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Chapter Author: J. M. Finger

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The Industry-Country Incidence of "Less than Fair Value" Cases in US Import Trade

J. M. Finger

World trade, particularly trade in manufactured goods, has, for the last two decades grown more rapidly than output. The growth of manufactured exports from developing countries has been particularly notable. Over the past decade developing country exports of manufactured goods have increased more rapidly than developed country exports and manufactured output and also more rapidly than output of developed countries.

This extension of international specialization has made a significant contribution to productivity growth, and hence to the growth of per capita output. Movement, however, generates friction, and there are signs that this expansion of international specialization and commerce is beginning to test the capacity of the political-legal institutional mechanisms which have, to now, controlled and directed this expansion of the world economy.

These new problems tend to have at their core questions of distribution. Specialization affects the distribution of a country's income between different economic classes and different factors of production. At the same time, Western societies have displayed increasing concern with issues of equity. Because "losers" are often a more identifiable and vocal constituency than "winners," there is more political pressure to resist the growth of international specialization than to accommodate it. As LDC export expansion is often based on relatively abundant unskilled labor, the expansion of trade tends to put LDC interests in direct conflict with those of lower-income groups in the DCs, and to create the impression that the "new protectionism" in the industrial countries is aimed primarily at imports from developing countries.

Moving from impressions to facts is difficult. The "old" form of protection, tariffs, has a natural quantitative dimension, and thus one can measure directly changes in the overall level of tariff protection. But the "new" protection takes a multitude of forms, many of which seem to defy quantification.

Studies of the "new protectionism" have tended in methodology to be tabulations of policy actions which affect imports.[1] But even the development of these information systems is a multidimensional problem. First, information sources must be sought out, and this is made difficult by importing countries' reluctance to reveal the details (or sometimes even the existence) of arrangements to impede imports. At the conceptual level, it is difficult to quantify the various forms of administrative protection, or even to decide which administrative action actually constitutes protection. An IMF study [13], for example, included countervailing duty and dumping cases in the tabulation of protective actions, while a World Bank tabulation [15] excluded them.

PURPOSE OF THE PAPER

This paper is an attempt to analyze the incidence of "less than fair value" (LFV) complaints and cases.[2] Included under this label are the subsidy and countervailing duty cases. They are referred to as less than fair value cases because the trade practices they are intended to control involve, in legal terms, the sale of products in the US market as less than their "fair value" — by virtue of a government export subsidy in countervailing duty cases, or of a "private export subsidy" in a dumping case.

In the past several years, the less than fair value procedures have grown in importance relative to escape clause procedures — since January 1975 over 225 less than fair value petitions but only 40 escape clause cases. The increased resort to such mechanisms has led to a growing concern that protectionist interests within industrial countries will exploit such administrative practices so as to restrict significantly the expansion of world trade, particularly the expansion of manufactured exports by the developed countries (see, for example, [12]). The number of LFV cases involving Latin-American exports has not been large. These cases have, however, received considerable political and news media attention — the recent "Mexican winter vegetables" antidumping case is a good example.

LESS THAN FAIR VALUE CASES AND PROTECTION

As already noted, lists of recent protectionist measures sometimes include and sometimes exclude LFV cases. Hence there is disagreement as to whether or not they constitute protectionism.

Nature of the Cases

Dumping

The legal purpose of the antidumping act[3] is to prevent foreign firms and individuals from selling in the US at prices lower than those they charge in their home market. The US law provides that if home market sales are too small to provide a basis for comparison with prices charged in the US market,

sales in a third-country market may be used. It also provides that if it is determined that the price charged in the home and in the US market is below the firm's long-run cost of production, then in the dumping determination, that is, the determination of the difference between the price charged in the US and the "foreign market value," the administering US government agency may use "constructed value" (estimated cost), to determine foreign market value. If the administering agency[4] determines that the product in question is being sold in the US at less than its foreign market value, the case is referred to the International Trade Commission (ITC). The ITC then investigates whether a domestic industry is being or is likely to be injured, or is prevented from being established by reason of the importation of such merchandise.

Subsidy/Countervailing Duties

The idea behind a "countervailing duty" is to protect a country's producers from having to compete with subsidized production abroad. To this effect, the US countervailing duty law states that

> Whenever any country... shall pay or bestow... any bounty or grant upon the manufacture or production or export of any article..., then upon the importation of such article into the United States... there shall be levied... in addition to any duties otherwise imposed, a duty equal to the net amount of such bounty or grant...[5]

During the period covered by this study the US countervailing duty statute prescribed an "injury test" only if the goods in question were duty-free.[6]

Response to Foreign Action

In the most immediate sense, LFV actions, particularly countervailing duties, are responses to policy actions taken by an exporting country. The purpose of an LFV investigation is to determine whether the allegation of foreign export subsidization or dumping is true. If so, the US response is automatic; *if* a foreign government subsidizes exports to the US, *then* the US Government imposes a countervailing duty equal to the subsidy.

When the political-economic process is viewed this way, it is the foreign government's policy action which is the *exogenous* factor. Furthermore, the effect of the countervailing duty is to offset the trade effect of the export subsidy. If each foreign export subsidy is countervailed, the effect on trade (and on the economy of the country which countervails) would be zero.

It is, however, arguable that the LFV laws, and particularly the administrative rules which govern their implementation, proscribe actions in international commerce which are allowed by the equivalent legislation governing domestic trade practices.[7] If so, the LFV mechanisms neutralize or discourage actions by foreigners selling in the US market, even though domestic sellers are not prevented from taking such actions, and the mechanisms can reasonably be described as protectionist.

Dissatisfaction with the recent pattern of enforcement of the countervailing duty and antidumping laws is evident. Domestic interests argued that the Treasury Department had been overly sensitive to the interests of US importers-consumers and to "internationalist" interests generally. This, in part, was responsible for transferring the enforcement of these laws out of the Treasury Department.

It is, however, not difficult to find the opposite opinions — that the LFV laws and the associated administrative processes are being used to restrict imports, and not simply to offset the trade-increasing effects of foreigu actions. For example, a recent article, "The Profits of Harassment," [18] listed 35 administrative complaints or court suits filed by US electronic appliance and component manufacturers against Japanese competitors. It concluded that "Even where actions do not succeed directly, they entail lengthy and costly delays to Japanese market penetration, and the protectionist end result is often achieved indirectly" [10, p. 74].

LFV Administration as Protection

A practical man would propose that whether or not LFV cases are more than an offsetting response to foreigu trade-increasing actions be answered in the obvious way — by determining if the government imposes LFV duties (or other trade restraints) when there is no trade-increasing foreign action more or less often than it fails to respond to foreigu trade-increasing actions, that is, by comparing the *facts* of the cases with their legal outcomes. Practical as this approach might be, it is, unfortunately, impossible. The purpose of the government's investigation of a petition *is* to determine the *facts* of the case, and this is a time-consuming, expensive, and contentious process. Simply put, there is no observation on the facts of a case other than its legal outcome. But because the antidumping and countervailing duty statutes allow either party to an LFV petition to appeal the administering agency's decision to the federal courts, there is incentive for the administering agency to get its facts straight so as to avoid the embarrassment of having its decision overturned in court.[8]

Possible Sources of Protectionist Bias in LFV Administration

Structural Bias

The infrequency with which LFV findings have been successfully challenged in court suggests that any possible protectionist bias in the administration of the LFV laws does not result from carelessness or dishonesty on the part of the administering officials. There are, however, other possible sources of bias. If, as is often asserted, producers who compete with imports are usually a more identifiable, concentrated, and (therefore) vocal group than consumers, their influence would be a factor swinging the net result toward protection.

Such influence might effect itself in several ways. One possible avenue is through the provision of information. Those individuals with a large stake in the matter will be more strongly moved to make available information which supports their case than will those whose stake is small. In addition, political influence might affect the structure of the administering agency's decision process. There are, of course, two alternative hypotheses, "Yes, dumping (or a countervailable subsidy) is taking place," or "No, it is not," and the administering agency has some discretion to structure its investigation so as to make one or the other of these the "null" hypothesis, that is, the position to be taken unless the available evidence is cause to reject it.

Harassment

The allegation that the *process* of LFV investigation serves as an import barrier opens several questions. From the point of view of the foreigu firm interested in developing a market for its product in the US, the threat of an LFV petition by its US competitors will

(1) Increase the *cost* of a project to develop a US market. Legal and administrative expenses to respond to the LFV petition must be factored in.

(2) An additional element of *risk* is added to the project — the possibility of an LFV petition and its anticipated outcome.

(3) The expected *revenue* the project will generate will be affected by the anticipated outcome of the LFV investigation.

It is not immediately apparent that the cost increase will put the foreigu firm at a disadvantage relative to US firms. The latter will incur legal and administrative expenses in preparing and advancing their LFV petitions. There are, however, more subtle ways in which this mutual increase of costs might be to the advantage of domestic firms. First, imports account for much less than half of sales in US markets, hence the foreign firm's additional expense will be distributed over fewer units than will those of the US firms. Second, there may be economies of scale or economies of learning-by-doing in filing and in responding to such petitions, and these economies are more likely to be captured by a domestic firm or industry group which files petitions against exports from several different countries than by firms or groups in each of the foreigu countries.

Two factors have a bearing on whether or not the threat of an LFV complaint will change the *expected revenue* generated by a foreigu firm's project to develop a US market. Whether or not the foreigu firm plans to dump and/or benefit from an export subsidy is one factor, and the other is whether or not the foreign firm views the LFV case decision process in the US as biased (in the sense already discussed).

Suppose the foreigu firm views the LFV decision process as unbiased — it expects that LFV duties will just offset each export subsidy and each instance

of dumping. If the foreigu firm's plan does not include dumping or the receipt of an export subsidy, the possibility of an LFV complaint will not affect the expected receipts the project will generate. That possibility will, however, add to the riskiness of the project.

If the foreigu firm views the LFV decision process as biased toward protectionism, the LFV complaint factor will tend to reduce expected returns.

In sum, it is not necessary to assume that the LFV decision process is biased in order to argue that the overall LFV complaint response-decision mechanism tends to be protectionist. Per unit costs of filing and response to LFV complaints are likely to be higher on imports than on domestic import replacements. Further, the mechanism adds to the riskiness of the expected revenue to a foreigu firm from selling in the US market, and this would, other things being constant, tend to reduce such sales.

Building a Case for Protection

Finally, the LFV mechanisms may be used by a domestic industry to build a public case for protection. Filing an LFV petition is a more newsworthy event than presenting evidence of import competition, and Congress is not likely to act to protect an industry or to apply pressure on the administration to protect it unless all "ordinary" or "routine" means have been exhausted. In practice, administrative mechanisms are the "outer office" through which complaints must pass if they are to gain access to the ultimate political authority behind them.

THE INCIDENCE OF LFV CASES: THE DATA

The tabulation of LFV incidence covers the period January 1975 through December 1979, and is based on tabulation prepared by the staff of the US Special Representative for Trade Negotiations. These data cover the "life" of of the Trade Act of 1974, which came into effect in January of 1979 and was superseded by the Trade Agreements Act of 1979 in January of 1980.

Data

The data on LFV cases are summarized in Tables 1, 2, and 3. In constructing these tables, we began with the STR listing, which included some 230 cases, 111 countervailing duty cases, and 119 antidumping cases. We then determined the 1976 import value coverage of each case. This includes only imports *of the products* (defined at the TSUSA 7-digit level of detail) and *from the country* or *countries* named in the petition.[9]

The data in Table 2 are aggregates of the "case" data into 2-digit SIC categories, combined with SIC-based import data. These tables present two measures of "LFV incidence," the percentage of imports covered by all affirmative cases, and the percentage of imports covered by all cases — which includes af-

Table 1

SECTOR INCIDENCE OF ANTIDUMPING AND COUNTERVAILING DUTIES CASES COMBINED (January 1975-December 1979) AGAINST IMPORTS FROM ALL COUNTRIES (import figures as of 1976)

SIC	Description	Total imports (millions)	Imports under less then fair value cases				
			All cases		Affirmative cases		
			Value (millions)	Percent of total imports	Value (millions)	Percent of total imports	Percent of all LFV imports
	Agricultural production						
1	Crops	4,472.6	192.0	4.3	0.0	0.0	0.0
2	Livestock	427.5	0.0	0.0	0.0	0.0	*
8	Forestry	618.8	0.0	0.0	0.0	0.0	*
9	Fishing and hunting	1,603.3	156.8	9.8	156.8	9.8	100.0
	Mining and extraction						
10	Metal	1,974.8	0.0	0.0	0.0	0.0	*
12	Bituminous and lignite coal	17.7	0.0	0.0	0.0	0.0	*
13	Oil and gas	27,067.8	0.0	0.0	0.0	0.0	*
14	Nonmetalic, except fuels	1,270.6	0.0	0.0	0.0	0.0	*
	Manufacturing						
20	Food and kindred products	6,284.9	399.6	6.4	356.5	5.7	89.2
21	Tobacco manufactures	46.7	0.0	0.0	0.0	0.0	*
22	Textile mill products	1,410.6	174.6	12.4	6.4	0.5	3.7
23	Apparel, other fabric products	3,890.3	92.9	2.4	10.1	0.3	10.9
24	Lumber and wood products	2,313.0	12.0	0.5	11.3	0.5	94.2
25	Furniture and fixtures	527.0	0.0	0.0	0.0	0.0	*
26	Paper and allied products	3,285.9	109.4	3.3	3.4	0.1	3.1
27	Printing and allied products	343.7	1.2	0.3	0.9	0.3	78.3
28	Chemicals and allied products	3,924.9	219.8	5.6	19.1	0.5	8.7
29	Petroleum refining industries	6,911.8	0.0	0.0	0.0	0.0	*
30	Rubber, miscelleneous plastics	2,032.7	143.1	7.0	119.8	5.9	83.8
31	Leather products	1,719.6	458.9	26.7	432.4	25.1	94.2
32	Stone, clay, glass, concrete	1,092.6	53.3	4.9	0.2	0.0	0.4
33	Primary metal industries	8,374.1	5,140.5	61.4	273.1	3.3	5.3
34	Fabricated metal products	2,241.5	258.4	11.5	199.7	8.9	77.3
35	Machinery, except electrical	6,157.1	80.2	1.3	32.9	0.5	41.0
36	Electronic machinery	8,406.6	1,513.5	18.0	0.0	0.0	0.0
37	Transportation equipment	16,564.4	10,047.1	60.7	2.4	0.0	0.0
38	Measuring, controlling products	2,241.1	63.8	2.8	7.8	0.3	12.2
39	Miscellaneous	2,557.5	84.5	3.3	7.1	0.3	8.4
	Total manufacturing	80,326.0	18,852.8	23.5	1,483.2	1.8	7.9
	Nonclassified imports						
91	Scrap and waste	246.0	0.0	0.0	0.0	0.0	*
92	Used autos, tractors, tires	34.4	0.0	0.0	0.0	0.0	*
98	Goods returned, and reimported	1,994.5	0.0	0.0	0.0	0.0	*
99	Miscelleneous commodities	1,066.0	0.0	0.0	0.0	0.0	*
0-9	Totals	121,120.1	19,201.6	15.9	1,640.0	1.4	8.5

firmative, pending, and negative or terminated cases. These series will be called the "LFV affirmative cases incidence," and the "LFV complaints incidence," respectively.

While these incidence figures are intended as general measures of the "protectionist" impact of the LFV cases, care should be taken in interpreting them. The complaints measure includes cases which were denied or withdrawn. Even so, the filing of some such petitions and their investigation may have imposed costs on foreign exporters or otherwise tended to retard imports, or may have helped build the case for protection by some other means.

Table 2

INCIDENCE OF LESS THAN FAIR VALUE CASES ON IMPORTS OF MANUFACTURED GOODS,[a] BY COUNTRY GROUP (based on 1976 import figures)

Country group	Imports covered by all[b] cases as percent of total imports			Imports covered by affirmative cases as percent of total imports			Affirmative cases as percent of all cases		
	Anti-dumping	Countervailing duties	Both	Anti-dumping	Countervailing duties	Both	Anti-dumping	Countervailing duties	Both
All countries									
All mfg. goods excluding transport. equipment[c]	16.4 (4.9)[c]	7.1 (8.9)	23.5 (13.8)	0.5 (0.6)	1.4 (1.8)	1.8 (2.3)	2.7 (11.5)	19.7 (19.8)	7.9 (16.8)
Developed countries									
All mfgd. goods excluding transport. equipment	23.0 (7.5)	8.5 (12.0)	31.5 (19.4)	0.6 (0.8)	1.1 (1.5)	1.7 (2.3)	2.6 (11.2)	12.3 (12.3)	5.2 (11.9)
Developing countries (all manufactures)	0.4	3.6	4.0	0.1	2.3	2.4	21.0	63.6	59.7
Latin-American countries (all manufactures)	0.1	0.8	0.8	0.0	0.4	0.4	0.0	46.2	42.8

[a] SIC 20-39.
[b] Includes pending, affirmative, and negative or terminated cases.
[c] SIC 20-39 less 37.

Table 3

COUNTRY INCIDENCE OF ANTIDUMPING AND COUNTERVAILING DUTY CASES COMBINED (January 1975–December 1979)

Code	Country		Imports under less than fair value cases				
			All cases		Affirmative cases		
		Total imports (millions)	Value (millions)	Percent of total imports	Value (millions)	Percent of total imports	Percent of all LFV imports
423	Belgium-Luxembourg	1,131.1	795.6	70.3	13.6	1.2	1.7
535	Pakistan	70.0	44.0	62.8	0.0	0.0	0.0
428	Germany (Fed Rep)	5,700.1	3,508.8	61.6	66.5	1.2	1.9
427	France	2,540.6	1,123.3	44.2	21.8	0.9	1.9
588	Japan	15,683.1	6,176.8	39.4	422.0	2.7	6.8
421	Netherlands	1,094.3	420.6	38.4	75.4	6.9	17.9
401	Sweden	925.6	291.9	31.5	3.1	0.3	1.1
355	Uruguay	62.4	19.6	31.5	19.6	31.5	100.0
475	Italy	2,543.7	621.9	24.4	30.9	1.2	5.0
433	Austria	241.8	54.5	22.6	15.2	6.3	27.9
533	India	710.2	121.9	17.2	0.0	0.0	0.0
122	Canada	26,826.8	4,217.2	15.7	196.7	0.7	4.7
405	Finland	190.1	28.2	14.8	26.2	13.8	92.9
583	China (Formosa)	2,999.3	437.6	14.6	372.1	12.4	85.0
412	United Kingdom	4,288.9	601.0	14.0	44.3	1.0	7.4
409	Denmark	564.6	77.5	13.7	77.1	13.6	99.4
469	Spain	928.2	113.4	12.2	72.7	7.8	64.1
580	South Korea	2,440.0	211.4	8.7	131.6	5.4	62.3
357	Argentina	309.9	22.2	7.2	3.3	1.1	14.8
201	Mexico	3,606.3	202.3	5.6	1.3	0.0	0.6
791	South Africa	995.6	34.4	3.5	0.0	0.0	0.0
437	Hungary	49.0	1.1	2.3	0.0	0.0	0.0
403	Norway	646.8	14.3	2.2	14.3	2.2	100.0
485	Romania	198.7	3.8	1.9	0.0	0.0	0.0
441	Switzerland	1,041.4	16.5	1.6	15.2	1.5	92.3
351	Brazil	1,739.9	26.4	1.5	8.0	0.5	30.2
419	Ireland	206.4	2.1	1.0	2.1	1.0	100.0
455	Poland	318.8	2.4	0.8	2.4	0.8	100.0
301	Colombia	657.4	3.7	0.6	3.7	0.6	100.0
508	Israel	424.2	2.3	0.5	0.0	0.0	0.0
565	Philippines	887.6	3.2	0.4	0.0	0.0	0.0
479	Yugoslavia	387.2	0.8	0.2	0.8	0.2	100.0
602	Australia	1,214.0	0.7	0.1	0.0	0.0	0.0

In a number of cases, the initially imposed LFV penalty duties have since been lifted, and the case has been moved into the "negative and/or terminated" section of the STR listing. We, however, classified cases by their *initial* outcome, since this was the better measure of the advantage the LFV mechanism gave the domestic petitioner over the foreign seller. Often LFV penalties are suspended only after the foreign sellers (or government) has agreed to discontinue the pricing practice which led to the LFV petition.

Incidence Pattern

As the data reported have not been previously available, they are shown in some detail. Table 1 presents, by 2-digit SIC category, incidence measures of the combined incidence of antidumping and countervailing duty cases. Table

2 compares, for all manufactured goods, the incidences of the LFV cases on major country groups — developed, developing, and Latin-American countries. Among the major characteristics of the incidence patterns are the following:

— During the period covered, LFV petitions (dumping and countervailing duty combined) were filed against ⅙ of all US imports, and ¼ of manufactured imports.

— Over half of the imports against which LFV petitions were filed were in one industry, automobiles. With automobiles excluded, LFV petitions covered 1/12 of total imports and 1/7 of manufactured imports.

— Virtually all of the petitions involved manufactured goods.

— Within manufacturing, $15 million of the $19 million of imports covered by LFV petitions were in two industries, steel and automobiles.

— Dumping cases covered more than twice the value of imports covered by countervailing duty cases but the difference is more than accounted for by one industry, automobiles.

— The incidence of complaints was only one-eighth as high against imports from developing countries as against imports from developed countries.

— The incidences of LFV complaints against imports from LDCs and against imports from DCs have different sectorial patterns — for imports from LDCs the LFV complaint incidence is highest in the textiles, rubber and plastics products, and leather products sectors, while the incidence of LFV complaints against imports from DCs is concentrated on steel and steel products, electronic machinery, automobiles, and food products.

— Over the January 1975–December 1979 period covered, LFV complaints were filed against 30 countries, of which 18 were developed. Affirmative determinations were made concerning imports from 15 developed and from 7 developing countries.

— Complaints were filed against only 0.8 percent of manufactured imports from Latin-American countries.

— The incidence of affirmative cases was higher against developing than against developed countries. Of manufactured imports, 2.4 percent from LDCs and 1.7 percent from DCs were subject to affirmative LFV findings over the period.

— Against manufactured imports from Latin-American countries, the incidence of affirmative findings was 0.4 percent, considerably lower than the incidence against developed countries.

REGRESSION ANALYSIS

This section presents the results of statistical analyses of the industry incidences of LFV complaints, and of the LFV affirmative cases. The data for this cross-section analysis were arranged by *3-digit SITC* commodity groups.[10]

Table 4

EXPLANATION OF LESS THAN FAIR VALUE COMPLAINTS INCIDENCE SIGNIFICANCE LEVELS OF INDEPENDENT VARIABLES IN MULTIPLE REGRESSION EQUATIONS

Independent variable	Sign of coefficient and significance level in equation[a]					
	(1)	(2)	(3)	(4)	(5)	(6)
Growth rate of domestic shipments	-, N					
Import growth rate	-, N					
Import penetration ratio	+, 05	+, 05	+, 05	+, 05	+, 05	+, 01
Physical capital stock	+, 01	+, 01	+, 01	+, 01	+, 01	+, 01
Human capital stock	+, N					
Employment	-, 05	-, 05	-, 05	-, 01	-, 01	-, 05
Concentration ratio (4-firm)	+, N	+, N	+, N			
Consumer goods ratio	-, N	-, N	-, N			
Product differentiation	-, N	-, N	-, N	-, N		
Nominal tariff rate	+, N	+, N	+, N	+, N	+, N	
R-Bar squared[a]	.17, 01	.18, 01	.18, 01	.19, 01	.20, 01	.18, 01

[a]01, 05, 10 designated significance at the 99 percent, 95 percent, and 90 percent confidence levels, respectively. N designates not significant at the 90 percent confidence level.

[b]The first value given in each column is the value of R-Bar squared and the second is the significance level.

Questions Posed

If the "harassment thesis" is true, the relationship between LFV complaints and import competition is a two-way relationship. On the one hand, the more intense is import competition, the more one would expect domestic firms and industries to file LFV complaints. But if such complaints tend to impose larger costs and uncertainties on foreigners who sell in the US market than on the local firms who file the complaints, there will be a simultaneous negative relation between import growth and LFV complaints. Thus, the regression analysis reported in Table 4 is aimed at the question, "What is behind the pattern of LFV complaints, and what are the effects of these complaints?" The ordinary-least-squares analysis reported here amounts to a look at a reduced form combination of both questions, but the pattern of results is nevertheless revealing. (A more detailed attempt to identify the effect of LFV complaints on import growth is presented in Table 5.)

Table 6 presents results of an ordinary-least-squares regression analysis of the LFV affirmative cases index. In this instance the questions at hand are "What is behind the pattern of foreign LFV pricing, what are its effects, and the effects of the LFV penalties which result from the affirmative cases?" It is not possible to clarify all these questions from the results of one reduced form regression equation, but answers are suggested for several important aspects of the general issues.

Table 5

EXPLANATION OF INDUSTRY IMPORT GROWTH RATE, 1974-77 SIGNIFICANCE LEVELS[a] OF INDEPENDENT VARIABLES IN MULTIPLE REGRESSION EQUATIONS

Independent variables	Two-stage model A[b]			Two-stage model B[a]			Ordinary least squares
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
LFV complaints index							
Fitted values	-, 10	-, 05	-, 10	-, 10	-, 05	-, 10	
Observed values							-, N
LFV affirmative cases index							
Fitted values	-, N	-, N	-, N				
Observed values						-, N	-, 10
Growth rate of domestic shipments	+, 10	+, N	+, N	+, 10	+, N	+, N	+, 05
Consumer goods ratio	+, 10	+, 10		+, 10	+, 10	+, 10	+, 05
Value of domestic shipments	+, N	+, N		+, N	+, 10	-, N	+, N
Rate of product turnover	-, 10			-, 10			-, 05

[a]01, 05, 10 designated significance at the 99 percent, 95 percent, and 90 percent confidence levels, respectively. N designates not significant at the 90 percent confidence level.

[b]See text for explanation.

Table 6

EXPLANATION OF LESS THAN FAIR VALUE AFFIRMATIVE CASES INCIDENCE SIGNIFICANCE LEVELS OF INDEPENDENT VARIABLES IN MULTIPLE REGRESSION EQUATIONS

Import variable	Sign of coefficient and significance level[a] in equation					
	(1)	(2)	(3)	(4)	(5)	(6)
Import growth rate	-, N[b]	-, N	-, N		-, 10	05
Import penetration ratio	+, N	+, N	+, 10	+, 05		
LFV complaints index	+, 01	+, 01	+, 01	+, 01	+, 01	
Value of domestic shipments	-, 10	-, 10	-, 10	-, 05	-, 10	-, N
Human capital intensity	-, N	-, N				
Product differentiation	+, 01	+, 01	+, 01	+, 01	+, 01	+, 05
Concentration ratio (4-firm)	-, N					
Consumer goods ratio	+, N					
R-Bar squared	.22, 01	.22, 01	.22, 01	.21, 01	.20, 01	.08, 05

[a]01, 05, 10 designated significance at the 99 percent, 95 percent, and 90 percent confidence levels, respectively. N designates not significant at the 90 percent confidence level.

[b]The first value given in each column is the value of R-Bar squared and the second is the significance level.

Data sources for and exact definitions of explanatory variables included in the analysis are given in the Appendix.

LFV Complaints Index

Table 4 indicates that the LFV complaints index is related to two major factors: (1) the degree of import penetration (imports/domestic shipments); and (2) the size of the industry, that is, the potential payoff from complaining, in terms of annual output or of assets protected. The size of the physical capital stock and value of shipments (not included in the table) are both significantly correlated with the LFV complaints index. Among measures of import competition, the import penetration ratio is significantly correlated with the LFV complaints index, but the import growth rate is not.

The negative sign on the growth rate of domestic shipments is what one would expect — the better an industry is doing the less likely it is that it will petition for protection.

The observed positive relation between LFV complaints and tariff rates suggests that industries which have filed petitions for import relief through the LFV mechanisms have also applied pressure to prevent their tariff rates from being negotiated away at the GATT rounds. (Using effective rates of protection produces the same result.)

LFV Affirmative Cases Index

We began our approach to the question of what lies behind the coverage of LFV affirmative findings by looking at the determinants of US comparative advantage, measured by the US share, in 1976, of OECD countries' exports. The list of statistically significant factors included labor intensity, physical capital intensity (both negatively related), human capital intensity (positively related), and two "product cycle" variables, Hufbauer's measure of product differentiation, and a previously developed measure of the rate of development of new products. Of these, only the degree of product differentiation is significantly related to the LFV affirmative cases index. Possible interpretations of the correlation results, presented in Table 6, will be discussed along with the analysis of the effects of LFV cases on import growth.

Complaints and Affirmative Case Indexes as Determinants of Import Growth Rates

The negative correlations observed in Tables 4 and 6 between import growth and the incidences of both LFV complaints and of LFV affirmative cases suggest that the observed relation is the effect of LFV cases on import growth rather than the effect of import growth on LFV cases. This information suggests a model along the following lines. Letting C and A represent the LFV complaints and affirmative cases indexes, and G the import growth rate, the equations of the model would be

$$C = f(G, MP, K, L). \tag{1}$$

$$A = h(C, MP, PD, V). \tag{2}$$

$$G = g(C, A, SG, F). \tag{3}$$

The first equation states that complaints arise from import growth and other (exogenous) factors, the second that the incidence of affirmative findings is influenced by the incidence of complaints, and the third that the growth rate of imports is influenced by complaints and by affirmative findings, plus exogenous factors. Analysis reports in Table 4 indicate that the exogenous factors which should be included in Equation (1) are the import penetration ratio (MP), the size of the physical capital stock (K), and the labor employment level (L). Exogenous factors which apparently influence the affirmative findings index A, include import penetration, the degree of product differentiation (PD), and the size of the industry, as measured by the value of domestic shipments (V). Finally, the exogenous variables included as determinants of the import growth rate include the rate of growth of domestic shipments (SG) and the sort of "factor proportions" variables which trade theory suggests will influence the industry pattern of US comparative advantage.

A previous analysis of the import position of US industries [7] suggested the list of exogenous factors used in the equation for the import growth rate. Included were the growth rate of domestic shipments, to reflect relative rates of expansion of demand, and three "product cycle" variables. Among these, the rate of product turnover reflects conceptually the intensity of competition by product development, and was quantified by tabulating the number of 7-digit items which appeared, disappeared, or changed definition in each 3-digit SITC category in the US export schedule (see [7] for details). The negative sign on this term reflects the basic product cycle proposition that close contact with the market is important in those industries in which competition for market share takes the form of offering a newer, more attractive product variety rather than the form of offering a lower price on a standardized product.

As an independent variable in this equation, the value of domestic shipments represents the size of the market, which, to a foreign supplier, is an indicator of potential economies of scale in production and in market development.

The consumer goods ratio measures the percentage of industry output purchased for final consumption rather than for use as inputs in other industries, and is based on the 1972 US input-output table. The positive sign on this term reflects the growing internationalization of US markets for consumer goods.

Model A

Results in the first three columns (labeled Model A) of Table 5 are three versions of the second-stage equation in the simultaneous model already described. The first-stage, reduced form equations for C and A are not shown, but are very similar to the equations shown in Tables 4 and 6.

These findings indicate, as the harassment thesis asserts, that there is a significant, negative impact of LFV complaints on import growth rates. The magnitude of this parameter is approximately −0.2, indicating that a 1 *percentage point* increase of the LFV complaint index brings approximately a 0.2 *percentage point* reduction of the industry import growth rate.

A somewhat surprising finding is the insignificant relationship between the LFV affirmative cases index and the import growth rate. A possible explanation is that the LFV penalties (antidumping, countervailing duties) imposed in affirmative cases just offset (as is intended) the trade effects of the pricing actions which trigger these penalties. Thus, with the trade effects of LFV pricing and of LFV penalties just offsetting each other, there remains only the background, or factor proportions determinants of import growth.

Another interesting result is that although complaints and affirmative findings move in strongly parallel tracks (their correlation in Table 6 is highly significant), when structural Equation (2) is estimated by two-stage least-squares, the complaints index is not a significant determinant of the affirmative cases index. (This result is not shown in the tables.) Why, if the incidence of complaints has no influence on the incidence of affirmative findings, do they track so closely? Perhaps import penetration, as an indicator of injury, is the key to the explanation. Import penetration triggers complaints (as shown in Table 4), and the decision mechanism tends to produce affirmative findings when the levels of import penetration is high.

Thus the ordinary-least-squares results might be a false indicator of the power of political pressure to achieve an affirmative LFV decision. These results (in Table 6) suggest that the LFV decision mechanism responds to pressure — the higher the intensity of complaints, the higher the intensity of affirmative findings. But the two-stage result suggests that the LFV decision process is more objective. Import penetration affects both the level of complaints and of affirmative findings, and when this colinear result is adjusted for, there appears to be no causal link between the intensities of complaints and of affirmative findings. The LFV decision process may have been more objective than the ordinary-least-squares results would suggest.

Model B

Because these results suggest that C might not be a significant variable in Equation (2), an alternative model of the simultaneous relationship between C and A was examined. This model is composed of Equations (1) and (3) already given — the equation for A being eliminated, and A treated as an exogenous element in the equation for import growth. As the results in columns 4, 5, and 6 of Table 5 indicate, this does not change the findings as to the determinants of import growth. Correlation between the fitted values of the LFV complaint index and the import growth rates indicate again that the harass-

ment thesis is valid. When the observed values of the affirmative cases index are introduced as an explanatory variable along with the fitted values of the complaints index, and it is found again that affirmative findings is not significantly correlated with import growth.

FURTHER IMPLICATIONS AND UNANSWERED QUESTIONS

Concentration and Size

One of the more frequently encountered hypotheses is that concentrated interests will have a louder and more influential voice than diffused interests. This idea is usually encountered as an explanation for the relative strengths of producer and consumer interests, but it also suggests that a firm in an unconcentrated industry might be reluctant to finance an LFV petition, whose benefits would mostly spill over to other firms. As a test of this hypothesis, we found that the industry concentration ratio is positively, but not significantly related to the LFV complaints index. The stronger correlations on measures of industry size indicate that it is the size, not the concentration of the potential gain which is a determining factor.[11]

The correlation between industry concentration and the LFV affirmative cases index is negative, and hence inconsistent with the hypothesis that concentrated economic interests have a more pronounced impact than diffused ones.

Comparing results in Tables 4 and 6, we see that while LFV complaints are *positively* related to industry size (measured by capital stock or by annual shipments), the LFV affirmative cases index is *negatively* related to measures of industry size. Keeping in mind that an LFV complaint will not lead to an affirmative finding if an alternative political remedy is provided, this observation is consistent with the hypothesis that the trade problems of big industries will be worked out through a more political mechanism than the technical LFV complaint-response-decision procedure. Political influence may not get one an affirmative finding from the LFV technocrats as much as it gets one access to more political mechanisms.

An alternative interpretation is that in large cases, where much is at stake, groups of users or consumers find it in their interest to organize to resist the protectionist pressures of the domestic producers who have filed LFV petitions for protection. Thus the larger the case, the more likely it may be that the outcome will be a political standoff, with no clear outcome at either a technical or a political level.

Discrimination Against Consumers

A possible explanation for the absence of correlation between industry concentration and the LFV complaints and LFV affirmative cases indexes is that many industries sell their output to other industries, with offsetting political

influence. If, as is often surmised, producer interests are more powerful than consumer interests, one might expect the LFV indexes to be relatively high in industries which produce consumer goods. We found no such relation. Against the LFV complaints and the LFV affirmative cases index, the t-statistics on the consumer goods ratio (as an independent variable) are virtually zero. A possible explanation is that the rise of consumer groups has provided a countervailing influence against producer groups, but whatever the explanation, the data reveal no tendency for the LFV mechanism to come down harder on consumer goods than on other industries.

Political Dependency

An extreme version of the dependency thesis might suggest that in trade disputes such as LFV cases the US "enjoys such an overall disparity of international power and relative invulnerability that it is able to achieve its objectives in virtually every case."[12] If every complaint against LDC exporters was virtually assured of success, and those against exporters of politically more powerful countries were more risky, the incidence of LFV complaints and of LFV affirmative decisions should be higher.

While Table 2 shows that the incidence of LFV complaints against LDCs is much lower than against DCs, it also shows that the incidence of affirmative findings is slightly higher against LDCs.[13] These data neither constitute strong evidence in support of the dependency thesis, nor are they clear grounds for rejecting it.

CONCLUSIONS

Less than fair value cases arise when a buyer in the US finds it to his advantage to purchase from a foreigu rather than from a domestic source. From the point of view of the US political structure, the major actors in an LFV case or in any issue concerning protection from foreigu competition are the conflicting domestic interests. Thus exporting countries can exercise only minimal influence on the incidence of LFV complaints.[14]

The current US countervailing duty and antidumping laws are not the ones which were in effect for the period covered by the data, and the administration of these laws has been shifted from the US Treasury Department to the US Department of Commerce. The effects these changes will have on the incidence and effects of LFV cases is a better topic for debate than for analysis. Newspaper stories report a widespread concern that these changes may represent an overall shift toward domestic interests. Analysis has shown, however, that the LFV mechanisms have, in the past, responded primarily to domestic interests, and hence such a shift is not necessarily a shift toward protectionism. There will likely be a bulge in 1980 in the number of LFV petitions filed, but old hands at this business report that such a bulge follows every change of legislation or of administration.

APPENDIX

Data Sources and Definitions of Explanatory Variables

Physical capital, human capital, and labor intensity. Measures of these variables are based on data from the US Bureau of the Census, *US Census of Manufactures* and Annual Survey of Manufactures. Conversion from 4-digit SIC to 3-digit SITC followed Hufbauer's concordance [19, Table A-1] updated to 1975. We then followed Branson and Monoyious [2] in calculating variables.

Data from which we calculated the consumer goods ratio were taken from the 85-sector version of the 1972 US input-output tables [16] and were transferred into SITC categories by our "home-made" concordance. The consumer goods ratio, by sector, is defined as the ratio of personal consumption expenditures to "domestic supply," that is, total commodity output plus imports minus exports. As measured, it is a "direct," not a "total," coefficient.

The "product differentiation" series was taken from Hufbauer's Table A-2 [11]. Empirically, it is the coefficient of variation in unit values of 1965 US exports destined to different countries, aggregated from the seven- to the three-digit level using simple averages.

NOTES

1. While the conclusions of these studies are more impressionistic than precise, informed opinion at the moment [1 and 15] seems to be that protection is not increasing rapidly — at least not as rapidly as was feared several years ago. World trade in manufactured goods continues to increase relative to output, and while such figures do not exclude the possibility that protection is increasing, they do indicate that the trade-destroying forces at play are outweighed by the trade-creating forces.

2. It is tempting for an economist working on such a subject to "read the law," and spend much time "discovering" concepts (implicit in the law journals) which are most likely covered in the first week of law school. Having, with some effort, just loosened myself from that tarbaby, I may have moved farther toward a strictly economic point of view than is optimal.

3. Antidumping Act, 1921, as Amended (19 U.S.C. 160-178).

4. Beginning January 1980, the Department of Commerce. Before then the act was enforced by the Treasury Department.

5. 19 U.S.C. 1303.

6. The absence of an injury provision predates the GATT. Because of the "grandfather rights," preserved by the US in its accession to the GATT, the US law was not in violation of the subsequently conceived GATT standard. The Trade Agreements Act of 1979 had added an injury test, but it will be applicable only in cases involving countries which are signatories to the New Agreement Relating to Subsidies and Countervailing Measures.

7. William L. Dickey [4 and 5] argues this point.

8. According to Treasury Department officials familiar with these matters, such appeals have been infrequent, and have almost always been challenges to the Treasury Department's interpretation of the law rather than challenges to the facts or evidence on which the Treasury Department based its decision. The Zenith case, for example, challenged the Treasury Department's longstanding policy of not considering the rebate on exported goods of a direct tax as a countervailable action.

9. The STR list provided the 7-digit Tariff Schedule of the US Annotated (TSUSA) category or categories for about half of the cases. For each other case we contacted the Customs Bureau personnel who had investigated the case, and with them worked out the TSUSA coverage of the case. For cases filed in 1976 and defined in terms of the 1976 TSUSA, the import figures were taken directly from 1976 TSUSA-by-country-of-origin data tapes. For cases filed in other years the "filing year" value of imports was discounted backward or forward to 1976, using the 1970–77 annual growth rate of imports of the corresponding 4-digit SITC category from the affected country or countries. Data availability dictated this approach.

10. The numerator for this series was obtained by re-summing the "case data" (described in the section entitled "The Incidence of LFV Cases") into SITC categories, while the denominator (all, that is, LFV plus non-LFV imports) were obtained from OECD Series C as maintained in the Data Resources, Inc. computerized data file. SITC rather than SIC categories were chosen because our "industry characteristics" data base already existed in SITC terms.

11. Thirty percent of the antidumping and 65 percent of the countervailing duty complaints tabulated were filed by industry groups (producer groups or labor unions) or by individuals of government agencies on behalf of the entire industry. The logic behind the concentration, political influence hypothesis suggests that industry groups should be more cohesive and effective in concentrated industries, and hence whether petitions are filed by firms or by industry groups the concentration, political influence relationship "should" hold.

12. John S. Odell [14, p. 8]. Odell is summarizing this position as a hypothesis to be tested, not advocating its validity.

13. As already discussed, we have classified a case as affirmative if the *initial* US government decision was affirmative, whereas the "STR list" would describe a case as negative if the LFV penalties have subsequently been suspended. Had we followed STR's convention, affirmative cases would cover slightly less than 1 percent of manufactured imports from LDCs, and the incidence against DC would be the same as reported in Table 2. In other words, whether or not the affirmative case incidence is higher on imports from LDCs or on imports from DCs depends on whether one follows STRs or our convention for designating a case as affirmative.

14. Obviously, the avoidance of pricing practices which by US law trigger LFV penalties will reduce the incidence of LFV complaints. A legal-economic explanation of import pricing practices proscribed by US law is given by Dickey [8].

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