# BEFORE THE UNITED STATES INTERNATIONAL TRADE COMMISSION 

Apple Juice Investigation No. TA-201-59

PREHEARING BRIEF BY THE
FEDERAL TRADE COMMISSION
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Prehearing Brief of the Federal Trade Commission
in the Escape Clause Investigation of Apple Juice
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## Introduction and Summary

On December 27, 1985, at the request of the United States Trade Representative, the International Trade Commission ("ITC") initiated a proceeding pursuant to section 201 of the Trade Act of 1974 ("the Act"), 19 U.S.C. SS 2251 et seg., as amended (the "escape clause"), concerning imported apple juice. ${ }^{1} 51$ Fed. Reg. 3266 (January 24, 1986).

The escape clause provides for the granting of relief when increasing imports are found to be a substantial cause of serious injury, or threat thereof, to a United States industry. If the ITC makes an affirmative injury determination, it must recommend a remedy and report both its findings and recommendations to the President. 19 U.S.C. S 2251(d)(1). The President, in determining what import relief, if any, to grant, "shall take into account . . . the effect of import relief on consumers . . . and on competition in the domestic markets . . .." 19 U.S.C. S 2252(c)(4). Section 334 of the Tariff Act of 1930, as amended, provides that the Federal Trade Commission ("FTC") "shall cooperate fully with the [International Trade] Commission for the purposes of aiding and assisting in its work." 19 U.S.C. S 1334. The FTC enforces various statutes aimed at promoting competition in United States commerce to the benefit of United States consumers. Consistent with section 334 and the FTC's experience in promoting competition and protecting United States consumers, we are filing this prehearing brief.

[^0]In Section I, we suggest that imports of apple juice may affect domestic apple growers, crushers, and reconstitutors. In Section II, we present an analysis suggesting that neither reconstitutors, apple growers, nor crushers are suffering any present injury but that crushers may face a threat of injury. Section III describes a conceptual framework to aid the ITC, if it determines that a domestic industry is being injured, in deciding whether increased imports are a substantial cause of this injury. ${ }^{2}$ Under this framework, an injured domestic industry is entitled to escape clause relief only when the injury is substantially caused by a downward shift of the foreign supply curve, caused, e.g., by increased productivity abroad. The domestic industry is not, however, entitled to relief when the injury is substantially caused by changes in domestic demand or supply e.g. a decline in domestic demand for the product resulting from changes in consumer tastes, for example, or higher production costs - even though there may be an accompanying rise in imports. Such a rise may itself be a response to changes in domestic demand or domestic costs.

## Argument

I. The apple juice sector comprises apple growers, apple crushers, and reconstitutors.

The statute directs the ITC to ascertain whether increased imports are a substantial cause of serious injury to "the domestic industry producing an article like or directly competitive with the imported article." 19 U.S.C. S 2251(b)(1). In the present proceeding, an issue may be whether apple growers, crushers, and reconstitutors are in the same domestic industry or whether they are separate domestic industries. As the names suggest, crushers squeeze raw apples to produce either concentrate or single

[^1]strength apple juice to be sold to ultimate consumers, and reconstitutors dilute imported or domestically produced concentrate to produce single strength apple juice.

We take no position on the question whether domestic apple growers, crushers, and reconstitutors are separate industries or segments of a single domestic industry for purposes of this proceeding. However, because the Act directs the ITC to examine the "economic effect" of the imports in deciding this question, 19 U.S.C. S 2481(5), we direct the ITC's attention to the conclusion of Dr. Lorenzo Brown of our Bureau of Economics, as set forth in detail in the Appendix, that: (1) imported apple juice concentrate has no adverse economic effect on reconstitutors; (2) the economic effect of imported apple juice concentrate on crushers depends on whether the quantity of apples supplied to apple crushers is dependent upon the price paid for those apples - that is, whether the supply of juice apples is very inelastic and upon efficiencies achieved by crushers; and (3) the economic effect, if any, of imported apple juice concentrate on apple growers depends on the effects of imports on the output and price of domestic apples.
II. When the existence of injury or the threat of injury depends substantially upon whether output declines, it does not appear that reconstitutors, crushers, and apple growers have suffered any present injury; it is unclear whether crushers are threatened with serious injury.
A. Substantial importance should be accorded to whether there has been a decline in the domestic industry's output in determining whether there is injury.

In determining whether rising imports have caused injury, or the threat of injury, to a domestic industry, the Act directs the ITC to "take into account all economic factors which it considers relevant, including (but not limited to)" domestic production levels, sales, profit and employment. 19 U.S.C. $\mathrm{S} 2251(\mathrm{~b})(2)$. In weighing the various factors enumerated by the statute, as well as other factors which the ITC is allowed to consider, we suggest that substantial importance should be accorded to whether there has been a decline in output by the domestic industry. In the overwhelming majority of cases declining sales will be associated with increasing inventories, declining output, declining
employment, and declining profits. In such cases, a finding that sales or output have declined is tantamount to a finding that other factors enumerated by the statute have also changed in ways that support a finding of injury. Thus, in assessing injury it would seem appropriate to consider whether there has been a decline in domestic sales before considering the other enumerated factors.

This conclusion is not likely to be problematic even in the relatively unusual category of cases in which sales and output are stable and employment and profit are observed to decline. When sales and output are stable, declining employment is probably a response to technological advances that substitute other productive factors for labor, and protection under section 201 is not merited. It is unlikely that Congress enacted section 201 in order to guarantee an unchanging capital/labor ratio in every industry.

When sales and output are stable and profit declines there are two possible explanations. First, costs may have increased. When revenue is stable and costs increase, e.g., through productivity declines, profit necessarily must decrease. We lack the necessary cost information to address this possibility in the present case. We note however that such cost increases are unlikely to be the result of increased imports. Second, prices may have fallen. To the extent that economic profit is reduced because prices have fallen, there may still be no injury because productive resources are not necessarily idled in response to such a reduction in economic profit. However, when such a decline in prices causes profits to decline to unreasonable levels, there will be injury because output will also decline as firms leave the market.

## B. Reconstitutors, crushers, and apple growers do not appear to suffer any present injury: it is unclear whether crushers are threatened with serious injury.

The reconstitutors are not seriously injured, according to Dr. Lorenzo Brown of our Bureau of Economics, because it is immaterial to them whether they purchase imported or domestic concentrate, and a lower price for imported concentrate simply means that their costs are lower (see Appendix).

Growers are also unlikely to have been injured. This is so for two reasons. First, the levels of production during the period in question are not consistent with either serious injury or a threat thereof. Apple production remained stable throughout the period 1981 to 1985 . Because changes in domestic output are probably positively correlated with changes in employment, it is unlikely that employment changed during the period. Consequently, it seems unlikely that domestic apple growers could establish that they have been or will be seriously injured on the basis of changes in the levels of output and employment. Second, the price trend of apples is also inconsistent with serious injury. Prices did not fall between 1981 and 1985. Because the output of apples did not change over that period either, apple grower profits could have declined only if their costs increased by more than the rate of inflation.

Finally, with regard to domestic crushers, Dr. Brown concludes that their output has not declined during the relevant period. Accordingly, using the approach to injury described above, it does not appear that domestic crushers have suffered any present injury. Dr. Brown also examined price trends to evaluate whether there is a threat of serious future injury. Dr. Brown's examination of trends in prices reveals that during the relevant period the price of apple juice declined while the price of apples remained essentially unchanged. In such circumstances, the level of domestic production of apple juice could remain constant only if domestic crushers became more efficient. Given such increased efficiency, domestic crushers' profit could have remained constant, increased, or decreased during the period of analysis. There is, however, insufficient information
available to Dr. Brown to project which of these outcomes will be most likely to prevail in the future.

Thus, on the basis of the information available to us, including (1) the stability of domestic apple and domestic apple juice production during the period in question, (2) the positive correlation between the level of production and the level of employment, and (3) the stability of apple prices during this period, we believe that domestic apple juice crushers and apple growers have not been seriously injured. If, however, domestic apple juice crusher profits are likely to decline to such levels that resources used in that activity eventually will be displaced, then there could be a threat of serious injury to domestic apple crushers.
III. Section 201 relief should be available only if an increase in foreign supply is responsible for the industry's deteriorating domestic position to at least as great an extent as rising domestic costs or shifts in domestic demand.
A. A framework for analysis of causation

Section 201 requires the ITC - if it finds the domestic industry is injured or threatened with injury - to determine whether rising imports are a "substantial cause" of the injury. 19 U.S.C. S 2251(b)(1). A "substantial cause" is one which is "important and not less than any other cause." 19 U.S.C. S 2251(b)(4).

The legislative history recognizes that the indicia of injury - declining sales, production, profits, and employment - can result from "conditions unrelated to imports. Such conditions could arise from a variety of other causes, such as changes in technology or in consumer tastes, domestic competition from substitute products, plant obsolescence, or poor management." S. Rep. No. 1298, 93d Cong., 2d Sess. (1974) at 121.

Our approach to the issue of causation is consistent with the language of the statute and the legislative intent. The output of any domestic industry is subject to a variety of influences, such as wages and the price of competing products. There are additional influences when the domestic industry has significant import competition, such as foreign wages and international transportation costs. In theory, adverse changes in any one or more of these influencing factors can cause injury. The influencing factors that cause injury can be divided into three groups on the basis of who is affected. Some factors, such as technology and domestic labor costs, affect the costs domestic producers incur in supplying the product. Other factors, like the availability and prices of substitutes, affect the demand for the product. Still others, such as international transportation charges and foreign production costs, affect the ability of foreign producers to sell in this country.

Under this approach, it is important to understand that imports themselves are not causal or influencing factors. Imports, like domestic consumption and production, are caused by more fundamental supply and demand factors. Thus, imports may change for a variety of reasons unrelated to changes in foreign supply factors, such as changes in domestic energy costs or shifts in domestic incomes.

This framework focuses on those cases in which import competition is a cause of injury, not on those in which rising imports are merely another effect of some other cause. ${ }^{3}$ For example, either an increase in domestic costs or a decrease in foreign wages can result in a reduction of sales of the domestically produced good and an increase in imports. If the domestic industry's distress and the increase in imports are caused by the higher costs of domestic industry, import relief would not be appropriate because no

[^2]changes affecting the supply of imports have occured. ${ }^{4}$ In the case of a decrease in foreign wages, on the other hand, the problems of the domestic industry may be caused by increased import competition, and relief may therefore be appropriate.

In many cases, there will be simultaneous changes in both domestic and foreign factors, and it will be necessary to determine the relative importance of the changes. Relief is appropriate only when the foreign changes are not less important than the changes in either domestic supply or domestic demand.

## B. Analysis of the economic cause for the decline in the price for apple juice

Available evidence indicates that the price for apple juice has fallen even though the domestic output has not declined. As discussed above, we do not think that an industry has suffered any present injury unless its output has fallen. Nevertheless, the argument may be made that apple crushers are, or may be, injured because the price of apple juice has fallen. Accordingly, we turn to this question of the economic causes of the price decline.

In the Appendix to this brief, Dr. Brown addresses the reasons for the decline in the price for apple juice. He notes the available evidence suggests that the supply curve for domestic crushers has shifted outward, presumably because domestic crushers have become more efficient in recent years. ${ }^{5}$

To the extent that the price for apple juice has fallen because domestic crushers have become more efficient, such a price decline provides no basis for import relief. A price decline caused by increased efficiency cannot be caused by increased imports. We note that if the increase in crusher efficiency has not been spread equally among all

4 In this example, the increase in imports is not caused by a change in factors affecting foreign supply, and the import supply curve has not shifted downward.

5 That is, the supply curve of crushing services has shifted outward so that for any price of apple juice and price of juice apples, the quantity of apples converted into juice has increased.
crushers and that some have had larger cost savings than others, some crushers may have been made worse off by this general increase in industry efficiency. Once again, however, any such decline in profits is a domestic change and should not provide a basis for import relief.

## Conclusion

For the reasons stated above, the impact of imported apple juice should be analyzed in terms of domestic apple growers, crushers, and reconstitutors. Output and price data indicate that reconstitutors are certainly not and growers are probably not experiencing serious injury or being threatened by serious injury as a result of imports; crushers may be experiencing the threat of serious injury. If the ITC makes an
affirmative injury determination, we suggest that rising imports may not be a substantial cause of this threatened injury.

Respectfully submitted on behalf of the Federal Trade Commission,

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## Appendix

## The Effects of Apple Juice Concentrate Imports on Domestic Producers

by
Dr. Lorenzo Brown ${ }^{1}$

In previous section 201 cases, the Federal Trade Commission has presented a method of analyzing claims that a domestic industry has been injured by imports and of determining whether any injury is the result of increased import competition -- i.e. a downward shift in the import supply function -- or is the result of changes in domestic supply or demand. ${ }^{2}$ This approach has also been adopted by Vice Chairman Liebeler. ${ }^{3}$ However, any attempt to apply this approach to the present case is complicated by the fact that it appears that more than one type of producer may be injured by a decline in the price of imports of apple juice. In this appendix, we consider theoretical and empirical indications that firms performing these various functions may or may not have been injured as a result of a lower price of imported apple juice.

## Producers of Apple Juice

There are two types of processes that are involved in the production of apple juice. The first process involves the crushing of raw apples. The output of this process can be either apple juice for sale to the ultimate consumer or concentrated juice that is then shipped to other locations where water is added to produce final strength apple juice. This first group of producers uses raw apples as an input and produces either finished apple juice or concentrate as an output. The second process involves reconstituting concentrated apple juice produced by some other firm or by

[^3]the same firm in some other location to produce finished apple juice. ${ }^{4}$ The input used by these producers is concentrated apple juice and their output is finished apple juice. In examining the effects of imports of apple juice concentrate on the domestic industry or industries involved in the production of apple juice, it is useful to consider how the firms involved with each of these production processes, as well as growers of the apples utilized by the apple crushers, could be affected. ${ }^{\text {s }}$

Consider first the producers who reconstitute concentrated apple juice in order to produce single strength juice for final consumption. It is easy to see why these producers are not likely to be injured if the price of imported apple juice concentrate declines. What these processors do is to add water to apple juice concentrate in order to produce finished apple juice. A key input they use is apple juice concentrate .- the product that is being imported. It would appear that reconstitutors should be able to use either imported or domestically produced concentrate. Therefore, increased competition from imported concentrate should lower the price these producers need to pay for a key input into their production process. Producers are not likely to be injured if the prices of their inputs decline.

While it is relatively easy to demonstrate that the reconstitutors of apple juice concentrate are not likely to be injured by increased imports of apple juice concentrate, determining whether the domestic producers who produce either concentrate or finished apple juice from raw apples are injured is more difficult. In considering whether the domestic processors have been injured it is useful to recall what the major sources of injury would be: lower prices which would cause processors to earn lower profits, lower quantity of apple juice sold, or lower employment. Apparently, sales of concentrate and juice from domestically grown apples have not fallen. The quantity of apples going into juice production has not declined. ${ }^{6}$ We infer from the fact that output has not fallen, that employment probably has not fallen either. Therefore, it would appear that the sole source of potential injury is a fall in the price of concentrate and juice. If output of domestic concentrate and juice producers has not fallen, but the price of

[^4]their output has fallen, the supply curve of the services of domestic concentrate and ivice producers must have shifted out. That is, for any given price of apple juice and for any given price that must be paid for juice apples, the quantity of juice that processors would choose to produce has increased. This deduction derives from the fact that economics tells us that short-run industry supply curves are upward sloping, i.e., a seteris paribus fall in industry price will result in a fall in industry output, unless the supply curve of the industry is perfectly inelastic. It is unlikely that the domestic supply curve for processing apples into concentrate and juice is perfectly inelastic.

Therefore, from the fact that domestic output of concentrate and juice has not fallen but the price has fallen, we conclude that the domestic supply curve for concentrate and juice processing services has shifted out. If the domestic supply curve for concentrate and juice has shifted out, that change in the domestic industry alone, ceteris paribus, would result in a decline in the domestic price of concentrate and juice. Therefore, if the source of potential injury to domestic processors is a reduction in the price of their output, one cause of this reduction in orice is some change in the domestic industry that caused the domestic supply curve for concentrate and iuice to shift out. This change is a domestic change and to the extent that this shift is responsible for any injury suffered by the domestic industry, it should not be the basis for granting relief.

We will now consider, given the facts available to us, what the possible causes of an outward shift in the domestic processors' supply curve could be. As we discussed above, domestic processors who use foreign concentrate to convert into juice have seen a reduction in their costs, and so their supply curve would have shifted out. Consider now the domestic processors who use domestic apples or concentrate. An important component of costs for domestic processors is the price of apples. If the decline in the price of concentrate and of apple juice is offset by an equivalent decline in the price the producer pays for apples, a producer will not be injured. If the price received for concentrate (or juice) and the cost of the apples used to produce the concentrate (or juice) fall by the same amount, the producer will ceteris paribus find it profitable to produce the same quantity after the price decline as before. ${ }^{7}$ In such a situation, there will be no decline in

[^5]employment or in capacity utilization, and, because the cost of the input (apples) has declined by an amount equal to the decline in the price of output, processor profits will not be adversely affected. ${ }^{8}$

A reduction in the price of apple juice and concentrate will, ceteris paribus, reduce the demand for domestic juice apples. In one set of circumstances, all of the changes in the market due to changes in the competitiveness of imports would occur in the market for domestic juice apples. In this case, for example, a ceteris paribus reduction in the demand for juice made from domestic apples would result in a fall in the price of apples, but no change in the profits, output, or employment of the juice producers. This would occur if the supply curve for juice apples was perfectly inelastic. If the supply curve for juice apples is perfectly inelastic, domestic processors will not be injured by changes in the level of imports because the impact of changes in import competitiveness will be borne in the apple markets.

Several characteristics of apple growing and of juice apples suggest that it would not be surprising to find that, at least in the short run, the supply of juice apples is completely inelastic. First, apple trees are long lived. Once a group of apple trees are planted and have grown to maturity, they will produce apples for many years. Even if the price for which the apples can be sold declines precipitously, the apples will continue to grow. ${ }^{9}$

Second, juice apples are not apples grown for juice production. They grow on the same trees as apples that will be put to higher valued uses such as sale as fresh fruit or use in canning. Juice apples are the apples that are so small, so damaged, or so deformed that no one will buy them for other uses. Further, when picking apples, all of the apples on a tree are picked. The use to which particular apples are put is determined later, at the packing house, where the apples are graded and sorted. Thus, the apple
where $P_{c}=$ the price of apple juice concentrate,
$P_{j a}=$ the price for the quantity of juice apples required to produce one unit of concentrate, and
$\mathrm{MC}_{\mathrm{p}}=$ the marginal cost of processing apples into concentrate.
If a decline in the price of concentrate is matched by an equivalent decline in the price of juice apples, the left side of this relationship will be unchanged. Therefore, in equilibrium the right side must be unchanged. Assuming an upward sloping marginal cost of processing, this will be true only if the quantity of concentrate produced is unchanged.

8 While the producer has not been injured in this case, the apple grower may have been -- the price he receives for his product has declined.

9 Of course, the quality of the apples may decline if the trees are not fertilized and otherwise maintained. However, because apples used to produce juice are those apples that cannot be used for any other purpose, such a neglect might increase the supply of juice apples.
grower in deciding whether to pick the apples from his trees must consider whether the total revenue received for all of the apples on the tree will exceed the cost of picking the apples. In addition, the costs of picking and sorting the apples must be incurred in order to sell the better apples for use as fresh fruit or in higher-valued processing uses -- e.g. as canned apples or as apple sauce.

In recent years, the growers have received approximately 10 or 11 cents per pound for their apples. ${ }^{10}$ The cost of harvesting apples and transporting them to the packing house has been estimated to be less than 1.5 cents per pound. ${ }^{11}$ Thus, it appears very unlikely that growers would not find it profitable to harvest apples at current prices.

Once the apples are picked and sorted, there is effectively no cost avoided by throwing the juice apples away rather than selling them for juice production. Thus, the price paid for juice apples can fall almost to zero before the costs that are avoided by not using apples for juice production are greater than the avoidable costs of putting them to such a use. Until the price reaches this level, the quantity of apples supplied for use in juice production will not vary with the price received. It appears that the supply of juice apples will be completely inelastic. ${ }^{12}$

If our argument is correct and the supply of juice apples does not respond to the price paid, there will be no injury to juice processors as a result of any increase in the competitiveness of imports. Any increase in competitiveness will be reflected in changes in the price of apples, not changes in conditions in the processing industry.

While, as we argued above, an inelastic supply curve should imply a drop in the price of apples in response to a drop in the price of apple juice, the available public data do not indicate that the price of juice apples has in fact fallen. In 1981, the price of juice apples was 4.40 cents per pound.

10 Fruit Outlook and Situation Yearbook, p. 22.
${ }^{11}$ Telephone conversation with Dr. Charles Safley, North Carolina State University, April 7, 1986.

12 We are aware of one exception to this conclusion. When an apple crop is severely damaged by hail, the grower may know that the apples cannot be put to any use other than juice production. In that case, it will be profitable to pick the apples only if the price of juice apples exceeds the harvesting costs. However, harvesting appears profitable even in this case. The price of juice apples has never been below 4.4 cents per pound in the 1981-1984 period (See Fruit Outlook and Situation Yearbook, p. 22) If harvesting costs are less than 1.5 cents, there is still money to be made if the only possible use of the apples is juice production.

In 1984, the price, expressed in 1981 dollars, was 4.61 cents per pound. ${ }^{13}$ Therefore, it does not appear from the data available to us that the outward shift in the supply of domestic apple juice and concentrate that we earlier discussed could be the result of a reduction in the price of apples. Perhaps the price of apples did not fall because the supply curve is not, in fact, inelastic.

On the other hand, however, the prediction of a decreased price of apples in response to a decrease in the price of inputs assumed that no other changes occurred in apple processing in the recent past. In fact, there may have been other changes affecting the costs of processing apples during the period 1981 to 1985. As we discussed above, there is evidence that the domestic supply curve of processors of apples into juice or concentrate shifted out during this period. While we have no information on specifically what caused these shifts, it appears that processors may have become more efficient. Such an increase in efficiency would lead to lower processing costs and without any reduction in the price of apples, ceteris paribus. Such a change would, however, not change our conclusion that one of the causes of the decline in the price of apple juice must be that the domestic supply curve has shifted out. Whatever the causes of this outward shift, they are independent of the increase in the competitiveness of imports and relief should not be granted in response to any injury resulting from them. ${ }^{14}$

## Apple Growers

We now turn to an examination of whether the publicly available evidence indicates that apple growers have been injured by the lower price of imported apple juice concentrate. In conducting this analysis, we shall focus on changes in the quantity and price of apples. We follow ITC practice and focus on a period of the last five years -- 1981 through 1985.

By focusing on changes in price and output, we can reach conclusions about the various indicators of injury that the International Trade Commission is called upon to examine. ${ }^{15}$ These include declines in output,

[^6]declines in employment, and declines in profits. ${ }^{16}$ Our understanding of the legal precedent is that the ITC has never found that a domestic industry has been injured by imports unless it has suffered an adverse change in one or more of these indicators. ${ }^{17}$ However, we do not need to consider each indicator of injury separately, because they are in fact not independent.

For example, consider the loss of employment as an indicator of injury. If one found that a lower price of imports had caused domestic production to decline, it would not be surprising to find that employment in the domestic industry had declined. However, if import competition has not resulted in a decline in output, any declines in employment cannot be attributed to imports. If fewer workers are needed to maintain a constant level of production, the decline in employment would appear to be the result of more efficient production techniques and not the result of increased competition from imports. Accordingly, if production does not decline, we can conclude that imports have not caused injury in the form of decreased output or employment. ${ }^{18}$

In considering the effect of a decline in the price of imports on the profitability of domestic apple growers, it is useful to recall that a firm's profits are equal to the difference between its revenues and its costs. We see no reason to believe that cheaper imports of concentrated apple juice will affect the costs of apple growers. Imported concentrate is a substitute for apples grown in this country, and as such, its effects on profits should occur through an effect on the price of apples and on the quantity of apples sold. Therefore, we can investigate the effects of imports on apple prices and output and draw some conclusions about profits. In particular, if we find that competition from imports has not caused either the price of apples or the quantity of apples produced to decline, then it is unlikely that the apple growers have suffered injury.

An additional issue that needs to be resolved is whether one should consider the price and quantity of all apples produced or whether attention should be restricted to apples used for juice production. It is our understanding that there are no apples grown exclusively for use in making
output and price lead us to tentatively conclude that there is no evidence of injury under any of the indicia suggested by the statute.

16 The statute also directs the ITC to consider declines in capacity utilization. We do not focus on that measure of injury here because it is not clear what capacity utilization means in the context of an agricultural commodity such as apples.
${ }^{17}$ See 19 U.S.C. $2251(\mathrm{~b})(2)$.
${ }^{18}$ Similar conclusions would follow concerning capacity utilization in industries where an analysis of capacity utilization is appropriate. If capacity utilization declines while the level of production is constant, it would appear that capacity has been added or, again, more efficient production techniques may have been placed in operation.
apple juice. Rather, some apples from a tree may be used for fresh consumption and others used to produce canned apples while other apples from the same tree may be used to produce apple juice. Therefore, the grower in deciding whether to plant apples will be considering the total output of his trees; and it is that total output that should be examined in determining whether or not he has been injured.

Table 1 provides price and output figures for all apples for the period 1981 through 1985. ${ }^{19}$ These figures, which are based on publicly available data, should provide some preliminary indications of whether apple growers are suffering injury. Apple production rose from 7,739 million pounds in 1981 to 8,373 million pounds in 1983, after which it declined to 7,809 million pounds in 1985. Examining the full five year period there is no trend toward a decline in output. ${ }^{20}$ A similar pattern is found in the price of apples. The real price of a pound of apples fell from 11.10 cents in 1981 to 10.12 cents in 1982 . After this, price rose steadily to 10.95 cents in 1985. There does not appear to be a trend toward lower prices. ${ }^{21}$

19 For 1981-84, the data are from the U.S. Department of Agriculture, Fruit Outlook and Situation Yearbook, TFS-236, October 1985, p. 22. The 1985 data come from U.S. Department of Agriculture, Noncitrus Fruits and Nuts: 1985 Summary, FrNt 1-3(86), January 1986, pp. 8-9.
${ }^{20}$ A regression of output on time generates the following relationship
$\mathrm{Q}=5556.7+30.23$ TIME
where $\mathrm{Q}=$ total apple production in millions of pounds and
TIME $=$ the last two digits in the year -- i.e. 81 for 1981.
Figures in parentheses are standard errors.
The presence of a positive coefficient on the TIME variable is consistent with an overall increase in apple production over the five year period, not with a decrease.
${ }^{21}$ A time trend regression of real price ( P ) again supports this finding. The results of the analysis are
$\mathrm{P}=8.03+0.0317$ TIME
(0.147)

During this period, there have been significant increases in imports of apple juice concentrate. Table 2 shows that imports of apple juice increased from 81.6 million gallons in 1981 to an estimated 223 million gallons in 1985. This represents a substantial rate of increase in the quantity of imports. (U.S. Department of Commerce, Bureau of the Census, TSUSA Annual Reports, Schedule 165.15. These figures include imports of pear juice. However, pear juice is a very small percentage of the total. While apple

## TABLE 1

## Apple prices and production

| Year | Price <br> (cents per pound) | Quantity produced <br> (midilions of pounds) |
| :---: | :---: | :---: |
| 1981 | 11.10 | 7739.6 |
| 1982 | 10.12 | 8122.0 |
| 1983 | 10.42 | 8373.0 |
| 1984 | 10.75 | 8285.5 |
| 1985 | 10.95 | 7809.0 |

1 prices are all expressed in 1981 dollars by deflating by the producer price index for farm products and processed foods and feeds.

Source: See text and sources cited there.

## TABLE 2

Prices and Quantities of Imported Apple Juicel

| Year | Price per Gallon | Quantity of Imports <br> (Thousands of Galions) |
| :---: | :---: | :---: |
| 1981 | $\$ 0.74$ | 81,603 |
| 1982 | 0.91 | 103,760 |
| 1983 | 0.76 | 149,290 |
| 1984 | 0.70 | 167,860 |
| 1985 | $0.63^{*}$ | $222,980 *$ |

1 While apple juice is imported in the form of concentrate, quantities are measured in terms of the quantity of juice that can be produced from that concentrate. The price is measured in constant 1981 dollars per gallon of finished juice. Prices were converted to constant 1981 dollars by using the producer price index.

* Estimates based on data for January through October.

Source: See text and sources listed there.

Thus, we find no evidence to suggest that prices or quantities of apples produced have declined over the relevant five year period. The failure of output to decline suggests that there can be no injury due to lost sales or declines in employment. The combination of no decline in output and no decline in price is suggestive of no decline in profits. Thus, the data we have available to us suggests that apple growers may not have been injured by the increased imports of apple juice concentrate.
juice is generally imported in a concentrated form, the quantity of imports is measured in terms of the quantity of finished or single strength juice that would be produced from that concentrate.)

Table 2 also provides data on the real price of imported apple juice during this five year period. (Again nominal prices were converted to real prices by using the producer price index.) While real prices rose between 1981 and 1982, they declined thereafter; and there appears to have been a downward trend in the price of imports over the entire period. A simple time trend regression confirms this impression. We find that the real price of imports over the period 1981 to 1985 is explained by the relationship
$P_{m}=4.17-0.041$ TIME
(0.027)
where $P_{m}=$ the real price, measured in 1981 dollars, of the quantity of imported concentrate needed to produce a gallon of finished apple juice, and
TIME $=$ a time counter equal to the last two years of the year-e.g. $\quad 1981$ equals 81.

## CERTIFICATE OF SERVICE

I hereby certify that on this $\|$ day of April 1986 , I have served the foregoing prehearing brief by causing the original and 14 coples to be hand-delivered to the Secretary of the Commission and by mailing a copy, first class, postage prepaid to counsel for all parties to this proceeding, as follows:

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[^0]:    1 As noted below, imported apple juice actually arrives in this country in the form of a concentrate which is reconstituted to single strength apple juice for sale to consumers.

[^1]:    2 Vice Chairman Liebeler has adopted this framework on several occasions. See, e.g. Carbon and Certain Alloy Steel Products, TA-201-51, ITC No. 1553 (1984) at 137-142; Nonrubber Foot Near, TA-201-55, ITC No. 1717 (1985) at 206-210.

[^2]:    3 We suggest that our proposed analytical framework is consistent with the fundamental purpose of the Act. The Act lists among its primary goals to "strengthen economic relations between the United States and foreign countries through open and nondiscriminatory world trade" and "to assist industries, firm [sic], workers, and communities to adjust to changes in international trade flows." 19 U.S.C. S $2102(1)$ and (4).

[^3]:    1 Lorenzo Brown is an economist in the Federal Trade Commission's Bureau of Economics. He received the PhD degree in economics from the University of Stockholm in 1980.

    2 See Briefs of the Federal Trade Commission in Carbon and Certain Alloy Steel Products, TA-201-51, Unwrought Copper, TA-201-52, Canned Tuna Fish, TA-201-53, Potassium Permanganate, TA-201-54, Nonrubber Footwear, TA-201-55, and Electric Shavers, TA-201-57.
    ${ }^{3}$ See, e.g., Carbon and Certain Alloy Steel Products, TA-201-51 (1984) at 137-142; Nonrubber Footwear, TA-201-55 (1985), Appendix A at 201-210.

[^4]:    * Even producers who crush fresh apples may use some concentrate in order to obtain a blend of apple juices that produces the taste that they wish to have in their product. To the extent that firms engaged in crushing apples can increase the amount of concentrate they utilize and reduce the amount of crushing in which they engage if the price of concentrate declines, then the analysis of reconstitutors may apply to these firms as well.
    ${ }^{5}$ In some cases a single firm may grow apples, produce concentrate, and produce apple juice. However, it is still useful to consider the effect on each production stage separately.
    ${ }^{6}$ The quantity of apples used in juice production increased from $1,798.4$ million pounds in 1981 to $1,816.4$ million pounds in 1984. (See U.S. Department of Agriculture, Fruit Outlook and Situation Yearbook, TFS-236, October 1985, p. 22)

[^5]:    ${ }^{7}$ To see this, consider the quantity of apple juice concentrate that a competitive concentrate maker would produce. As with any producer in a competitive industry, such a competitive producer would expand his production of concentrate until the marginal cost of producing another unit of concentrate is just equal to the price for which he can sell the product. Since the marginal cost of producing concentrate is equal to the cost of the apples used to produce the concentrate plus the marginal cost of processing the additional apples, another way to state the firm's equilibrium condition is that the price of concentrate less the cost of the apples used to produce the concentrate must be equal to the marginal cost of processing. That is

    $$
    P_{c}-P_{j a}=M C_{p}
    $$

[^6]:    ${ }^{13}$ Fruit Outlook and Situation Yearbook, p. 22. The price data are expressed in constant 1981 dollars and are derived from current prices by use of the producer price index for farm products and processed foods and feeds as reported in the 1986 Economic Report of the President, p. 324.
    ${ }^{14}$ It is possible that this increase in efficiency among juice processors would be accompanied by the exit of some firms from the industry. That is, more efficient processors could be expanding while less efficient processors were forced from the industry. However, this effect on domestic processors is independent of the state of competition from imports.

    15 As suggested in footnote 2 on page 6 of the FTC brief in this matter, we suggest that the ITC hesitate to find injury without a decline in output and sales, regardless of the levels of other factors. This issue of interpretation need not be reached here, however, since our analysis of

