today—more than twice the number in Florida. And more than $1.5 billion has been invested in orange-processing factories scattered throughout northern Sao Paulo state.

The 60-year-old Mr. Cutrale is now one of Brazil's leading businessmen. But he doesn't like to talk to reporters about his empire—or about anything else.

His new headquarters, a cluster of low-slung granite-gray buildings in the midst of Sao Paulo state's orange-growing country, reflects his secretive nature. Surrounded by two rows of barbed-wire fence and patrolled by armed guards, the complex is referred to by the townspeople of Araraquara as "the concentration camp."

Inside his antiseptic headquarters, workers are careful to shut doors because, says one, "Mr. Cutrale hates us to waste the air conditioning." There are no pictures on the walls, and there are no potted plants. "Mr. Cutrale doesn't like plants," says a secretary. And despite repeated promises to a reporter that Mr. Cutrale would see him, there is no Mr. Cutrale.

Confronted a few days later at 8 a.m. in his Sao Paulo office, this tall, elegant gray-haired man says he can't talk because he must rush to a dentist. Relenting, he allows the reporter to accompany him.

Asked about his success, he replies: "Never take a holiday. Work for quality, quantity and competitive price." About Coca-Cola: "We have a good feeling." And what of the problems of the citrus industry? "I enjoy myself. We've never had excess juice, and I don't think we ever will."

This bluff optimism is partly bravado. But it also reflects the remarkable success of Mr. Cutrale since the Florida freeze of 1962. It was shortly after that that he bought his first small orange-processing plant and contacted Coca-Cola, which began a relationship that Coke's former finance director, Sam Ayoub, calls a beautiful marriage.

The importance of this relationship is suggested by the fact that the only book in the Araraquara office of Jose-Luis Cutrale, Mr. Cutrale's son, is "The Real Coke, The Real Story" by Thomas Oliver.

But the younger Mr. Cutrale, who is 40, is as suspicious of journalists as his father is, and he doesn't like to talk about Coca-Cola. Asked about sales to the company, he smiles: "I just don't have that figure in my head."

Michelle Beale, a spokeswoman for Coca-Cola Foods, won't give that figure, either. But Mr. Ayoub, the former Coke director, describes Jose Cutrale as "one of the top suppliers to Coke. In Florida's bad years, he has been selling between $100 million and $200 million [in juice concentrate]." Certainly, it is likely that any regular U.S. consumer of Minute Maid—and it leads the $3.3 billion U.S. retail market with a 22% share—is drinking some of Mr. Cutrale's juice.

It all began when Mr. Cutrale, seeking to improve his standards, persuaded Coke to send technicians and agronomists to assist him in planting and cultivating new trees and in developing industrial techniques for juice production. Coke had become worried about the uncertainty of Florida supplies shortly after it acquired Minute Maid in 1960.

Coke's assistance continued over the years. And today, Mr. Ayoub says, if "Cutrale's production is 100 and Coke needs 80, he provides it." He adds that Mr. Cutrale's telephoned promise to deliver is considered an absolute guarantee. "Coke will never let him down because he has never failed to produce the goods."

That situation irks Bobby F. Mckown, the general manager of Florida Citrus Mutual, the state's orange growers' association. He comments that it is a "bit like the [Reagan administration's] Iran deal, where we're helping the guys supposed to be our enemies."

22 THE WALL STREET JOURNAL THURSDAY, JANUARY 22, 1987

Citrus King: Jose Cutrale Is One Reason Brazil Is Such a Threat to Florida's Orange-Juice Industry

Continued From First Page

aging director, Horst Happel. "I like to roll up my sleeves and fight," Mr. Cutrale says.

Insiders talk of explosive industry meetings in Sao Paulo in which Mr. Cutrale and Mr. Happel have hurled abuse at each other: "The clash of two huge egos who have taken on the world and are the best," says Cesar Denardi of Citropectina S.A., a small juice-concentrate company.

Mr. Happel declined repeated requests for an interview. But most analysts believe that Mr. Cutrale's Sucocitrico remains marginally bigger than Citrosuco, with the two groups holding close to 70% of Brazilian concentrate production.

It isn't just Citrosuco that has felt the brunt of Mr. Cutrale's combative manner. When, in 1981, Cargill Corp.'s Brazilian unit, Cargill Citrus Ltda., introduced the cost-saving idea of transporting juice as oil is transported, in bulk tankers rather than in barrels, Mr. Cutrale fought the innovation, complaining to friends in the Brazilian government. He suggested to them—altogether seriously—that the tanker Cargill owned should be divided on the basis of export shares, of which Mr. Cutrale's happened to be the largest.

"He wanted to socialize the bulk system, and he came close because he had excellent links with the [former] military government," says one official. In the end, Mr. Cutrale bought his own ship—the Orange Blossom. It is the largest juice-concentrate carrier in the world, with a capacity of 13,000 tons.

Smiling broadly and speaking in evident good humor, Jose-Luis Cutrale says something that sounds like a veiled threat: "We'll soon be producing 300 million boxes of oranges in Brazil. Florida produces 130 million. I think it's time we sat and talked to ensure that everyone is happy."

Florida growers don't view things quite that way. After seeing their own output plunge from more than 200 million 90-pound boxes to an estimated 130 million this year as a result of four freezes in the past six years, they are determined to reclaim most of the U.S. market that has become vital to the Cutrales and to other Brazilian producers. "Is it unfair to kick 'em [the Brazilians] out?" asks Mr. Hill Griffin, the grower. "No," he answers, "it's economics."

"Although U.S. consumers think their juice is from Florida, it's in fact often from Mr. Cutrale," says Dan L. Gunter, the executive director of the Florida Department of Citrus. Now, however, the Florida industry argues that new trees planted in the southern part of the state will be enough to return production to about 200 million boxes by the early 1990s. With the orange-juice market expected to grow only slowly, after doubling in the past 20 years, industry leaders say that Florida will have enough juice to meet most domestic demand and thus to squeeze out the Brazilians.

Protectionist Mood

At the same time, the industry is pursuing aggressive commercial tactics. A petition brought by the Florida Citrus Mutual led to the imposition in October by the U.S. of a still-disputed 8.54% anti-dumping duty on juice concentrate sold in the U.S. (The duty on Mr. Cutrale's juice, however, was set at only 0.5% because he was found to be selling only slightly below cost.) This protectionist mood seems sure to grow stronger.

Other problems, too, are looming for Mr. Cutrale. The unprecedented succession of freezes in Florida has led to a wild boom in orange-tree planting in Brazil. Coffee, cane and other crops have been ripped out. The 10,000 saplings surrounding his "concentration camp" headquarters are among about 25 million planted during the past two years as growers sought to cash in on a price boom brought by the U.S. frosts.

But this price, which reached $1,800 per ton of orange-juice concentrate on the New York commodities market in 1985, has now slumped to about $1,000 as supply has overtaken demand.

As a result, Brazilian growers want more money for their fruit than Mr. Cutrale and other industrialists are prepared to pay. (Mr. Cutrale is Brazil's largest grower, but he also buys oranges from many other suppliers.) In 1985, the industrialists lost several hundred million dollars after paying high prices for fruit as international juice prices plunged. This in turn led to the dumping charges, as the Brazilians sought to get rid of their costly juice.

Saturated Juice Market

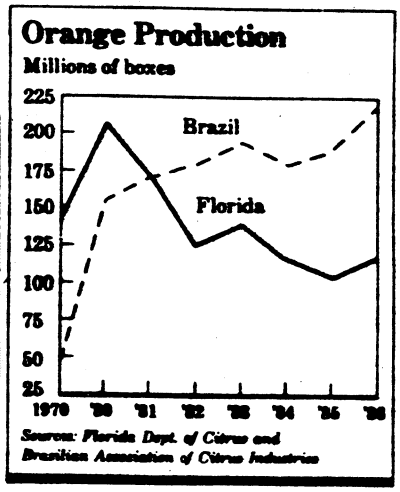
Now, Mr. Cutrale and others are refusing to budge from a price of $1 a box—compared with a price of $3.50 in 1985. A dispute is raging and seems likely to go on. Moreover, trees still are being planted, making a worse glut probable soon.

It is clear to most analysts that the 1985 debacle marked the end of unbridled optimism and the beginning of conflict between growers with too many oranges and industry with saturated markets.

The industry hopes to calm the situation by establishing a new "participatory" system under which growers will be paid according to futures prices in New York. New markets for oranges are also being sought in the Soviet Union, Japan and China, while an attempt is being made to stimulate a growing Brazilian domestic market.

The younger Mr. Cutrale says he is unworried by this turmoil. "I know I have a high-quality product," he says. "I don't worry too much about the rest."

His father seems to be similarly blase. After all, droughts, tree cankers and new markets could easily change things as unexpectedly as that 1962 Florida freeze. "I'm happy," he says, "because I have more orange trees than anyone else in the world."



THE JOURNAL OF COMMERCE, Wednesday, March 18, 1987

Fla. Citrus Growers Ready to Expand

ORLANDO, Fla. — A mild winter behind them, newly optimistic Central Florida citrus growers are rushing to expand, officials say.

"I've had a lot of requests on how to plant young trees and how to take care of young trees," said John Jackson, who works for the Florida Cooperative Extension Service in Lake County.

March 15 historically marks the end of the threat of serious freezes, and this year was only the second mild winter in the last seven. Harsh freezes have destroyed 185,000 acres of trees over the last four years.

"Based on the calls I've had and the commitments that the larger organizations have made, I think it's safe to say that a million trees will be planted in the next six months," Mr. Jackson told the Orlando Sentinel.

In all, Mr. Jackson estimates, at least 10,000 acres will be replanted in Central Florida from now through August, at least twice as many acres as were replanted last year.

It will be three or four years before the new trees begin yielding handfuls of fruit. It will take about 10 years for the trees to reach full production, but the wait does not seem to be daunting growers.

Memories of the disastrous December 1983 and January 1985 freezes haven't faded. On both occasions temperatures dropped to the teens across the Citrus Belt; they cost the industry at least $2 billion.

"Our members are being careful to replant in the better spots," said Bert Roper, a veteran West Orange County citrus grower who heads a small cooperative of growers struggling to recover. "We're picking the heavier soils for sour orange, because that's a cold-hardy rootstock."

Of the more than 168,000 acres of lush groves growing in 1982 in Lake and Orange counties, only 28,000 survived the historic back-to-back freezes. Statewide, as many as 15 million citrus trees were frozen, about one out of every five.

Rows of tiny green trees stretch as far as the eye can see across the sandhills bordering U.S. Highway 27 from Lake County south to Polk County.

Already, rows of tiny green trees stretch as far as the eye can see across the sandhills bordering U.S. Highway 27 from Lake County south to Polk County. The high, well-drained strip of land running down the center of the state, known as the Ridge, is still among the best citrus-growing land in the state, horticulturists say.

Land farther south is warm, but it's also low and wet, requiring extensive, expensive drainage.

Some of the larger, more established citrus companies in Orange and Lake counties are leading the replanting in what is now the northern edge of the growing region.

A few of the companies doing major replanting this year of at least 100 acres include Golden Gem Growers, a citrus cooperative in Umatilla; Florida Citrus Properties in Tavares; Lykes Pasco in Dade City; and R.D. Keene Co., McKinnon Corp. and South Lake Apopka Citrus Growers Association, all in the Winter Garden area. (AP)

Brazilian FCOJ Exports Forecast to Rise in '86-87

Knight-Ridder Financial

WASHINGTON — The U.S. agricultural counselor in Sao Paulo has increased his forecast of Brazil's frozen concentrated orange juice exports in 1986-87 (July-June) to 750,000 metric tons from 700,000 metric tons forecast earlier because of increased international demand.

That would compare with trade estimates of 750,000 metric tons to 800,000 metric tons, and with 665,000 metric tons estimated for 1985-86.

The counselor, in a report dated March 12, also increased his projection of the 1986-87 commercial orange crop for the state of Sao Paulo to 220 million 40.8-kilogram boxes from 210 million boxes. He said over 90% of the crop had been harvested, and the increase was caused by multiple pickings this season.

He said nearly all of the increase was expected to go for fresh consumption, which has risen sharply because of increased consumer purchasing power, the use of oranges for juice because of a shortage of soda and other beverages and greater producer interest in selling to the domestic market. However, he said consumption may decrease in 1987-88 if there is a strong recession in Brazil.

The counselor increased his estimate of Sao Paulo's 1986-87 FCOJ output to 580,000 metric tons from 575,000 metric tons forecast earlier because of slightly higher yields. He said most trade sources were estimating Sao Paulo's FCOJ production at 575,000 metric tons to 585,000 metric tons, and production in other states at 15,000 metric tons to 20,000 metric tons, most of which is exported.

He said orange production in the state of Sao Paulo was expected to increase in 1987-88 because of good weather.

APPENDIX E

SUPPLEMENTAL INFORMATION ON THE FINANCIAL EXPERIENCE OF LARGE, MEDIUM, AND SMALL U.S. ORANGE GROWERS

Supplemental Information on the Financial Experience of Large, Medium, and Small U.S. Orange Growers

Financial experience of large U.S. growers

Usable financial data were received from 31 large U.S. growers (with total acreage per grower over 300) on their round orange grove operations, as well as on the overall operations of their farms.

Operations on round orange groves yielding less than 200 boxes of round oranges per acre 1/.—Selected financial data for large growers for round orange groves yielding less than 200 boxes per acre are presented in table E-1. Aggregate total proceeds from the sale of round oranges increased from $16.3 million in 1983 to $21.5 million in 1984, an increase of 32.5 percent. However, total proceeds fell by 19.0 percent to $17.4 million in 1985, and further declined to $11.5 million in 1986, a decrease of 34.8 percent.

Aggregate net income before taxes increased to $7.1 million in 1984, up significantly from a $1.1 million loss experienced in 1983, but then declined to $3.5 million during 1985, or by 51.4 percent. During 1986 a pretax loss of $422,000 was experienced. The pretax income (loss) margins for the U.S. growers were (7.0) percent, 33.2 percent, 19.9 percent, and (3.7) percent, respectively, for the 1983-86 period. Eight of the U.S. growers experienced net losses in 1983, six reported losses in 1984, five reported losses during 1985, and six incurred losses in 1986.

The value, quantity, and unit value (dollars per box) of sales for round orange groves yielding less than 200 boxes per acre are shown in table E-2.

Operations on round orange groves yielding 200 or more boxes of round oranges per acre.—Selected financial data for large growers for round orange groves yielding 200 or more boxes per acre are presented in table E-3. Aggregate total proceeds from the sale of round oranges increased from $56.2 million in 1983 to $71.8 million in 1984, or by 27.7 percent, then rose further to $82.8 million during 1985, an increase of 15.3 percent. Aggregate total proceeds decreased during 1986 to $73.5 million, or by 11.2 percent.

Aggregate net income before taxes followed the trend of total proceeds, increasing from $21.0 million in 1983 to $29.6 million in 1984, or by 40.9 percent, and then to $34.1 million during 1985, an increase of 15.2 percent. During 1986, however, net income before taxes fell to $20.1 million, or by 41.0 percent. The pretax margins for the U.S. growers during the 1983-86 period were 37.4 percent, 41.3 percent, 41.2 percent, and 27.4 percent, respectively. Three out of 20 growers reported net losses during 1983, one grower experienced a loss in 1984, and two growers reported losses in 1985 and 1986.

The value, quantity, and unit value (dollars per box) of sales for round orange groves yielding 200 or more boxes per acre are presented in table E-4.

1/ Data were collected separately for groves with yields of less than 200 boxes per acre (generally recently planted groves or groves adversely affected by freezes, disease, etc.), and for groves with yields of 200 or more boxes per acre.

Table E-1
Income-and-loss experience of 17 large U.S. growers on round orange groves yielding less than 200 boxes of round oranges per acre, accounting years 1983-86

Item	1983	1984	1985	1986
Total proceeds...1,000 dollars..	16,262	21,540	17,448	11,459
Total growing and operating expenses.....1,000 dollars..	17,398	14,391	13,972	11,881
Net income or (loss) before income taxes...1,000 dollars..	(1,136)	7,149	3,476	(422)
Gains or (losses), net, on futures transactions 1,000 dollars..	***	***	***	***
As a share of total proceeds:				
Total growing and operating expenses.....percent..	107.0	66.8	80.1	103.7
Net income or (loss) before income taxes.....percent..	(7.0)	33.2	19.9	(3.7)
Number of firms reporting net losses.....	8	6	5	6

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

Table E-2
Sales for round orange groves yielding less than 200 boxes per acre, for 17 large U.S. growers, accounting years 1983-86

Item	1983	1984	1985	1986
Value.....1,000 dollars..	16,262	21,540	17,448	11,459
Quantity....1,000 boxes..	2,944	2,695	2,424	2,324
Unit value.....per box..	$5.52	$7.99	$7.20	$4.93

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

Table E-3
Income-and-loss experience of 20 large U.S. growers on round orange groves yielding 200 or more boxes of round oranges per acre, accounting years 1983-86

Item	1983	1984	1985	1986
Total proceeds...1,000 dollars..	56,242	71,827	82,794	73,481
Total growing and operating expenses.....1,000 dollars..	35,207	42,184	48,657	53,332
Net income or (loss) before income taxes...1,000 dollars..	21,035	29,643	34,137	20,149
Gains or (losses), net, on futures transactions 1,000 dollars..	***	***	***	***
As a share of total proceeds:				
Total growing and operating expenses.....percent..	62.6	58.7	58.8	72.6
Net income or (loss) before income taxes.....percent..	37.4	41.3	41.2	27.4
Number of firms reporting net losses.....	3	1	2	2

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

Table E-4
Sales for round orange groves yielding 200 or more boxes per acre, for 20 large U.S. growers, accounting years 1983-86

Item	1983	1984	1985	1986
Value.....1,000 dollars..	56,242	71,827	82,794	73,481
Quantity.....1,000 boxes..	8,695	9,594	10,128	12,535
Unit value.....per box..	$6.47	$7.49	$8.17	$5.86

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

Operations on all round orange groves.—Selected financial data for round orange groves of the 31 large growers are presented in table E-5. Aggregate total proceeds from the sale of round oranges increased from $135.9 million in 1983 to $170.9 million in 1984, or by 25.7 percent, then rose to $187.8 million during 1985, an increase of 9.9 percent. Aggregate total proceeds decreased in 1986 to $158.5 million, a decline of 15.6 percent.

Aggregate net income before taxes increased from $29.7 million in 1983 to $54.3 million in 1984, an increase of 83.0 percent, and then rose to $59.8 million in 1985, or by 10.1 percent. During 1986, however, net income before taxes fell to $26.9 million, or by 55.1 percent. The pretax margins for the U.S. growers were 21.9 percent, 31.8 percent, 31.8 percent, and 17.0 percent, respectively, for the 1983-86 period. Eight of the growers incurred a net loss during 1983, 6 reported losses in 1984, 5 in 1985, and 11 experienced net losses during 1986.

The value, quantity, and unit value (dollars per box) of sales for all round orange groves for the 31 large U.S. growers are presented in table E-6.

Overall establishment farm operations.—Selected financial data for the 31 large growers responding to the Commission's questionnaire on their overall farm operations (within which round oranges are grown) are presented in table E-7. Aggregate total farm income for these growers increased from $210.9 million in 1983 to $273.2 million in 1984, or by 29.5 percent, then rose to $301.6 million in 1985, or by 10.4 percent. During 1986, however, total farm income declined to $280.4 million, or by 7.0 percent.

Aggregate net income before taxes followed a pattern similar to total farm income, increasing from $24.8 million in 1983 to $64.9 million during 1984, or by 161.4 percent, and then to $68.4 million in 1985, an increase of 5.5 percent. During 1986, however, net income before taxes fell to $38.1 million, or by 44.3 percent. The pretax margins for the U.S. growers were 11.8 percent, 23.7 percent, 22.7 percent, and 13.6 percent, respectively, for the 1983-86 period. Nine of the growers incurred a net loss during 1983, five reported losses in 1984 and 1985, and eight experienced net losses during 1986.

Capital expenditures of large growers.—The data provided by the large U.S. growers relative to their capital expenditures for land, buildings, and machinery and equipment, as well as their capital expenditures relating to new plantings of orange trees and nonorange crops, are presented in table E-8.

Total capital expenditures for farm machinery, equipment, buildings, and other long-term assets increased from *** million in 1983 to *** million in 1984, or by 23.3 percent, then rose further to *** million during 1985, or by 7.0 percent. Reported capital expenditures in 1986 were *** million, but fewer firms reported in this year and it cannot be compared with data reported for 1983-85.

Total capital expenditures relating only to new planting of round orange trees for juice production increased from *** million in 1983 to *** million in 1984, or by 9.8 percent, then rose further to *** million in 1985, an increase of 1.2 percent. 1/ Reported capital expenditures in 1986 were *** million, but fewer firms reported in this year and it cannot be compared with data reported for 1983-85.

Table E-5
Income-and-loss experience of 31 large U.S. growers on all round orange groves, accounting years 1983-86

Item	1983	1984	1985	1986
Total proceeds...1,000 dollars..	135,882	170,852	187,839	158,482
Total growing and operating expenses.....1,000 dollars..	106,188	116,520	128,039	131,608
Net income or (loss) before income taxes...1,000 dollars..	29,694	54,332	59,800	26,874
Gains or (losses), net, on futures transactions 1,000 dollars..	***	***	***	***
As a share of total proceeds:				
Total growing and operating expenses.....percent..	78.1	68.2	68.2	83.0
Net income or (loss) before income taxes.....percent..	21.9	31.8	31.8	17.0
Number of firms reporting net losses.....	8	6	5	11

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

Table E-6
Sales for all round orange groves, for 31 large U.S. growers, accounting years 1983-86

Item	1983	1984	1985	1986
Value.....1,000 dollars..	135,882	170,852	187,839	158,482
Quantity....1,000 boxes..	22,626	22,451	24,139	27,523
Unit value.....per box..	$6.01	$7.61	$7.78	$5.76

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

1/ One of the growers was unable to break out capital expenditures specifically for new planting of round orange trees for juice production, round orange trees for non-juice production, and other non-orange crops, and therefore included the information only under the combined heading of capital expenditures relating to new plantings of orange trees and plantings of other non-orange crops.

Table E-7
Income-and-loss experience of 31 large U.S. growers on the overall operations of their farms within which round oranges are grown, accounting years 1983-86

Item	1983	1984	1985	1986
Proceeds from all oranges 1,000 dollars..	148,326	175,496	199,107	171,361
Proceeds from other citrus crops 1,000 dollars..	32,116	54,031	60,789	62,518
Other farm income.....do....	30,481	43,678	41,682	46,485
Total farm income.....do....	210,923	273,205	301,578	280,364
Total growing and operating expenses.....1,000 dollars..	186,106	208,337	233,164	242,226
Net income or (loss) before income taxes...1,000 dollars..	24,817	64,868	68,414	38,138
Gains or (losses), net, on futures transactions 1,000 dollars..	***	***	***	***
As a share of total proceeds:				
Total growing and operating expenses.....percent..	88.2	76.3	77.3	86.4
Net income or (loss) before income taxes.....percent..	11.8	23.7	22.7	13.6
Number of firms reporting net losses.....	9	5	5	8

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

Table E-8
Capital expenditures by large U.S. growers, accounting years 1983-86

Item	1983	1984	1985	1/ 1986
Capital expenditures for farm machinery, equipment, buildings, and other long-term assets				
1,000 dollars..	***	***	***	***
Number of growers reporting..	23	23	23	20
Capital expenditures relating to new planting of round orange trees and planting of other nonorange crops 2/				
1,000 dollars..	***	***	***	***
Number of growers reporting..	22	22	22	19
Capital expenditures relating only to new planting of round orange trees for juice production				
1,000 dollars..	***	***	***	***
Number of growers reporting..	21	21	21	18
Capital expenditures relating only to new planting of other orange trees not for juice production				
1,000 dollars..	***	***	***	***
Number of growers reporting..	21	21	21	18
Capital expenditures relating only to new planting of other nonorange crops				
1,000 dollars..	***	***	***	***
Number of growers reporting..	21	21	21	18

1/ Three of the growers that provided 1983-85 data were unable to provide 1986 data relating to capital expenditures.
2/ One of the growers was unable to break out capital expenditures specifically for new planting of round orange trees for juice production, round orange trees for non-juice production, and other non-orange crops and therefore included the information only under the combined heading of capital expenditures relating to new plantings of orange trees and plantings of other non-orange crops.

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

Financial experience of medium U.S. growers

Usable financial data were received from 21 medium U.S. growers (with total acreage per grower between 50 and 300) on their round orange grove operations, as well as on the overall operations of their farms.

Operations on round orange groves yielding less than 200 boxes of round oranges per acre.—Selected financial data for medium growers for round orange groves yielding less than 200 boxes per acre are presented in table E-9. Aggregate total proceeds from the sale of round oranges increased from $1.6 million in 1983 to $2.1 million in 1984, an increase of 30.2 percent, then rose further to $2.2 million during 1985, an increase of 2.4 percent. During 1986, however, total proceeds declined to $1.8 million, or by 15.8 percent.

Aggregate net income before taxes increased from $197,000 in 1983 to $338,000 during 1984, or by 71.6 percent, then declined to $317,000 during 1985, a decrease of 6.2 percent. During 1986 a pretax loss of $1.1 million was experienced. The pretax income (loss) margins for the U.S. growers were 12.0 percent, 15.8 percent, 14.5 percent, and (61.6) percent, respectively, for the 1983–86 period. Five of the U.S. growers experienced net losses in 1983, 6 reported losses in 1984, 7 reported losses during 1985, and 10 incurred losses in 1986.

The value, quantity, and unit value (dollars per box) of sales for round orange groves yielding less than 200 boxes per acre are shown in table E-10.

Operations on round orange groves yielding 200 or more boxes of round oranges per acre.—Selected financial data for medium growers for round orange groves yielding 200 or more boxes per acre are presented in table E-11. Aggregate total proceeds from the sale of round oranges increased from $2.0 million in 1983 to $2.1 million in 1984, or by 3.9 percent, then to $2.5 million during 1985, an increase of 20.5 percent. Aggregate total proceeds decreased during 1986 to $1.4 million, or by 44.8 percent.

Aggregate net income before taxes followed the trend of total proceeds, increasing from $278,000 in 1983 to $396,000 in 1984, or by 42.4 percent, then to $780,000 during 1985, an increase of 97.0 percent. A $335,000 net loss before taxes was incurred in 1986. The pretax income (loss) margins for the U.S. growers during the 1983–86 period were 13.8 percent, 19.0 percent, 31.0 percent, and (24.1) percent, respectively. Four out of eight growers reported net losses during 1983, three growers experienced losses in 1984, two growers reported losses in 1985, and five growers incurred losses during 1986.

The value, quantity, and unit value (dollars per box) of sales for round orange groves yielding 200 or more boxes per acre are presented in table E-12.

Table E-9
Income-and-loss experience of 11 medium U.S. growers on round orange groves yielding less than 200 boxes of round oranges per acre, accounting years 1983-86

Item	1983	1984	1985	1986
Total proceeds...1,000 dollars..	1,644	2,140	2,191	1,845
Total growing and operating expenses.....1,000 dollars..	1,447	1,802	1,874	2,981
Net income or (loss) before income taxes...1,000 dollars..	197	338	317	(1,136)
Gains or (losses), net, on futures transactions 1,000 dollars..	***	***	***	***
As a share of total proceeds:				
Total growing and operating expenses.....percent..	88.0	84.2	85.5	161.6
Net income or (loss) before income taxes.....percent..	12.0	15.8	14.5	(61.6)
Number of firms reporting net losses.....	5	6	7	10

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

Table E-10
Sales for round orange groves yielding less than 200 boxes per acre, for 11 medium U.S. growers, accounting years 1983-86

Item	1983	1984	1985	1986
Value.....1,000 dollars..	1,644	2,140	2,191	1,845
Quantity.....1,000 boxes..	315	373	257	297
Unit value.....per box..	$5.22	$5.74	$8.53	$6.21

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

Table E-11
Income-and-loss experience of 8 medium U.S. growers on round orange groves yielding 200 or more boxes of round oranges per acre, accounting years 1983-86

Item	1983	1984	1985	1986
Total proceeds...1,000 dollars..	2,008	2,087	2,515	1,389
Total growing and operating expenses.....1,000 dollars..	1,730	1,691	1,735	1,724
Net income or (loss) before income taxes...1,000 dollars..	278	396	780	(335)
Gains or (losses), net, on futures transactions 1,000 dollars..	***	***	***	***
As a share of total proceeds:				
Total growing and operating expenses.....percent..	86.2	81.0	69.0	124.1
Net income or (loss) before income taxes.....percent..	13.8	19.0	31.0	(24.1)
Number of firms reporting net losses.....	4	3	2	5

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

Table E-12
Sales for round orange groves yielding 200 or more boxes per acre, for 8 medium U.S. growers, accounting years 1983-86

Item	1983	1984	1985	1986
Value .....1,000 dollars..	2,008	2,087	2,515	1,389
Quantity.....1,000 boxes..	360	317	340	328
Unit value.....per box..	$5.58	$6.58	$7.40	$4.23

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

Operations on all round orange groves.—Selected financial data for round orange groves of the 21 medium growers are presented in table E-13. Aggregate total proceeds from the sale of round oranges increased from $4.7 million in 1983 to $4.9 million in 1984, or by 4.6 percent, then increased to $5.6 million during 1985, an increase of 12.9 percent. Aggregate total proceeds decreased in 1986 to $3.8 million, a decline of 31.5 percent.

Aggregate net income before taxes increased from $830,000 in 1983 to $985,000 in 1984, an increase of 18.7 percent, and then to $1.5 million in 1985, an increase of 50.3 percent. During 1986, however, a pretax loss of $1.4 million was incurred. The pretax income (loss) margins for the U.S. growers were 17.6 percent, 20.0 percent, 26.6 percent, and (35.7) percent, respectively, for the 1983-86 period. Ten of the growers incurred a net loss during 1983, 9 reported losses in 1984 and 1985, and 15 experienced losses in 1986.

The value, quantity, and unit value (dollars per box) of sales for all round orange groves for the 21 medium U.S. growers are presented in table E-14.

Overall establishment farm operations.—Selected financial data for the 21 medium growers responding to the Commission's questionnaire on their overall farm operations (within which round oranges are grown) are presented in table E-15. Aggregate total farm income for these growers increased from $6.5 million in 1983 to 6.8 million in 1984, an increase of 5.5 percent, then rose further to $7.7 million in 1985, or by 13.2 percent. During 1986, however, total farm income declined to $6.0 million, or by 22.6 percent.

Aggregate net income before taxes followed a pattern similar to total farm income, increasing from $1.0 million in 1983 to $1.3 million during 1984, or by 26.9 percent, and then to $2.1 million in 1985, an increase of 56.8 percent. During 1986, however, a pretax loss of $728,000 was experienced. The pretax income (loss) margins for the U.S. growers were 16.1 percent, 19.4 percent, 26.9 percent, and (12.2) percent, respectively, for the 1983-86 period. Nine of the growers incurred a net loss during 1983, 8 reported losses in 1984, 9 incurred losses in 1985, and 14 experienced net losses during 1986.

Capital expenditures of medium growers.—The data provided by the medium U.S. growers relative to their capital expenditures for land, buildings, and machinery and equipment, as well as their capital expenditures relating to new plantings of orange trees and nonorange crops, are presented in table E-16.

Total capital expenditures for farm machinery, equipment, buildings and other long-term assets increased from *** in 1983 to *** in 1984, or by 126.2 percent, then fell to *** during 1985, a decline of 46.2 percent. Reported capital expenditures in 1986 were ***, but fewer firms reported in this year, and data cannot be compared with data reported for 1983-85.

Total capital expenditures relating only to new planting of round orange trees for juice production declined from *** in 1983 to *** in 1984, then rose to *** in 1985. Reported capital expenditures in 1986 rose sharply to *** million, even though fewer firms reported in this year.

Table E-13
Income-and-loss experience of 21 medium U.S. growers on all round orange groves, accounting years 1983-86

Item	1983	1984	1985	1986
Total proceeds...1,000 dollars..	4,717	4,935	5,573	3,816
Total growing and operating expenses.....1,000 dollars..	3,887	3,950	4,093	5,178
Net income or (loss) before income taxes...1,000 dollars..	830	985	1,480	(1,362)
Gains or (losses), net, on futures transactions 1,000 dollars..	***	***	***	***
As a share of total proceeds:				
Total growing and operating expenses.....percent..	82.4	80.0	73.4	135.7
Net income or (loss) before income taxes.....percent..	17.6	20.0	26.6	(35.7)
Number of firms reporting net losses.....	10	9	9	15

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

Table E-14
Sales for all round orange groves, for 21 medium U.S. growers, accounting years 1983-86

Item	1983	1984	1985	1986
Value.....1,000 dollars..	4,717	4,935	5,573	3,816
Quantity.....1,000 boxes..	506	508	469	526
Unit value.....per box..	$5.63	$5.99	$7.82	$4.86

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

Table E-15
Income-and-loss experience of 21 medium U.S. growers on the overall operations of their farms within which round oranges are grown, accounting years 1983-86

Item	1983	1984	1985	1986
Proceeds from all oranges 1,000 dollars..	5,346	5,677	6,457	4,799
Proceeds from other citrus crops 1,000 dollars..	809	685	911	890
Other farm income.....do....	326	474	372	301
Total farm income.....do....	6,481	6,836	7,740	5,990
Total growing and operating expenses.....1,000 dollars..	5,436	5,510	5,661	6,718
Net income or (loss) before income taxes....1,000 dollars..	1,045	1,326	2,079	(728)
Gains or (losses), net, on futures transactions 1,000 dollars..	***	***	***	***
As a share of total proceeds:				
Total growing and operating expenses.....percent..	83.9	80.6	73.1	112.2
Net income or (loss) before income taxes.....percent..	16.1	19.4	26.9	(12.2)
Number of firms reporting net losses.....	9	8	9	14

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

Table E-16
Capital expenditures by medium U.S. growers, accounting years 1983-86

Item	1983	1984	1985	1986 1/
Capital expenditures for farm machinery, equipment, buildings, and other long-term assets				
1,000 dollars..	***	***	***	***
Number of growers reporting..	17	17	17	16
Capital expenditures relating to new planting of round orange trees and planting of other non-orange crops				
1,000 dollars..	***	***	***	***
Number of growers reporting..	16	16	16	15
Capital expenditures relating only to new planting of round orange trees for juice production				
1,000 dollars..	***	***	***	***
Number of growers reporting..	16	16	16	15
Capital expenditures relating only to new planting of other orange trees not for juice production				
1,000 dollars..	***	***	***	***
Number of growers reporting..	16	16	16	15
Capital expenditures relating only to new planting of other non-orange crops				
1,000 dollars..	***	***	***	***
Number of growers reporting..	16	16	16	15

1/ One of the growers that provided 1983-85 data was unable to provide 1986 data relating to capital expenditures.

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

Financial experience of small U.S. growers

Usable financial data were received from 12 small U.S. growers (with total acreage per grower less than 50) on their round orange grove operations, as well as on the overall operations of their farms.

Operations on round orange groves yielding less than 200 boxes of round oranges per acre.—Selected financial data for small growers for round orange groves yielding less than 200 boxes per acre are presented in table E-17. Aggregate total proceeds from the sale of round oranges declined from $286,000 in 1983 to $177,000 in 1984, a decline of 38.1 percent, then fell further to $93,000 during 1985, or by 47.5 percent. Aggregate total proceeds again declined in 1986 to $20,000, or by 78.5 percent.

Aggregate net income before taxes followed the trend of total proceeds, declining from $17,000 in 1983 to a loss of $65,000 during 1984. Net losses increased to $77,000 in 1985, then worsened to $189,000 during 1986. The pretax income (loss) margins for the U.S. growers were 5.9 percent, (36.7) percent, (82.8) percent, and (945.0) percent, respectively, for the 1983-86 period. Two of the U.S. growers experienced net losses in 1983, three reported losses in 1984 and 1985, and five reported losses during 1986.

The value, quantity, and unit value (dollars per box) of sales for round orange groves yielding less than 200 boxes per acre are shown in table E-18.

Operations on round orange groves yielding 200 or more boxes of round oranges per acre.—Selected financial data for small growers for round orange groves yielding 200 or more boxes per acre are presented in table E-19. Aggregate total proceeds from the sale of round oranges increased from $414,000 in 1983 to $430,000 in 1984, or by 3.9 percent, then increased to $554,000 during 1985, an increase of 28.8 percent. Aggregate total proceeds decreased during 1986 to $377,000, or by 31.9 percent.

Aggregate net income before taxes followed the trend of total proceeds, increasing from $145,000 in 1983 to $179,000 in 1984, or by 23.4 percent, and then rose further to $291,000 during 1985, an increase of 62.6 percent. During 1986, however, net income before taxes fell by 64.6 percent to $103,000. The pretax margins for the U.S. growers during the 1983-86 period were 35.0 percent, 41.6 percent, 52.5 percent, and 27.3 percent. Two out of seven growers reported net losses during 1983, and one grower experienced losses in 1984, 1985, and 1986.

The value, quantity, and unit value (dollars per box) of sales for round orange groves yielding 200 or more boxes per acre are presented in table E-20.

Table E-17
Income-and-loss experience of 5 small U.S. growers on round orange groves yielding less than 200 boxes of round oranges per acre, accounting years 1983-86

Item	1983	1984	1985	1986
Total proceeds...1,000 dollars..	286	177	93	20
Total growing and operating expenses.....1,000 dollars..	269	242	170	209
Net income or (loss) before income taxes...1,000 dollars..	17	(65)	(77)	(189)
Gains or (losses), net, on futures transactions 1,000 dollars..	***	***	***	***
As a share of total proceeds:				
Total growing and operating expenses.....percent..	94.1	(136.7)	182.8	1,045.0
Net income or (loss) before income taxes.....percent..	5.9	(36.7)	(82.8)	(945.0)
Number of firms reporting net losses.....	2	3	3	5

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

Table E-18
Sales for round orange groves yielding less than 200 boxes per acre, for 5 small U.S. growers, accounting years 1983-86

Item	1983	1984	1985	1986
Value.....1,000 dollars..	286	177	93	20
Quantity.....1,000 boxes..	72	37	14	5
Unit value.....per box..	$3.97	$4.78	$6.64	$4.00

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

Table E-19
Income-and-loss experience of 7 small U.S. growers on round orange groves yielding 200 or more boxes of round oranges per acre, accounting years 1983-86

Item	1983	1984	1985	1986
Total proceeds...1,000 dollars..	414	430	554	377
Total growing and operating expenses.....1,000 dollars..	269	251	263	274
Net income or (loss) before income taxes...1,000 dollars..	145	179	291	103
Gains or (losses), net, on futures transactions 1,000 dollars..	***	***	***	***
As a share of total proceeds:				
Total growing and operating expenses.....percent..	65.0	58.4	47.5	72.7
Net income or (loss) before income taxes.....percent..	35.0	41.6	52.5	27.3
Number of firms reporting net losses.....	2	1	1	1

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

Table E-20
Sales of round orange groves yielding 200 or more boxes per acre, for 7 small U.S. growers, accounting years 1983-86

Item	1983	1984	1985	1986
Value.....1,000 dollars..	414	430	554	377
Quantity.....1,000 boxes..	77	58	60	58
Unit value.....per box..	$5.38	$7.41	$9.23	$6.50

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

Operations on all round orange groves.—Selected financial data for round orange groves of the 12 small growers are presented in table E-21. Aggregate total proceeds from the sale of round oranges declined from $941,000 in 1983 to $806,000 in 1984, or by 14.3 percent, then fell further to $647,000 during 1985, a decline of 19.7 percent. Aggregate total proceeds again declined in 1986 to $397,000, or by 38.6 percent.

Aggregate net income before taxes followed the trend of total proceeds, declining from $195,000 in 1983 to $105,000 in 1984, or by 46.2 percent, and then to $62,000 in 1985, a decline of 41.0 percent. During 1986, a pretax loss of $181,000 was incurred. The pretax income (loss) margins for the U.S. growers were 20.7 percent, 13.0 percent, 9.6 percent, and (45.6) percent, respectively, for the 1983-86 period. Four of the growers incurred a net loss during 1983, five reported losses in 1984 and 1985, and seven experienced net losses during 1986.

The value, quantity, and unit value (dollars per box) of sales for all round orange groves for the 12 small U.S. growers are presented in table E-22.

Overall establishment farm operations.—Selected financial data for the overall farm operations within which round oranges are grown are presented in table E-23. Aggregate total farm income of the 12 small growers responding to the Commission's questionnaire declined from $1.2 million in 1983 to $982,000 in 1984, or by 19.3 percent, then fell further to $970,000 in 1985, or by 1.2 percent. During 1986, total farm income declined again to $731,000, or by 24.6 percent.

Aggregate net income before taxes fell from $345,000 in 1983 to $120,000 during 1984, or by 65.2 percent, then rose to $216,000 in 1985, largely due to the increased proceeds resulting from other citrus crops. During 1986, however, a pretax loss of $10,000 was experienced. The pretax income (loss) margins for the U.S. growers were 28.3 percent, 12.2 percent, 22.3 percent, and (1.4) percent, respectively, for the 1983-86 period. Three of the growers incurred a net loss during 1983, five reported losses in 1984 and 1985, and six experienced net losses during 1986.

Capital expenditures of small growers.—The data provided by the small U.S. growers relative to their capital expenditures for land, buildings, and machinery and equipment, as well as their capital expenditures relating to new plantings of orange trees and nonorange crops, are presented in table E-24.

Total capital expenditures for farm machinery, equipment, buildings, and other long-term assets declined from *** in 1983 to *** in 1984, then rose to *** in 1985. Capital expenditures fell to *** during 1986.

Total capital expenditures relating only to new planting of round orange trees for juice production increased from *** in 1983 to *** in 1984. During 1985, expenditures fell to *** and declined further to *** in 1986.

Table E-21
Income-and-loss experience of 12 small U.S. growers on all round orange groves, accounting years 1983-86

Item	1983	1984	1985	1986
Total proceeds...1,000 dollars..	941	806	647	397
Total growing and operating expenses.....1,000 dollars..	746	701	585	578
Net income or (loss) before income taxes...1,000 dollars..	195	105	62	(181)
Gains or (losses), net, on futures transactions 1,000 dollars..	***	***	***	***
As a share of total proceeds:				
Total growing and operating expenses.....percent..	79.3	87.0	90.4	145.6
Net income or (loss) before income taxes.....percent..	20.7	13.0	9.6	(45.6)
Number of firms reporting net losses.....	4	5	5	7

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

Table E-22
Sales for all round orange groves for 12 small U.S. growers, accounting years 1983-86

Item	1983	1984	1985	1986
Value.....1,000 dollars..	941	806	647	397
Quantity.....1,000 boxes..	189	127	75	64
Unit value.....per box..	$4.98	$6.35	$8.63	$6.20

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

Table E-23
Income-and-loss experience of 12 small U.S. growers on the overall operations of their farms within which round oranges are grown, accounting years 1983-86

Item	1983	1984	1985	1986
Proceeds from all oranges 1,000 dollars..	985	877	691	433
Proceeds from other citrus crops 1,000 dollars..	121	90	232	228
Other farm income.....do....	111	15	47	70
Total farm income.....do....	1,217	982	970	731
Total growing and operating expenses.....1,000 dollars..	872	862	754	741
Net income or (loss) before income taxes....1,000 dollars..	345	120	216	(10)
Gains or (losses), net, on futures transactions 1,000 dollars..	***	***	***	***
As a share of total proceeds:				
Total growing and operating expenses.....percent..	71.7	87.8	77.7	101.4
Net income or (loss) before income taxes.....percent..	28.3	12.2	22.3	(1.4)
Number of firms reporting net losses.....	3	5	5	6

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

Table E-24
Capital expenditures by small U.S. growers, accounting years 1983-86

Item	1983	1984	1985	1986
Capital expenditures for farm machinery, equipment, buildings, and other long-term assets				
1,000 dollars..	***	***	***	***
Number of growers reporting..	12	12	12	12
Capital expenditures relating to new planting of round orange trees and planting of other nonorange crops				
1,000 dollars..	***	***	***	***
Number of growers reporting..	12	12	12	12
Capital expenditures relating only to new planting of round orange trees for juice production				
1,000 dollars..	***	***	***	***
Number of growers reporting..	12	12	12	12
Capital expenditures relating only to new planting of other orange trees not for juice production				
1,000 dollars..	***	***	***	***
Number of growers reporting..	12	12	12	12
Capital expenditures relating only to new planting of other nonorange crops				
1,000 dollars..	***	***	***	***
Number of growers reporting..	12	12	12	12

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

APPENDIX F

CASH-FLOW OF LARGE, MEDIUM, AND SMALL U.S. ORANGE GROWERS

Table F-1
Cash-flow for large growers, accounting years 1983-86

Item	1983	1984	1985	1986
Under 200 boxes/acre:				
Net income (loss) before income taxes.....1,000 dollars..	(1,136)	7,149	3,476	(422)
Depreciation and amortization...do....	1,722	1,256	1,184	1,198
Cash-flow.....do....	586	8,405	4,660	776
200 or more boxes/acre:				
Net income (loss) before income taxes.....1,000 dollars..	21,035	29,643	34,137	20,149
Depreciation and amortization...do....	2,738	3,368	4,024	4,647
Cash-flow.....do....	23,773	33,011	38,161	24,796
All groves:				
Net income (loss) before income taxes.....1,000 dollars..	29,694	54,332	59,800	26,874
Depreciation and amortization...do....	8,074	10,045	11,235	12,113
Cash-flow.....do....	37,768	64,377	71,035	38,987
Overall farm operations:				
Net income (loss) before income taxes.....1,000 dollars..	24,817	64,868	68,414	38,138
Depreciation and amortization...do....	14,479	16,010	17,436	18,491
Cash-flow.....do....	39,296	80,878	85,850	56,629

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

Table F-2
Cash-flow for medium growers, accounting years 1983-86

	1983	1984	1985	1986
Under 200 boxes/acre:				
Net income (loss) before income taxes.....1,000 dollars..	197	338	317	(1,136)
Depreciation and amortization...do....	142	190	228	590
Cash-flow.....do....	339	528	545	(546)
200 or more boxes/acre:				
Net income (loss) before income taxes.....1,000 dollars..	278	396	780	(335)
Depreciation and amortization...do....	152	198	239	196
Cash-flow.....do....	430	594	1,019	(139)
All groves:				
Net income (loss) before income taxes.....1,000 dollars..	830	985	1,480	(1,362)
Depreciation and amortization...do....	378	454	1,480	(1,362)
Cash-flow.....do....	1,208	1,439	2,008	(512)
Overall farm operations:				
Net income (loss) before income taxes.....1,000 dollars..	1,045	1,326	2,079	(728)
Depreciation and amortization...do....	483	577	672	1,021
Cash-flow.....do....	1,528	1,903	2,751	293

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

Table F-3
Cash-flow for small growers, accounting years 1983-86

	1983	1984	1985	1986
Under 200 boxes/acre:				
Net income (loss) before income taxes.....1,000 dollars..	17	(65)	(77)	(189)
Depreciation and amortization...do....	28	22	21	20
Cash-flow.....do....	45	(43)	(56)	(169)
200 or more boxes/acre:				
Net income (loss) before income taxes.....1,000 dollars..	145	179	291	103
Depreciation and amortization...do....	36	27	43	35
Cash-flow.....do....	181	206	334	138
All groves:				
Net income (loss) before income taxes.....1,000 dollars..	195	105	62	(181)
Depreciation and amortization...do....	79	62	76	68
Cash-flow.....do....	274	167	138	(113)
Overall farm operations:				
Net income (loss) before income taxes: taxes.....1,000 dollars..	345	120	216	(10)
Depreciation and amortization...do....	84	79	90	82
Cash-flow.....do....	429	199	306	72

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

APPENDIX G

PROJECTIONS OF DOMESTIC SHIPMENTS AND IMPORTS OF FROZEN ORANGE JUICE CONCENTRATE FROM BRAZIL UNDER ALTERNATIVE SCENARIOS

Projections of Domestic Shipments and Imports of Frozen Orange Juice Concentrate From Brazil Under Alternative Scenarios

This appendix is divided into three sections. The first section provides projections of domestic shipments and imports of frozen orange juice concentrate from Brazil under selected scenarios representing different possible prospects for the next 3 crop years. These projections are based largely upon the results of an econometric analysis performed by the Commission staff. A general discussion of the analysis is presented in the second section of the appendix, and a technical description of the equations is provided in the final section.

Projections of domestic shipments, prices, and imports

The four sets of projections of U.S. shipments, prices, and imports of Brazilian frozen concentrated orange juice for manufacturing (FCOJM) are based upon differing prospects for the production of Florida oranges during the current crop year and the next three seasons and upon varied pricing policies by importers of Brazilian concentrate. 1/ Cases I and II are based on the assumptions that there will be no freezes in the next 3 crop years, and output of Florida oranges will continually expand in all years. 2/ Cases III and IV allow for the effects of a severe freeze in the beginning of the 1987/88 season. Cases II and IV also allow for the effects of a price increase by Brazilian suppliers. In all instances, it is assumed that the overall demand for FCOJM will increase during each of the next 3 crop years as a result of moderate increases in consumer disposable income (table G-1). 3/

Even if output of Florida oranges increases at the predicted rate during the next 3 years, prices of oranges and FCOJM will rise slightly because increasing supplies will not be able to keep pace with anticipated rises in domestic demand. In the first scenario, the rise in Florida production will partially offset rises in consumer demand. Imports will gradually rise to fill the deficit created as demand for FCOJM rises faster than the domestic supply of oranges. Prices for both FCOJM and oranges will increase slightly during this period. However, since freezes with significant negative impacts on domestic output have occured four times in the last seven seasons, this scenario of no freezes during the 1986/87 to 1989/90 period may be too optimistic.

1/ Although the projections are based upon parameter estimates that were developed from historical data, they do not represent precise solutions of a complete econometric model of the industry. The methodology employed in developing the projections is described in the final section of this appendix.
2/ The crop estimate for 1986/87 is the United States Department of Agriculture Mar. 10, 1987, estimate; crop estimates for 1987/88 to 1989/90 are estimated by Mark Brown and Jong-Ying Lee, World Orange Juice Trends, Jan. 20, 1987.
3/ Real disposable income is assumed to rise 2.5 percent per year based on projections by Chase Econometrics.

Table G-1
Projected levels of Florida production, imports, domestic shipments, and prices of FCOJM and oranges for crop years 1985/86 to 1989/90

(Production in million boxes; imports and shipments in million gallons; price per pounds solid)

Item	1985/86	1986/87	1987/88	1988/89	1989/90
	Case I: No freezes, import prices remain at 1985/86 levels				
Florida production of oranges	119	124	133	137	144
Brazilian imports	501	507	506	517	521
Domestic shipments of FCOJM	902	951	1,107	1,061	1,120
Domestic price of FCOJM	$1.14	$1.17	$1.19	$1.23	$1.26
Price of oranges	$0.89	$0.90	$0.90	$0.92	$0.93
	Case II—— No freezes, import prices rise 2 percent during crop year 1986/87				
Florida production of oranges	119	124	133	137	144
Brazilian imports	501	488	485	495	499
Domestic shipments of FCOJM	902	947	1,002	1,056	1,116
Domestic price of FCOJM	$1.14	$1.18	$1.20	$1.24	$1.27
Price of oranges	$0.89	$0.92	$0.92	$0.94	$0.95
	Case III: Severe freeze in 1987/88				
Florida production of oranges	119	124	99	109	120
Brazilian imports	501	507	593	579	566
Domestic shipments of FCOJM	902	951	979	1,039	1,102
Domestic price of FCOJM	$1.14	$1.17	$1.28	$1.29	$1.30
Price of oranges	$0.89	$0.90	$1.02	$1.00	$0.98
	Case IV: Severe freeze in 1987/88, import prices rise 2 percent during 1986/87				
Florida production of oranges	119	124	99	109	120
Brazilian imports	501	488	571	558	545
Domestic shipments of FCOJM	902	947	974	1033	1096
Domestic price of FCOJM	$1.14	$1.18	$1.29	$1.29	$1.32
Price of oranges	$0.89	$0.92	$1.04	$1.02	$1.00

Source: Prepared by staff of the Office of Economics, U.S. International Trade Commission.

The second case, in addition to following the assumption of no freezes, allows for a 2-percent rise in the price of imports as a result of higher duties. 1/ These assumptions would cause prices of FCOJM and oranges to rise slightly faster than in the first case, and shipments of FCOJM would increase at a reduced rate. Imports would fall during 1986/87 and 1987/88 as increases in FCOJM demanded would primarily be supplied by domestic crop increases.

The third and fourth cases presume a severe freeze in the beginning of the 1987/88 season that will reduce the Florida crop by 20 percent. The third scenario assumes no additional duties on Brazilian FCOJM. Under these assumption, prices of FCOJM and oranges increase rapidly during the freeze year, and shipments increase at a slower rate because of the higher prices. During the freeze year, imports rise significantly to fill the deficit of supply, but they fall gradually in the following crop years as domestic production begins to return.

The fourth case, along with the freeze assumptions, assumes a 2-percent rise in imports prices as a result of higher duties. Imports initially fall during 1986/87 but increase substantially during the freeze. Prices follow the trend of the third scenario, but at a slightly higher level. Shipments of FCOJM are therefore lower because of the higher prices.

The econometric model

The econometric model that was used for the projections in the previous section was developed by the staff as an aid in understanding the economic interrelationships of the U.S. market for FCOJM. 2/ The analysis attempted to answer three questions. How are prices and production of fresh oranges related? What factors influence imports of FCOJM from Brazil? And finally, how are prices and shipments of domestic FCOJM related? The quantitative estimates that resulted from researching these questions demonstrate how changes in imports and import prices affect the domestic FCOJM market.

Fresh oranges.—Since fresh oranges are the main input used in the production of FCOJM, fluctuations in prices and production of this product have a significant effect on prices and shipments of FCOJM. But an analysis of the market for oranges is somewhat complicated by the fact that historically the major portion of the oranges used in producing FCOJM were shipped to processors under cooperative or participation agreements, although there may be a trend toward more cash transactions (see tables 4, 5, and 6 in this report). However, increases or decreases in the prices that result from these cash transactions are thought to be good indicators of the scarcity or abundance of this product in relation to demand in a given season.

The regression analysis tested three commonly held observations concerning cash prices paid by processors for fresh oranges. It is believed

---

1/ 2 percent was chosen based on the Department of Commerce finding of 1.96 percent LTFV margins.

2/ All of the estimated equations were developed from crop year data for 1964/65 through 1983/84. The estimated equations were then used to compare the actual levels of prices and quantities during the period of investigation, with those predicted by the model.

that the average cost per pound solid of the fresh oranges used in making FCOJM could be largely explained by production levels of fresh oranges, prices of imported FCOJM from Brazil, and a time trend.

The regression results were consistent with the assumptions discussed above. The price per pound solid of fresh oranges was found to be negatively related to the output of fresh oranges and to be positively related to the price of imported concentrate from Brazil and the time trend. All three of the explanatory variables were statistically significant at the 90-percent confidence level or higher. The estimated coefficients from the regression indicate that a 1-percent decline in output of fresh oranges during a given season would result in a 0.5-percent increase in the cost of oranges. They also show that a 1-percent decline in the price of imported concentrate from Brazil would lead to a 1-percent decline in the price of fresh oranges.

Although prices of fresh oranges are determined by short-term supply and demand conditions, production of oranges in a given season was thought to be determined solely by the amount of fruit-bearing acreage, and by the effects of freezes. However, attempts to quantify the effects of freezes on production were not successful.

Imports of FCOJM from Brazil.—The model also attempted to measure the factors affecting the demand for imports of FCOJM from Brazil. It was believed that demand for this concentrate increases with reductions in its price and decreases with increases in its price. It was also thought that demand for imported FCOJM increases when prices of domestically produced oranges increase, and decreases when the price of oranges decreases. Finally, it was thought that demand for this imported concentrate has tended to increase over time as a result of the growth in demand for FCOJM.

These assumptions were tested by regressing imports of FCOJM from Brazil on the ratio of the import price to the price per pound solid of oranges and a time trend. The results indicated that the demand for imported FOCJM is highly sensitive to changes in the relative price variable. According to the estimates, a 1-percent increase in the ratio of the import price to the price of oranges would result in a 1.3-percent decline in imports. The estimates also showed that imports have a tendency to increase over time. The relative-price variable and the time-trend variable were both statistically significant at the 90-percent confidence level or higher.

The FCOJM market.—The final part of the analysis focused on the factors affecting the levels of total shipments, and the prices received by processors for FCOJM. Two regression equations were estimated, and the results were consistent with the underlying hypothesis of a market that operates according to normal demand and supply assumptions. The first equation indicated that demand for FCOJM is negatively related to the price of FCOJM in retail cans and is positively related to real income in constant 1982 dollars. The second equation indicated that the supply of FCOJM, which was measured by total shipments, is directly related to the price of FCOJM in retail containers, but varies inversely with the cost per box of fresh oranges. 1/ All of the explanatory variables in both equations were statistically significant at the 99-percent confidence level of higher.

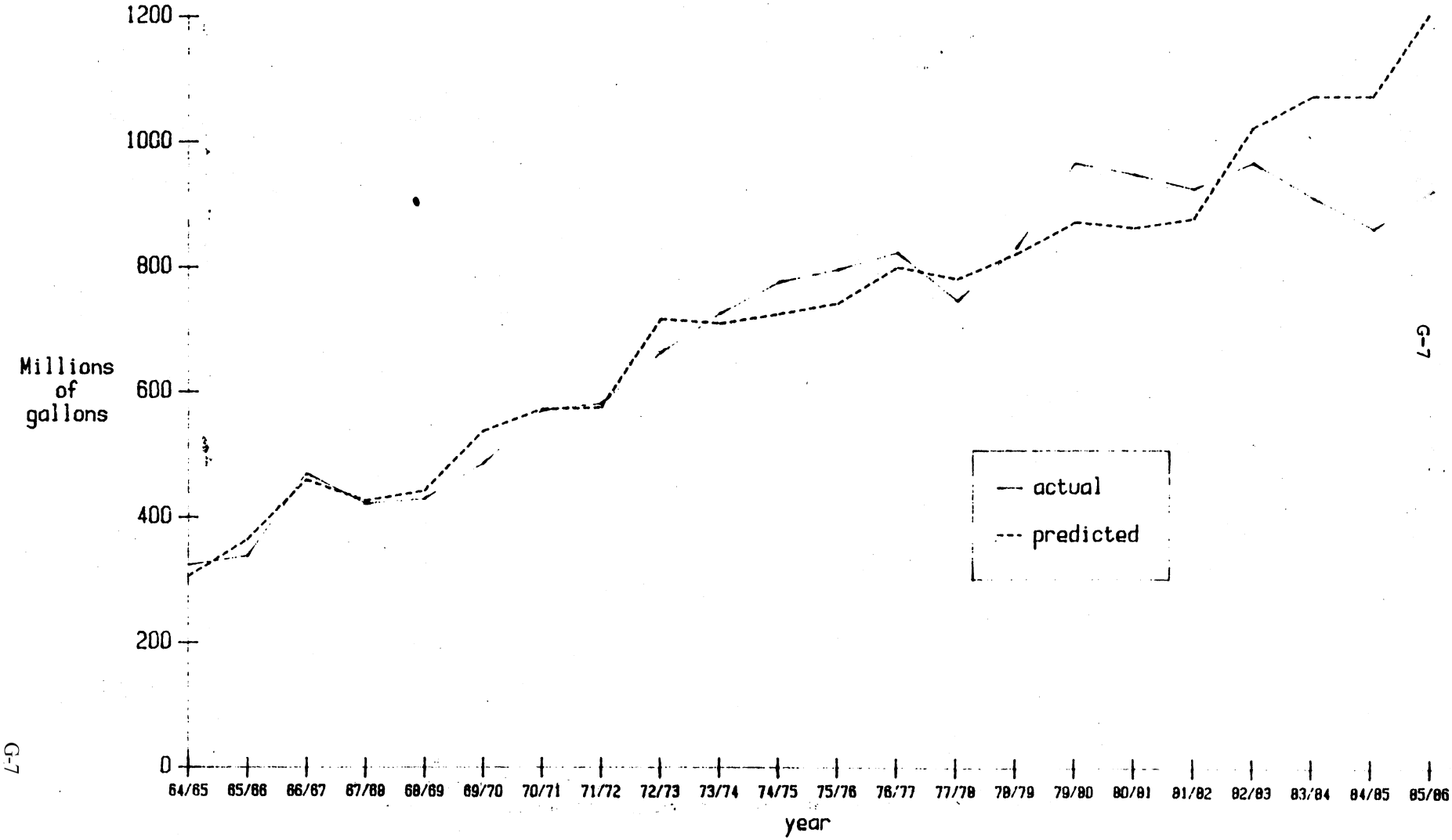
1/ The shipment variable includes domestic shipments plus exports. However, exports were negligible during this period.

The coefficients for the price variables in the estimated equations suggest that the supply of FCOJM is highly sensitive to changes in price, but that demand for FCOJM is fairly price inelastic. 1/ The results show that a 1-percent increase in the price of FCOJM would lead to a 3-percent increase in the quantity supplied. However, they also suggest that a 1-percent increase in price would cause the quantity demanded to decrease by less than 1/2 percent. This indicates that processors would be most likely to benefit from a price increase, because gains in revenue would more than offset losses in volume that would result from the higher prices.

It was also possible to relate price levels and quantities of shipments of FCOJM to costs of oranges and levels of real disposable income. The results show that, on average, a 1-percent increase in real disposable income would lead to a 2-percent increase in total shipments and a 1-percent increase in the price of FCOJM, and that a 10-percent increase in the cost of oranges would result in a 5-percent increase in the price of FCOJM, and a 2-percent decline in total shipments. Predicted and actual levels of prices and of shipments are shown in figures G-1 and G-2.

1/ Despite this relatively inelastic demand by retailers, institutions, and other intermediate buyers, studies have shown that demand at the consumer level is much more price elastic. Researchers have generally found that a 1-percent increase in the price of FCOJM would result in a decline of slightly more than 1 percent in the quantity demanded. A fairly recent study of consumer demand in the orange juice industry by R. Ward and D. Tilley entitled "Time Varying Parameters with Random Components: The Orange Juice Industry," was published in the December 1980 issue of the Southern Journal of Agricultural Economics.

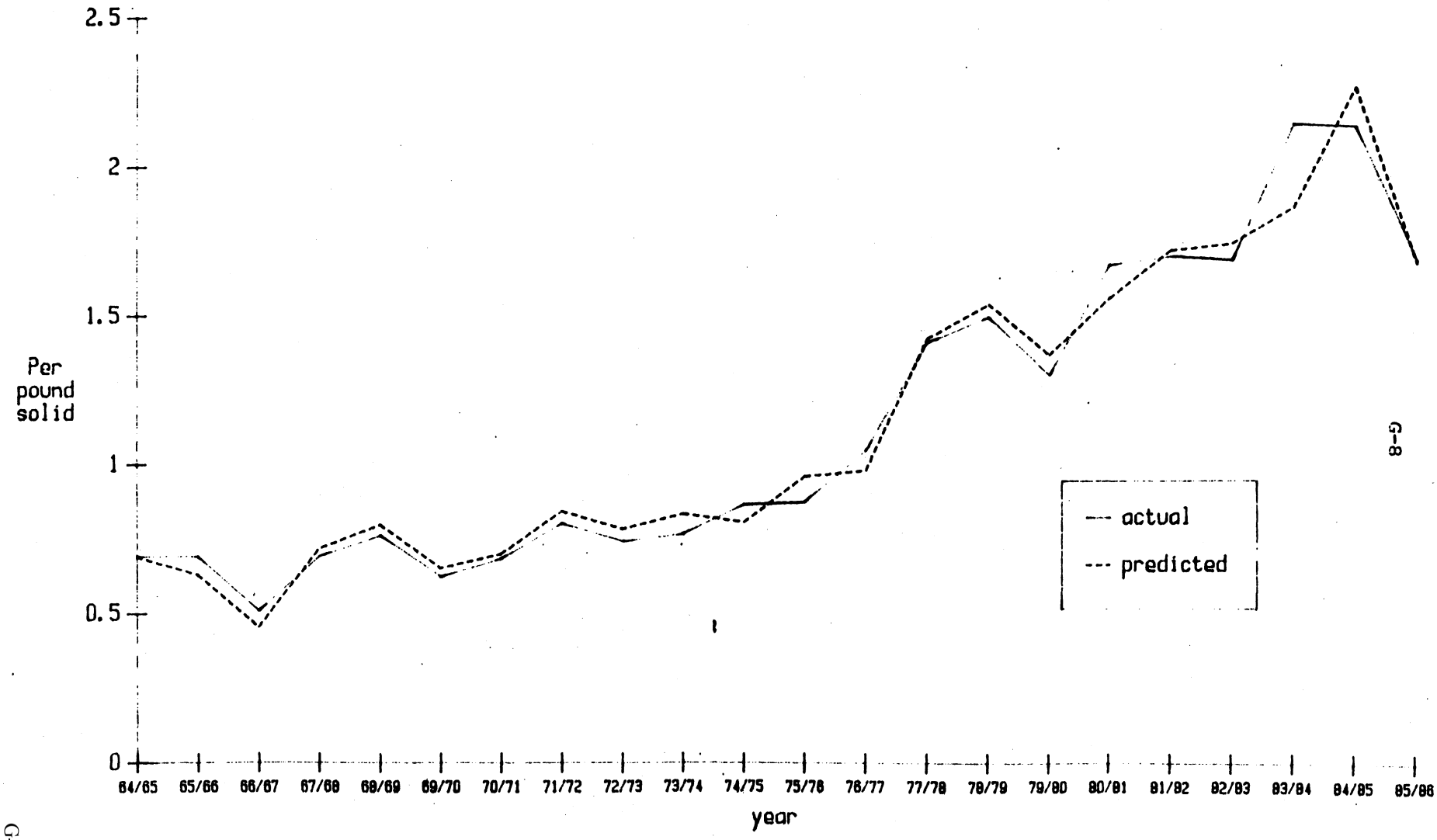
Figure G-1.--FCOJM quantity movements: Actual and predicted by crop years 1964/65 through 1985/86.



Source: Compiled from data supplied by the Florida Department of Citrus, the U.S. Department of Commerce, and from estimates made by the staff of the U.S. International Trade Commission.

G-7

Figure G-2.--Price of FCOJM: Actual and predicted by crop years, 1964/65 through 1985/86.



Source: Compiled from data submitted by the Florida Department of Citrus, the U.S. Department of Commerce, and from estimates made by the staff of the U.S. International Trade Commission.

Technical description of the regressions

This section presents a technical discussion of the regressions. The analysis began with the hypothesis that shipments of FCOJM and prices received by processors are simultaneously determined by a demand equation and a supply equation. 1/ The quantity of shipments demanded by purchasers at the dairy, reconstitution, and retail level should be negatively related to the price of FCOJM, which we are representing with the price of frozen concentrated orange juice for retail (FCOJR), measured on a per pound solid basis and packed in retail containers. 2/ The quantity of FCOJM demanded is also believed to be positively related to income. Real disposable income measured in constant 1982 dollars was used to represent this variable. The quantity of FCOJM supplied is believed to be directly related to its price, but negatively related to the per pound solid price of oranges used in the making of FCOJM. At the market clearing price, the quantity of shipments demanded should equal the quantity of shipments supplied.

$$(1)\quad \ln Q_{doj} = \ln A_1 + B_1 \ln P_{oj} + B_2 \ln Y_d$$

$$(2)\quad \ln Q_{soj} = \ln A_2 + B_3 \ln P_{oj} + B_4 \ln Z_o$$

Q_{doj} = Quantity of FCOJM demanded
Q_{soj} = Quantity of FCOJM supplied
P_{oj} = Price of FCOJM
Y_d = Disposable income, 1982 dollars
Z_o = Price of oranges
B_1 = estimated price elasticity of demand
B_2 = estimated income elasticity of demand
B_3 = estimated price elasticity of supply

Since the variable Poj was included in both equations, the two-stage least-squares procedure was used to estimate these equations instead of the more standard ordinary least-square method. Although the two-stage process does not eliminate the problem of bias in this two-equation system, it does produce consistent estimates of the coefficients.

The results of the two regressions are presented in equations (3) and (4) below. In these equations, the variable lnPoj represents the estimate of lnPoj that was generated by the first stage of the two-stage estimation procedure. All the coefficients in both equations had the expected signs, and all variables were significant at a 99-percent interval as determined from the values shown below the estimated coefficients. The R^2 values of 0.96 for the demand equation and 0.73 for the supply equation indicate that both equations explained a large part of annual variations in shipments. The

1/ To the extent these equations fully capture all relavent workings in these markets, the coefficients represent estimates of elasticities. Because real markets are much more complex, caution should be used in their interpretation.
2/ FCOJR prices should be a good indicator of FCOJM sales prices given the close relationship of FCOJM and FCOJR prices demonstrated in fig. 5 of this report.

Durbin-Watson statistics indicated that the supply equation was relatively free of autocorrelation, but some positive autocorrelation existed in the demand equation.

$$(3)\ \ln Q_{oj} = -13.246 \underset{(-7.912)}{} -0.383 \ln P_{oj} \underset{(-3.811)}{} +2.614 \ln Y_d \underset{(11.793)}{} + e_1$$

$R^2 = 0.962$
D.W. = 1.289

$$(4)\ \ln Q_{oj} = 5.627 \underset{(24.618)}{} +2.759 \ln P_{oj} \underset{(5.074)}{} -1.736 \ln Z_o \underset{(-3.893)}{} + e_2$$

$R^2 = 0.733$
D.W. = 1.746

The estimated coefficients of -0.383 for lnPoj and 2.614 for lnYd suggest that the demand for FCOJM is not very responsive to price changes, but highly income elastic. The coefficients of 2.759 for lnPoj and of -1.736 for lnZo in the supply equation indicate that the supply of FCOJM is highly price sensitive and is also sensitive to changes in the price of oranges.

In order to examine the effects of changes in each of the exogenous variables, Z_o and Y_d, or the levels of each of the endogenous variables P_{oj} and Q_{oj}, reduced-form equations were derived from the two estimated structural equations using the ordinary least-squares method.

$$(5)\ \ln P_{doj} = -6.007 + 0.553 \ln Z_o + 0.832 \ln Y_d$$

$$(6)\ \ln Q_{soj} = -10.946 - 0.212 \ln Z_o + 2.295 \ln Y_d$$

Equation 5 shows that a 10-percent increase in the price of oranges would result in a 5.5-percent increase in the price of FCOJM, and that, for every 1-percent rise in disposable income, the price of FCOJM will increase by 0.8 percent. Equation 6 indicates that shipments of FCOJM are relatively unaffected by the changes in the price of oranges, but will increase over 2 percent for every 1-percent increase in disposable income. 1/

The market price for oranges used in the production of FCOJM is also determined by supply and demand considerations. The quantity of oranges demanded depends upon the price of oranges and upon the price of imported concentrate from Brazil, which is a substitute for domestic oranges in the production of FCOJM. 2/ Finally, demand for oranges should be partly

---

1/ Actual values of $\ln Z_o$ and $\ln Y_d$ were substituted into equations (5) and (6) to generate the predicted levels of prices and quantities that are compared with the actual levels in figs. G-1 and G-2 of this appendix.
2/ The price of imported FCOJM was estimated by adding the tariff to the unit value of imports.

explained by a time trend that reflects the steady growth in demand for oranges as a result of rising consumption of FCOJM, and other steadily increasing market determinates. The time trend is also used to capture undefined elements of the market and thus enable a more detailed examination of price effects.

$$(7)\quad \ln Q_{do} = -\ln a_1 + b_1 \ln Z_o + b_2 \ln Z_{ojm} + b_3 \ln T$$

$\ln Q_{do}$ = Quantity of oranges demanded
$\ln Z_o$ = Price of oranges
$\ln Z_{ojm}$ = Price of Brazilian FCOJM
$\ln T$ = Time trend variable

Attempts to estimate a supply equation for oranges were not very successful, although it was believed that the quantity of oranges supplied depended positively upon the amount of bearing acreage planted and negatively upon the crop damage resulting from freezes. The supply of oranges is probably also affected by weather variations that are impossible to quantify. If the supply of oranges is assumed to be inelastic during a given crop year, fluctuations in output would affect the price of oranges but would have no effect on the quantity of oranges supplied since the quantity of oranges demanded is equal to the quantity supplied at the market price. A price equation to be used for estimation can be obtained by substituting $\ln Q_{so}$ in place of $\ln Q_{do}$ in equation (8-7) and rearranging terms to express Z_o as a function of the level of output of oranges, the price of the imported concentrate, and the time trend, as shown below in equation (9).

$$(8)\quad \ln Q_{so} = \ln Q_{do}$$

$$(9)\quad \ln Z_o = \frac{-\ln a_1}{b_1} + \frac{1 \ln Q_{so}}{b_1} - \frac{b_2 \ln Z_{ojm}}{b_1} - \frac{b_3 \ln T}{b_1}$$

Since b_1 should be negative and b_2 and b_3 positive from equation (7), it was expected that the regression would result in a negative coefficient for lnQso and in positive coefficients for lnZojm and for lnT.

The regression estimates conformed to expectations. All estimated coefficients were statistically significant at the 90-percent confidence interval or higher, as shown in equation (10)

$$(10)\quad \ln Z_o = \underset{(-1.804)}{-11.074} \underset{(-2.084)}{-0.513 \ln Q_{so}} \underset{(2.568)}{+1.012 \ln Z_{ojm}} \underset{(1.966)}{+3.259 \ln T} + e_4$$

$R^2 = 0.88$
D.W. = 2.105

The fit of the equation was good as measured by the R^2 value of 0.88, and the Durbin-Watson statistic of 2.105 indicated that the estimates were largely free of autocorrelation. The estimated coefficients indicated that a 10-percent decline in output would result in a 5-percent increase in the price of oranges, and that a 1-percent decline in the price of imported concentrate would result in a 1-percent decline in the price of oranges.

It was also possible to derive the structural parameters of the initial demand equation (7) from this reduced-form regression equation, even though tests of significance could not be applied to these parameters. The results indicated a value of 1.95 for the price responsiveness of demand (b_1). This suggests that the demand for oranges is fairly sensitive to small changes in price. The coefficient for b_2 is 1.97 and can be interpreted to be an estimate of the cross-price elasticity of demand. This suggests that the demand for domestic oranges is just as sensitive to price movements of the imported concentrate from Brazil.

Finally, it was believed that the demand for imported concentrate from Brazil tends to increase over time, and is negatively related to the import price but positively related to the cost of oranges. Regressing the volume of imports on a time trend, and on the ratio of the import price to the price of oranges supported this hypothesis. The coefficients for both variables had the expected signs and both were significant at the 90-percent confidence interal or higher. The coefficient of -1.257 for the relative price variable indicates that the demand for imports is fairly sensitive to changes in the ratios of the prices of these competing products.

$$(11)\quad \ln Q_{ojm} = -77.1 - 1.257 \ln \frac{Z_{ojm}}{Zo} + 18.755 \ln T + e_4$$

$$(-7.362)(-1.774) \qquad 7.811)$$

$R^2 = 0.891$
D.W. = 1.919