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FIRST DRAFT

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WATER IN CENTRAL AMERICA'S EXTERNAL TARIFF: A REVIEW OF THE EVIDENCE

It is commonly believed in Central America that the high tariffs on extra-regional imports have not resulted in equally high prices for locally produced manufactures. The external tariff has been eroded by competition from contraband goods and from duty-free imports authorized by governments. In addition, many of the very high tariffs are prohibitive, with the result that prices are set at levels well below the import price plus tariff, and are determined by regional, rather than international, supply and demand. In short, the external tariff is believed to contain considerable "water" such that it can be reduced with little effect on domestic production, imports or consumption.

Less well known is the fact that quantitative restrictions on imports are also common in Central America. The presence of import quotas or foreign exchange licenses allows protected manufacturers to price above the tariff-inclusive price of imports. In such cases the legal tariff rate underestimates the true, implicit protection accorded to particular products.

Due to a lack of data on the prices of Central American products as well as the prices of competing imports (or potential imports), early studies relied on a comparison of unit values (dollars per kilogram) of extra-regional and intra-regional product categories. In the 1960's and early 1970's unit values for well over half of these "products" were higher for

extra-regional imports than for intra-regional imports. ^{1/} Such findings were interpreted as evidence of substantial "water" in the external tariff, of the competitiveness of Central American industry and its ability to thrive without tariff protection. Unfortunately, such strong conclusions are not warranted. Unit values are not prices. If the price of a Central American product were actually lower than that of an imported good there would be no imports, even with a zero tariff, and there is no way to calculate the unit value of hypothetical imports from Central American trade data alone.

Unit values are actually better proxies for quality than they are for price. I once used them to explain ^{the} pattern of specialization within Central America in the leather shoe industry. Calculations of unit values of both exports and imports in each country revealed that "Guatemala and Nicaragua have specialised in the export of high quality and high-priced lines while importing the more popular lines of leather shoes. In El Salvador, in contrast, exports tend to be low-cost, ^{MASS-} ~~man-~~ produced shoes while imports are the higher priced hand-made shoes." ^{2/}

Borstcheff, in an unpublished 1981 study, ^{3/} was the first researcher to attempt actual price comparisons for a broad sample of products. He obtained

^{1/} See, for example, Donald H. McClelland, The Central American Common Market: Economic Policies, Economic Growth and Choices for the Future (Praeger Publishers, New York, 1972), pp. 59-60; SIECA, El Desarrollo Integrado de Centroamérica en la Presente Década (BID/INTAL, Buenos Aires, Argentina, 1974), vol. 4, pp. 72-74; and William R. Cline, "Benefits and Costs of Economic Integration in Central America," in W. R. Cline and E. Delgado (eds.), Economic Integration in Central America (Brookings, Washington, D.C., 1978), pp. 76-77 and appendix tables C-3 and C-4.

^{2/} L. Willmore, "The Pattern of Trade and Specialisation in the Central American Common Market," Journal of Economic Studies (November 1974), p. 128.

^{3/} Jorge Borstcheff, "Estudio de los Efectos de la Nueva Tarifa Arancelaria en el Nivel General de Precios al Consumidor," processed, SIECA/81/FIA-BID/8, Guatemala, 22 July 1981.

data for 1973 and 1977 for 221 products drawn from 69 4-digit ISIC industries. All the products were manufactured goods, and implicit tariffs were calculated by comparing actual Central American producer prices (ex-factory) with hypothetical c.i.f. import prices. In 1973, the legal tariff for these 221 products averaged 68.6% in Honduras and 88.7% in the other four countries, which shared a common external tariff. In 1977, the legal tariff was somewhat lower, 47.6% in Honduras and 61.9% in the other four countries. The average implicit tariff, i.e. the excess of domestic over international prices, in 1973 ranged from 15.4% in Honduras to 22.8% in Guatemala. In 1977 the implicit tariff varied from a low of 13.5% in Honduras to a high of 26.2% in Guatemala.

Borstcheff's findings are indicative of widespread "water" in the Central American tariff, i.e. of the failure of Central American manufacturers to utilize more than a fraction of the protection granted to them by law. But Borstcheff may well have overestimated the prices of potential imports, for he relied on "catálogos especiales, principalmente las guías que emplea el cuerpo diplomático y los organismos internacionales que gozan de franquicia aduanera." (p. 20) These catalogues contain retail prices, not factory prices, and it is not clear what adjustment, if any, was made to the retail prices to convert them to factory prices. Borstcheff does, however, provide a detailed discussion of the conversion from factory to f.o.b. price and then to c.i.f. (pp. 21-25).

Two recent studies of Costa Rica ^{4/} and Honduras ^{5/} improve on

^{4/} Ricardo Monge and Jorge Corrales, Políticas de Protección e Incentivos a la Manufactura, Agroindustria y Algunos Sectores Agrícolas en Costa Rica (Editorial Ludovico, San José, 1988).

Borstcheff's efforts by providing good estimates of the c.i.f. prices of potential imports that could compete with Central American products. Like Borstcheff, however, no attempt was made to control for differences in quality, so Central American prices may be underestimated if the quality of local products tends to be lower than that of imports. Of the two studies, that for Costa Rica is the most complete; the 184 manufacturing firms in the sample are drawn from 58 four-digit industries and account for more than half of Costa Rica's industrial production. The Honduran study is more modest, and is based on price data of 49 firms drawn from 32 manufacturing industries. (See appendix A.)

The Costa Rican study reports evidence of considerable "water" in the tariff, i.e. of failure to price to the full height of the tariff, particularly in the case of consumer non-durables. There are also some cases of domestic prices that exceed c.i.f. import price plus legal tariff. The most flagrant example of high domestic prices is petroleum products, which are protected by a modest legal tariff of 10%, but are priced much higher because only RECOPE, the monopoly producer, is allowed to import and sell fuel for vehicles. On average, firms in the sample received legal protection of 42% but their output was priced only 32% higher than competing imports. (See table 1.)

In Honduras, because of the importance of quantitative restrictions on imports, domestic prices commonly exceed the c.i.f. import price plus tariff.

⁵/ Julio Berlinski, "Honduras: La Protección Implícita en las Actividades de la Industria Manufacturera," May 1987.

On average, products sampled were priced 56% higher than c.i.f. import prices, while the legal tariff averaged 46%. (See table 1 again.)

Legal tariffs on inputs tend to be much lower than legal tariffs on output in Central America, resulting in the well-known fact that effective protective rates tend to exceed nominal protective rates by a large margin. As shown in table 2, implicit protection of inputs is much lower than the implicit protection of output, so the conclusion that effective protection tends to exceed nominal rates of protection is not altered when implicit rather than legal tariffs are taken into account.

Table 3 reports the amount of "water" in the tariff for both output and input in Costa Rica and Honduras, respectively. In Costa Rica, on average the extent of "water" in the tariff on inputs is similar that in the tariff on output, though here is considerable variation from industry to industry. In Honduras, however, there is "water" in the tariff on inputs while output tends to be priced above the height of the tariff barrier. This is evidence that Honduran authorities tend to apply quantitative restrictions more to final goods than to the inputs required to manufacture those goods.

If we arbitrarily define "water" in the tariff to be a domestic price lower than 99% of the c.i.f. import price plus tariff, then 127 of the 184 firms of the Costa Rican sample can be described as pricing so low as to leave "water" in the legal tariff. Table 4 reports the frequency of distribution by two-digit industry of these 127 firms, as well as the 57 firms that price up to or above the legal tariff. Firms with "water" are very prevalent in ISIC 32 (textiles, leather, clothing) compared to firms

without "water", but this may be a statistical artifact, the product of quality differences ignored by authors of the Costa Rican study. ^{6/} Table 5 reports the frequency distribution for the same two sets of firms by legal tariff rate. An obvious pattern emerges, with firms without evidence of "water" more prevalent in industries with moderate rates of legal protection, and firms with "water" more prevalent in industries with high rates of legal protection. ^{7/} In other words, the higher the legal tariff, the more apt the producer is to price below the tariff. The lowering of extremely high legal tariffs is thus likely to have no effect whatsoever on domestic prices, production or imports.

Frequency distributions are not shown for Honduras, for the raw data are not reported in that study. It is interesting to note, however, that 16 of the 32 four-digit industries have legal tariffs that are higher than the implicit tariffs, and the distribution of these two sets of industries resembles that reported for the two sets of firms in Costa Rica.

^{6/} A chi-square test on the data of table 4 produces a statistic of 12.76, indicating that the two distributions are significantly different at the 2% level of confidence. In order to have expected frequencies of 5 or more, it was necessary to group ISIC 33 with ISIC 34, and ISIC 36 with ISIC 39, so the test statistic has four degrees of freedom.

^{7/} Calculation of a chi-square statistic from the data of table 5 produces a statistic of 22.55 with four degrees of freedom, highly significant evidence that the distribution of the two sets of firms differs.

TABLE 1

Costa Rica and Honduras: Nominal Protection of
Industrial Output, 1986.
(percentages)

	Costa Rica		Honduras	
	Legal	Implicit	Legal	Implicit
31 Food, beverages, tobacco	46	17	45	53
32 Textiles, leather, clothing	74	37	60	59
33 Wood, furniture	53	36	55	72
34 Paper, printing	28	22	50	50
35 Chemicals	27	95	45	65
(Petroleum refining)	(10)	(156)		
(Other chemicals)	(45)	(32)		
36 Non-metallic minerals	22	10	...	...
38 Metal Products	34	26	47	76
39 Other manufactures	43	57	...	...
Total	42	32	46	56

Source: Calculations based on data from R. Monge and J. Corrales, Políticas de Protección e Incentivos a la Manufactura, Agroindustria y Algunos Sectores Agrícolas en Costa Rica (Editorial Ludovico, San José, 1988); Banco Central de Costa Rica, "Estadísticas del Sector Industrial Manufacturero 1978-1987," April 1989; and Berlinski, "Honduras: La Protección Implícita en Actividades de la Industria Manufacturera," May 1987.

Note: Figures shown are weighted averages, the weights being the value of production at world prices.

TABLE 2

Costa Rica and Honduras: Nominal Protection of
Inputs for Industry, 1986.

	Costa Rica		Honduras	
	Legal	Implicit	Legal	Implicit
31 Food, beverages, tobacco	29	17	24	10
32 Textiles, leather, clothing	31	18	19	21
33 Wood, furniture	16	6	23	22
34 Paper, printing	12	10	17	17
35 Chemicals	13	4	17	18
(Petroleum refining)	(10)	(0)		
(Other chemicals)	(15)	(7)		
36 Non-metallic minerals	26	17	...	...
38 Metal Products	13	10	19	19
39 Other manufactures	21	19	...	...
Total	22	12	22	13

Source: Calculations based on data from R. Monge and J. Corrales, Políticas de Protección e Incentivos a la Manufactura, Agroindustria y Algunos Sectores Agrícolas en Costa Rica (Editorial Ludovico, San José, 1988); Banco Central de Costa Rica, "Estadísticas del Sector Industrial Manufacturero 1978-1987," April 1989; and Berlinski, "Honduras: La Protección Implícita en Actividades de la Industria Manufacturera," May 1987.

Notes: Figures shown are weighted averages, the weights being the value of inputs at world prices.

TABLE 3

Costa Rica and Honduras: Water in the Tariff, 1986

(difference between legal and implicit protection as a percentage of the import price plus legal tariff)

	Costa Rica		Honduras	
	Output	Inputs	Output	Inputs
31 Food, beverages, tobacco	20	9	-6	11
32 Textiles, leather, clothing	21	10	1	2
33 Wood, furniture	11	9	-11	1
34 Paper, printing	5	2	0	0
35 Chemicals	-54	8	-14	-1
(Petroleum refining)	(-142)	(9)		
(Other chemicals)	(9)	(7)		
36 Non-metallic minerals	10	7	...	...
38 Metal Products	6	3	-20	0
39 Other manufactures	-10	2	...	...
Total	7	8	-7	7

Source: Tables 1 and 2.

Note: A negative figure indicates that the domestic price exceeds the world price plus legal tariff.

TABLE 4

Costa Rica: Frequency Distribution by Industry of Firms Whose
Products Were Priced Higher or Lower than Import
Prices plus Tariff, 1986

	High Domestic Prices (No Water)	Low Domestic Prices (Water)
31 Food, beverages, tobacco	22.8	26.7
32 Textiles, leather, clothing	7.0	25.2
33 Wood, furniture	3.5	7.9
34 Paper, printing	10.5	7.1
35 Chemicals	26.3	18.9
36 Non-metallic minerals	7.0	1.6
38 Metal Products	17.6	11.0
39 Other manufactures	5.3	1.6
Total	100.0	100.0
(No. of observations)	(57)	(127)

Note: Domestic price is defined to be "high" if it is at least 99% of the import price.

Source: R. Monge and J. Corrales, Políticas de Protección e Incentivos a la Manufactura, Agroindustria y Algunos Sectores Agrícolas en Costa Rica (Editorial Ludovico, San José, 1988), table 3.13.

TABLE 5

Costa Rica: Frequency Distribution by Legal Tariff Rate
of Firms With and Without Water in the Tariff, 1986

Legal Protection (%)	High Domestic Price (No Water)	Low Domestic Price (Water)
0-29	26.3	8.7
30-49	42.1	29.1
50-69	19.3	26.0
70-99	12.3	18.1
\geq 100	0	18.1
Total (No. of observations)	100.0 (57)	100.0 (127)

Source: R. Monge and J. Corrales, Políticas de Protección e Incentivos a la Manufactura, Agroindustria y Algunos Sectores Agrícolas en Costa Rica (Editorial Ludovico, San José, 1988), table 3.13.

Appendix A

Costa Rica and Honduras: Sample Size

ISIC	No. of Firms		No. of Industries ^{a/}		% of Output ^{b/}
	Costa Rica	Honduras	Costa Rica	Honduras	Costa Rica
31	47	21	14	14	59
32	36	9	10	5	46
33	12	5	3	2	14
34	15	2	4	1	34
35	39	6	9	6	61
36	6	...	4	...	42
38 ^{c/}	24	6	13	4	45
39	5	...	1	...	44
Total	184	49	58	32	52

^{a/} Four digit ISIC.

^{b/} Gross value of the production of the sample firms as a percent of gross industry output.

^{c/} For Costa Rica, includes one firm classified in ISIC 3720 (aluminum).

Source: R. Monges and J. Rorrales, op. cit., tables 3.13 and 2.1.a; Banco Central de Costa Rica, op. cit., and J. Berlinski.