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TRANSNATIONAL CORPORATIONS AND THE FOOD INDUSTRY IN LATIN AMERICA: AN ANALYSIS OF THE DETERMINANTS OF INVESTMENT AND DIVESTMENT

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ABSTRACT

Transnational Corporations and the Food Industry in Latin America: An Analysis of the Determinants of Investment and Divestment

The aim of the paper is to provide an analysis of the determinants of direct foreign investment, and to a lesser degree divestment, by transnational corporations (TNCs) in the Latin American food industries since the 1960's. It was found that despite a decline in the region's share of global United States direct foreign investment (USDFI) in the food industries between 1966 and 1978, the nominal rate of return on this investment has consistently risen while its relative profitability also increased after 1974. The stability of profit rates on United States direct foreign investment in the Latin American food industry was also greater than anywhere else over this period.

Direct foreign investment and divestment in this industry by U.S.-based TNCs can be explained by a combination of trade and location theory, industrial organization theory and theories of the growth of the firm. However, a necessary condition for much of this corporate expansion abroad is to be found in certain specific historical developments within the domestic U.S. economy and food industry. In contrast, host government fiscal incentives for attracting direct foreign investment in the region's food industry were found to be of limited importance.

TRANSNATIONAL CORPORATIONS AND THE FOOD INDUSTRY IN LATIN AMERICA: AN ANALYSIS OF THE DETERMINANTS OF INVESTMENT AND DIVESTMENT

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Introduction

The aim of this paper is to provide an analysis of the determinants of direct foreign investment, and to a lesser degree divestment, by transnational corporations (TNCs) in the Latin American food industries. The main focus is on U.S.-based TNCs, but there is also mention of certain West European-based companies. The time period of the study runs primarily from the 1960's until the present, but since it is important to view the contemporary activities of TNCs within a longer historical perspective, there is some discussion of direct foreign investment and divestment in earlier decades. The discussion assumes a familiarity with certain terms and concepts which are defined in an appendix.

Why is this topic of interest and to whom? Firstly, the food industries taken together constitute one of the principal activities in the manufacturing sector of Latin America. In 1975, it has been estimated that these industries generated net output of more than U.S. $15,000 million and provided employment for more than 2 million persons.[1] Direct foreign investment in the sector has increased rapidly since the 1960s, yet despite this growth, it is only recently that systematic large-scale studies of TNCs' presence in these industries have been started.[2]

It is worth pausing to enquire the reasons for this relative neglect. One contributory factor may be the diversity of the food sector with regard to the range of its products, the spread of factor productivities and the size and location of production establishments. This implies that the presence of TNCs is very uneven. In some product lines, TNC affiliates have a dominant market position, while in others, foreign capital may be largely absent. As a consequence, TNCs in the food industry have rarely had the same consistently high profile with respect to locally owned firms and host governments as have similar companies in, say, the automobile industry, where their presence is uniformly more dominant.

Another reason is that the food industry has often been viewed as relatively backward in technology, and not dynamic in terms of either growth or its potential linkage effects with other sectors of the economy. Research has thus tended to be directed more at so-called advanced-technology industries such as chemicals, pharmaceuticals and electronics, which are implicitly assumed to be more central to the overall process of economic development.

A third reason for the lack of interest until recently in examining the extent and nature of TNCs' presence in the food industry in Latin America derives from the neglect by the region's policy makers of the development of agriculture itself. The emphasis on import-substituting industrialization in the region during the 1950's and 1960's is well documented and needs no further elaboration here.[3] What has been less frequently noted is that even to discuss developmental priorities in terms of "agriculture versus industry" diverts attention from the idea of a national food system in which agricultural production and industrial processing are indissolubly linked. To the extent that Latin American governments had a food policy in the post-war period it generally consisted of keeping the price of staple foodstuffs down for the urban population and having recourse to increasing volumes of food imports, to cover local supply deficits.

However, as a result of accelerating inflation, the persistence of balance-of-payments problems and the increased level (and share?) of government expenditure taken up by domestic food subsidies in some countries in the region, this neglect of agriculture now appears to be giving way in certain cases to a greater concern for the growth and security of domestic food supplies. Therefore, at a policy level, it is important to analyse the forces behind the TNCs' expansion into the Latin American food industries in order to permit a realistic appraisal of their potential contribution to improving the welfare of the poor and undernourished in the region.

At an academic level, it is interesting to examine the presence of TNCs in this industry in the light of existing theories of direct foreign investment. It is clearly important to establish whether such theories do or do not provide an adequate explanation of TNCs' entry into this sector.

This paper is organized in two parts. In the first, I attempt to provide an overview of U.S. direct foreign investment in the food industry on a world scale since the mid-1960's and then I examine in greater detail the development of U.S. investment in the Latin American food industries. In the second part, the analysis is conducted at a more disaggregated level. Individual food processing industries are assigned to one of three subsectors as a preliminary to identifying and assessing the determinants of investment and divestment by TNCs.

An Overview of United States Direct Foreign Investment in the Latin American Food Industry

The purpose of this section of the paper is to analyse the growth and profitability of United States direct foreign investment (USDFI) in the Latin American food industry between 1966 and 1978 at a relatively high level of aggregation (2 digit SIC) in order to provide some background for the subsequent more disaggregated analysis.

Table 1 shows the global figures for United States direct foreign investment in the food industry over this period and the distribution of this investment as between developed countries, developing countries and Latin America, which includes Central America and the Caribbean.[4] Aggregate United States direct foreign investment in the food industry grew by 11% per year between 1966 and 1978 in nominal terms, and this rate of growth matched that for global United States direct foreign investment and for United States direct foreign investment in the manufacturing sector as a whole. However, as a proportion of total United States direct foreign investment, or even United States direct foreign investment in manufacturing, the food industry is of minor importance.[5]

Since the mid-1960's, the developed countries have increased their share of United States direct foreign investment in the food industry while the proportion of United States direct foreign investment in manufacturing accounted for by the food industry in the developed countries has also risen. The converse occurred in the developing countries, although the contribution of the food industry to total United States direct foreign investment in the food industry in the two country groupings was not too dissimilar over the period.

Thus, by 1978, one fifth of United States direct foreign investment in the food industry was located in the developing countries, of which 80% was to be found in Latin America. Despite the tripling of the nominal value of United States direct foreign investment in the Latin American food industry since 1966, the region has lost importance proportionately as a host to United States direct foreign investment in the food sector.[6] U.S. direct investment in the region's food industry has also not grown as fast as in the manufacturing sector as a whole.

These two trends might suggest that other areas of the world are more profitable for U.S. direct investors in the food industry than Latin America, while within the region the rate of return on food investments is less than for the manufacturing sector as a whole.[7] Tables 2 to 8 permit an assessment of these two propositions. I turn first to the issue of the relative profitability of United States direct foreign investment in the food industry as between different regions of the world. This is of particular relevance if it is assumed that capital is more mobile between countries within the same industry than it is between industries in the same country.[8]

TABLE 1

GLOBAL DISTRIBUTION OF USDFI IN THE FOOD INDUSTRY, 1966-1978
(U.S.$ million at current prices)

		1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
All Countries	$ Million	1,771	1,952	2,151	2,408	2,677	3,016	3,361	3,781	4,365	4,725	5,057	5,506	6,303
	% total DFI	3.4	3.4	3.5	3.5	3.5	3.6	3.7	3.7	4.0	3.8	3.7	3.7	3.7
	% manuf. DFI	8.5	8.6	8.5	8.5	8.6	8.8	8.8	8.5	8.5	8.4	8.3	8.3	8.5
Developed Countries	$ Million	1,351	1,498	1,669	1,894	2,111	2,410	2,708	3,042	3,535	3,826	4,080	4,436	5,043
	% total DFI	3.8	3.9	4.0	4.1	4.1	4.2	4.4	4.2	4.3	4.2	4.1	4.1	4.2
	% manuf. DFI	7.8	7.9	8.0	8.1	8.2	8.5	8.6	8.3	8.4	8.4	8.2	8.2	8.4
	% global DFI in food	76.3	76.7	77.6	78.6	78.8	79.9	80.6	80.4	81.0	81.0	80.7	80.6	80.0
Developing Countries	$ Million	420	454	482	513	566	607	654	739	830	899	977	1,070	1,260
	% total DFI	3.0	3.0	2.9	2.9	2.9	2.9	2.9	3.2	4.2	3.4	3.3	3.1	3.1
	% manuf. DFI	11.9	11.7	10.9	10.2	10.3	10.0	9.7	9.4	9.0	8.6	8.6	8.7	8.9
	% global DFI in food	23.7	23.3	22.4	21.4	21.2	20.1	19.4	19.6	19.0	19.0	19.3	19.4	20.0
		365	386	410	429	470	500	539	603	674	720	786	889	1,037
		3.7	3.7	3.6	3.6	3.6	3.6	3.6	3.6	3.4	3.2	3.3	3.2	3.2
			11.9	11.0	10.2	10.3	10.0	9.6	9.3	8.9	8.4	8.5	8.8	8.9
					17.8	17.6	16.6	16.0	15.9	15.4	15.2	15.5	16.1	16.4

...oad, 1966-78, Bureau of Economic Analysis, U.S. Department

Table 2 has at least two interesting features. Firstly, it indicates that with the exception of 1969 and 1976 the nominal rate of return on United States direct foreign investment in the Latin American food industry rose every year between 1967 and 1978. The annual average rate of return in the industry between 1966 and 1968 was 8.4% while this had more than doubled to 17.7% a decade later. In fact, of all of the regions considered in Table 2, Latin America had the strongest upward growth trend in profitability over this period.[9]

Secondly, the profitability of United States direct foreign investment in the Latin American food industry has increased since the mid-1960's in comparison with the profitability of United States direct foreign investment in the Canadian and European food industries.[10] This seems particularly evident in the case of Europe where the rate of return in the food industry was consistently higher than in Latin America between 1966 and 1973, and consistently lower between 1974 and 1978.[11] Thus, it may be concluded that the Latin American share of United States direct foreign investment in the food industry has declined over a period when the nominal rate of return on this investment has consistently risen, while its relative profitability also increased after 1974.[12]

However, it is not sufficient merely to compare average annual rates of return over a given period when undertaking a regional analysis of the profitability of United States direct foreign investment in the food industry. It is also necessary to examine the stability of profit rates in different geographic areas. Where profit rates fluctuate significantly from year to year, this may generate uncertainty among potential investors and act as a disincentive to investment even though the average rate of return remains relatively high. Table 3 provides some measures of the variation in the rates of return on United States direct foreign investment in the food industry in different regions of the world between 1966 and 1978. If reference is made to the three standard measures of dispersion, namely the variance, standard deviation and coefficient of variation, it may be inferred that profit rates on American direct investment in the Canadian and European food industries are more stable than in developing country industries, including Latin America. From this it might be argued that the developed countries have increased their share of United States direct investment in the food industry (shown in Table 1) more because of the stability of their rates of return than because of their average relative level.

However, the measures of dispersion listed in columns (2) to (4) of Table 3 are more suited to the analysis of cross-section than of time-series data. If a single proxy variable for measuring the uncertainty of investment is required, then it must capture the differences between observed and expected profitability over time. The instability index shown in column (5) of Table 3 attempts to meet these requirements. The index is defined as the sum of deviations of observed values of annual rates of return in each region from predicted values as shown by a linear regression over the period 1966 to 1978 with signs ignored.[13] Reference to this measure of instability of rates of return provides a different perspective on the comparative performance of the various regions shown in Table 3.

TABLE 2

RATE OF RETURN OF USDFI IN THE FOOD INDUSTRY BY REGION, 1966-78

		1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
CANADA	a	9.3	8.5	8.1	8.3	9.3	9.0	11.1	12.1	(D)	(D)	11.0	9.2	9.6
	b	1.00	1.21	0.92	0.96	0.91	0.86	1.02	0.96	(D)	(D)	0.72	0.50	0.50
EUROPE	a	15.2	14.3	13.0	11.3	11.4	12.9	13.8	14.2	12.8	11.8	9.2	12.2	16.3
	b	1.63	2.04	1.48	1.31	1.12	1.24	1.27	1.13	0.92	0.77	0.60	0.66	0.84
AFRICA	a	-	-	-	-	33.3	-	(D)	18.75	22.2	(D)	(D)	24.0	25.9
	b	-	-	-	-	3.27	-	(D)	1.48	1.60	(D)	(D)	1.30	1.34
MIDDLE EAST	a	-	-	-	-	-	-	-	33.3	25.0	(D)	-	33.3	16.7
	b	-	-	-	-	-	-	-	2.70	1.80	(D)	-	1.81	0.86
ASIA AND PACIFIC	a	21.1	21.5	20.6	18.3	16.1	10.8	9.1	11.0	14.8	9.7	12.1	16.4	22.5
	b	2.27	3.07	2.34	2.13	1.58	1.04	0.83	0.87	1.06	0.63	0.79	0.89	1.16
LATIN AMERICA	a	9.3	7.0	8.8	8.6	10.2	10.4	10.9	12.6	13.9	15.4	15.3	18.4	19.3

NOTES: a = Nominal rate of return
b = Relative rate of return (i.e. nominal RoR ÷ RoR in Latin America).
(D)= data suppressed to avoid disclosure of industrial company information
- = data unavailable because income < $500,000.

SOURCE: Selected Data on U.S. Investment Abroad, 1966-78.

TABLE 3

STABILITY OF THE RATE OF RETURN ON USDFI IN THE FOOD INDUSTRY BY REGION, 1966-1978

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
REGION	R A T E O F R E T U R N						
	Arithmetic mean	Variance	Standard Deviation	Coefficient of Variation	Instability Index[a/]	Absolute change in U.S. D.I.P.A. 1966-78 ($ Million)	[U.S. D.I.P.A. 1966] %
CANADA	9.6	1.5	1.3	13.5	13.28 (R^2=0.28)	+999	+166
EUROPE	12.9	3.2	1.9	14.7	17.47 (R^2=0.02)	+2267	+380
AFRICA	24.8	23.6	5.4	21.9	-	-	-
MIDDLE EAST	27.1	47.4	7.9	29.3	-	-	-
ASIA AND PACIFIC	15.7	21.5	4.8	30.8	46.39 (R^2=0.12)	+139	+267
LATIN AMERICA	12.3	13.9	3.9	31.5	11.62 (R^2=0.91)	+672	+184

NOTES: [a/] = Defined as the sum of the deviations of observed valued (of RoR) from predicted values (i.e. trend line) with signs ignored over period 1966-78.

SOURCE: see Table 2

Two points should be noted with regard to Latin America. Firstly, owing to the strength of the upward trend in profitability in the region over this period, it had the lowest values for the instability index compared to the highest value for the coefficient of variation. Therefore, on this basis, it may be inferred that not only has the relative profitability of United States direct foreign investment in the Latin American food industry been increasing in recent years compared to other areas of the globe, but also that the industry's rate of return in the region to American investors has been more stable than elsewhere outside the U.S. Secondly, whereas the use of standard measures of dispersion suggested that Latin America and the Asia-and-Pacific region displayed roughly comparable degrees of variation in food-industry profit rates, the instability index suggests that the rate of return on United States direct foreign investment in the food industry is much more unstable in the Asia-and-Pacific region than in Latin America.[14]

In sum, it may be concluded that although Latin America accounted for less than one fifth of United States direct foreign investment in the food industry in 1978, this investment generated a rate of return which has been rising consistently in both nominal and relative terms since the early 1970's, and which is relatively stable compared to the profitability performance of United States direct foreign investment in the food industry in other areas both of the developed and developing world.

The second proposition inferred from the trends evident in Table 1 concerned the relative profitability of United States direct foreign investment in the Latin American food industry as compared with other industries in the region. Table 4 shows that the earlier inference from Table 1 that profitability in the food industry might be below that for the manufacturing sector as a whole in Latin America between 1966 and 1978 was mistaken. The mean rate of return on United States direct foreign investment in the food industry was greater than that of manufacturing over the period, although it was less than the return on aggregate American direct investment. Profit rates also fluctuated less around their trend values in the food industry than in other sectors hosting United States direct foreign investment. What explains these results? Clearly there are many factors involved on both the demand and supply sides, but certain brief comments may be made.

Firstly, the relatively higher rate of return in the food industry, compared to manufacturing, which persisted for nine out of 13 years in the region, is most likely associated with the rapid growth of TNC affiliates in the branded-goods sector which is discussed in the second section of the paper. These affiliates may have enjoyed greater market power, based on high seller concentration and barriers to entry such as product differentiation, than U.S. subsidiaries in other parts of the manufacturing sector, thereby allowing them higher nominal profit rates.

TABLE 4

SECTORAL PROFITABILITY PERFORMANCE OF USDFI IN LATIN AMERICA, 1966-78

	Mean Rate of Return	Instability Index
Food	12.3	11.62
Manufacturing	10.7	12.28
Aggregate	13.4	16.19

SOURCE: Table 7

Secondly, the occurrence of a relatively higher rate of return to United States direct foreign investment in the food industry than in manufacturing, at a time when the growth rate of American investment in the industry has been below that for the manufacturing sector as a whole, is consistent with the view that net income of foreign affiliates of U.S.-based TNCs is more likely to be remitted home or reinvested in the same industry in the host country, than to be reinvested in a different industry abroad.[15] Although the major U.S.-based TNCs active in the food industry are often highly diversified in their activities in their home country, this is rarely the case in their foreign operations.

Thirdly, the relative stability of the rate of return in the food industry derives statistically from its very strong upward linear trend over the period. This in turn is due mainly to demand factors. By the mid-1960's, several substantial national markets existed in the region where real private consumption rose rapidly over the subsequent decade.[16]

Having examined recent shifts in the pattern of United States direct foreign investment in the food industry at a global level, and analysed the sector's relative profitability in Latin America as a whole, it is useful to review the changing distribution of United States direct foreign investment in the food industry amongst individual Latin American countries between 1966 and 1978. Table 5 indicates that over this period the importance of Argentina, Peru and Mexico as hosts to United States direct foreign investment in the Latin American food industry has declined while that of Brazil and Venezuela has increased. The relative position of Colombia and Central America has remained unchanged. The reduced importance of Argentina is due to a combination of political instability associated with the return and subsequent death of Perón, and the sharp reduction in the annual rate of growth of GDP after 1970.[17] The relative decline of Peru is owing to the uncertain foreign-investment climate created as a result of the nationalization measures introduced

TABLE 5

COUNTRY DISTRIBUTION OF USDFI IN THE LATIN AMERICAN FOOD INDUSTRY, 1966-78
($ million at current prices)

	1966		1967		1968		1969		1970		1971		1972		1973		1974		1975		1976		1977		1978	
	$	%	$	%	$	%	$	%	$	%	$	%	$	%	$	%	$	%	$	%	$	%	$	%	$	%
ARGENTINA	52	14	58	15	64	16	(D)	(D)	(D)	n.a	(D)	(D)	(D)	(D)	65	11	56	8	43	6	49	6	51	6	59	6
BRAZIL	56	15	58	15	62	15	(D)	(D)	(D)	n.a	(D)	(D)	(D)	(D)	133	22	159	24	170	24	185	23	236	26	285	27
CHILE	9	2	10	3	7	2	3	1	3	1	4	1	2	-	(*)	-	(*)	-	(*)	-	1	-	2	-	5	-
COLOMBIA	14	4	16	4	15	4	16	4	18	4	(D)	(D)	(D)	(D)	(D)	(D)	19	3	22	3	27	3	37	4	50	5
MEXICO	107	29	109	28	114	28	113	26	132	28	143	29	155	29	169	28	191	28	223	31	224	28	207	23	229	22
PANAMA	2	-	3	1	3	1	3	1	3	1	3	-	3	-	(D)	(D)	6	1	7	1	11	1	11	1	14	1
PERU	38	10	40	10	41	10	40	9	46	10	47	9	45	8	42	7	46	7	41	6	42	5	42	5	40	4
VENEZUELA	24	7	24	6	26	6	31	7	36	8	39	8	44	8	45	7	56	8	69	10	87	11	117	13	152	15
OTHER C.AMERICA	29	8	33	8	37	9	41	9	44	9	46	9	52	10	61	10	66	10	70	10	74	9	87	10	90	9
OTHER LAT.AM. REPUBLICS	356	97	378	98	400	97	417	97	457	97	483	97	522	97	578	96	643	95	689	96	749	95	847	95	991	95
BAHAMAS	1	-	1	-	1	-	1	-	1	-	1	-	2	-	3	-	5	1	5	1	(D)	(D)	(D)	(D)	(D)	(D)
BERMUDA	3	1	2	-	3	1	3	1	3	1	3	-	4	1	6	1	7	1	6	1	(D)	(D)	5	1	3	-
JAMAICA	4	1	4	1	5	1	6	1	7	1	8	2	8	1	10	2	11	2	13	2	(D)	(D)	(D)	(D)	(D)	(D)
OTHER	1	-	1	-	2	-	2	-	2	-	4	1	2	-	5	1	8	1	8	1	5	1	10	1	9	1
OTHER W. HEMISPHERE	9	2	9	2	10	2	12	3	13	3	17	3	17	3	24	4	31	5	31	4	36	5	42	5	46	4
LATIN AMERICA	365/100		386/100		410/100		429/100		470/100		500/100		539/100		603/100		674/100		720/100		786/100		889/100		1037/100	

SOURCE: As for Table 1

NOTES: (D) = data suppressed to avoid disclosure of data of individual companies
* = < $500,000
\- = < 1%
Totals may not sum to 100% due to rounding.

by the Velasco government between 1969 and 1973, which were then followed by a major economic crisis in the country, the solution for which has been sought through a deflationary stabilization programme. The eclipse of Mexico as the prime host country for United States direct foreign investment in the food industry in the region may have been in part due to the impact of stricter government controls over foreign investment and technology transfers introduced between 1972 and 1976, but it is more likely that it was the more rapid growth of aggregate private consumption in Brazil after 1970 which explains the switch in the two countries' relative ranking over the period.[18] The rise of Venezuela as host to United States direct foreign investment in the food industry dates from the major OPEC-determined price rise of petroleum in 1973. Between 1974 and 1978, the nominal value of U.S. direct investment in the Venezuelan food industry nearly tripled.

Tables 6 and 7 provide information on the profitability of United States direct foreign investment in the food industries of the most important host countries in the region between 1966 and 1978.[19]

These four countries and one subregion (Central America) together accounted for 79% of United States direct foreign investment in the Latin American food industry in 1978. Table 8 gives the values of the instability indices for the food industry rates of return for the same countries between 1973 and 1978.[20]

Simple inspection of Table 8 suggests that the largest increases (both absolute and relative) in United States direct foreign investment in the food industry occurred in those countries with the highest mean rates of return over the period. This result was confirmed by regression analysis, while, as in the case of the regional results, the instability index proved to have little explanatory power.[21]

There remains the issue of the relative profitability of the food industry compared to the manufacturing sector as a whole in the four countries and the subregion. Here the results are less clear-cut than the conclusion reached earlier where it was found that for Latin America as a whole, the rate of return to United States direct foreign investment in the food industry was greater than that in the manufacturing sector as a whole for 9 out of 13 years in the period 1966-78. Table 6 indicates that there was only one year during this period when profit rates on United States direct investment in the food industry were greater than in manufacturing for all the selected countries and the subregion. However, from 1974 onwards, the rate of return in the food industry was consistently higher than in manufacturing in Brazil, Venezuela and Mexico (except for 1978), while only Central America displayed a pattern which clearly ran counter to the regional trend.[22]

TABLE 6

RATE OF RETURN ON USDFI IN SELECTED LATIN AMERICAN COUNTRIES, 1966-1978

COUNTRY	1966			1967			1968			1969			1970			1971			1972		
	a	b	c	a	b	c	a	b	c	a	b	c	a	b	c	a	b	c	a	b	c
ARGENTINA	14.1	11.4	13.5	9.7	5.4	10.3	14.1	12.6	7.8	15.2	13.8	(D)	10.7	9.9	(D)	7.3	6.9	(D)	7.0	(D)	(D)
BRAZIL	12.2	12.9	16.1	9.9	8.6	6.9	12.8	14.3	12.9	11.9	14.2	(D)	13.6	14.4	(D)	12.2	13.7	(D)	14.1	15.0	(D)
MEXICO	8.1	8.1	7.5	7.6	7.7	6.4	8.6	9.2	8.8	8.8	9.6	10.6	7.6	8.8	9.8	6.4	7.0	10.5	9.2	9.8	12.9
VENEZUELA	19.5	10.0	4.2	21.8	11.8	4.2	22.0	12.1	7.7	19.6	13.0	9.7	17.6	11.8	5.5	20.4	11.5	5.1	15.7	12.5	13.6
OTHER CENT. AM.	8.6	5.8	13.8	6.7	(D)	9.1	7.7	2.9	8.1	5.3	4.3	7.3	4.6	7.6	6.8	6.4	10.6	8.7	5.9	11.5	7.7
LATIN AMERICA	13.6	9.5	9.3	12.8	6.9	7.0	13.6	10.0	8.8	13.0	10.3	8.6	11.0	10.2	10.2	10.2	9.1	10.4	10.5	10.7	10.9

COUNTRY	1973			1974			1975			1976			1977			1978		
	a	b	c	a	b	c	a	b	c	a	b	c	a	b	c	a	b	c
ARGENTINA	6.2	(D)	-7.7	4.1	-2.6	-17.8	8.9	11.8	16.3	18.0	16.5	16.3	17.2	6.5	11.8	9.2	-2.1	22.0
BRAZIL	14.8	14.8	19.5	12.3	11.4	19.5	14.3	13.6	14.7	13.5	12.2	19.4	11.1	9.6	25.0	13.0	13.2	21.7
MEXICO	11.3	11.8	15.4	13.8	13.4	16.7	14.2	14.2	21.1	2.3	1.0	10.3	10.0	8.4	10.1	16.1	16.3	15.7
VENEZUELA	30.4	13.3	15.5	31.8	16.3	23.2	18.4	17.4	24.6	17.4	17.4	24.1	16.8	18.0	29.9	14.2	15.7	30.3
OTHER CENTRAL AM.	9.2	14.8	11.5	11.7	14.7	12.1	9.4	9.5	11.4	10.9	13.5	12.2	13.2	17.8	16.1	2.4	15.8	12.2
LATIN AMERICA	15.2	11.6	12.6	16.1	12.1	13.9	14.4	13.5	15.4	14.5	10.8	15.3	14.2	10.9	18.4	15.0	13.5	19.3

NOTES:
- a = Rate of return on all U.S. direct foreign investment, where rate of return = income (=adjusted earnings) ÷ direct investment position (= net equity + net loans) at end of year.
- b = Rate of return on U.S. D.F.I. in manufacturing sector.
- c = Rate of return on U.S. D.F.I. in food industry.
- (D) = Data suppressed to avoid disclosure of individual company information.

SOURCE: Selected Data on U.S. Direct Investment Abroad, 1966-78.

TABLE 7

THE RATE OF RETURN ON USDFI IN SELECTED LATIN AMERICAN COUNTRIES, 1966-78[a/]

		(1)	(2)	(3)	(4)	(5)	(6)
COUNTRY	SECTOR	R A T E O F R E T U R N					
		Arithmetic mean	Variance	Standard Deviation	Coefficient of Variation (%)	Absolute change in U.S. D.I.P.A. 1966-78 ($ Million)	[U.S. D.I.P.A. 1966] %
ARGENTINA	Aggregate	10.9	18.0	4.4	40.4		
	Manufacturing[b/]	8.2	34.6	6.2	75.3		
	Food[c/]	8.0	144.0	12.7	158.0	+7	+13
BRAZIL	Aggregate	12.7	1.7	1.4	10.7		
	Manufacturing[b/]	12.9	3.6	2.0	15.3		
	Food	17.3	25.4	5.3	30.9	+229	+409
MEXICO	Aggregate	9.5	12.3	3.6	38.2		
	Manufacturing	9.6	13.4	3.8	39.5		
	Food	12.0	16.0	4.2	34.8	+122	+114
VENEZUELA	Aggregate	20.4	25.4	5.2	25.7		
	Manufacturing	13.9	6.6	2.7	19.3		
	Food	15.2	92.5	10.0	65.8	+128	+533
CENTRAL AMERICA	Aggregate	7.8	8.6	3.0	38.5		
	Manufacturing[d/]	10.7	21.2	4.8	44.8		
	Food	10.5	7.3	2.8	26.7	+61	+210
LATIN AMERICA	Aggregate	13.4	3.1	1.8	13.8		
	Manufacturing	10.7	2.9	1.8	16.6		
	Food	12.3	13.9	3.9	31.5	+672	+184

NOTES: [a/] Rate of return $= \left[\frac{\text{Income}}{\text{Direct investment position at end of year}}\right]$ %

[b/] Based on 11 annual observations during period 1966-78
[c/] Based on 9 annual observations during period 1966-78
[d/] Based on 12 annual observations during period 1966-78

SOURCE: See Table 4

TABLE 8

PROFIT RATE INSTABILITY AND USDFI IN THE FOOD INDUSTRY

	(1) Absolute change in nominal value of USDFI in Food Industry, 1973-78	(2) (1) ÷ Nominal value of USDFI in Food Industry in 1973	(3) Mean annual rate of return on USDFI in Food Industry, 1973-78	(4) Value of Profit Rate Instability Index	
	($ Million)	(%)	(%)	1973-78	1966-78
ARGENTINA	-6	-9.2	+6.8	42.80 (R^2=0.64)	-
BRAZIL	+152	+114.3	+20.0	12.79 (R^2=0.26)	-
MEXICO	+60	+35.5	+14.9	18.54 (R^2=0.14)	29.47 (R^2=0.40)
VENEZUELA	+107	+237.8	+24.6	10.47 (R^2=0.86)	34.11 (R^2=0.89)
CENTRAL AMERICA	+29	+47.5	+12.6	6.24 (R^2=0.25)	22.40 (R^2=0.26)

SOURCE: Table 6

The Determinants of United States Direct Foreign Investment and Divestment in the Latin American Food Industry

The concept of a determinant of foreign investment may be elusive unless it is clear what needs to be explained, and at what level (or levels) an explanation is being sought. Thus, it might be argued that the determinant of all foreign investment is profitability. Firms invest at home or abroad in order to make a profit. This is true but trivial, because what is of interest is to explain why a firm should choose direct foreign investment as a method of achieving certain goals (e.g., securing supplies of raw materials or serving overseas markets) rather than any of the alternative methods available, e.g., purchasing in the open market or exporting from a home base. The "causes" of direct foreign investment can only be understood in the context of the alternatives to direct foreign investment faced by individual firms. These alternatives will vary across firms and industries, and in particular they will differ with respect to whether investment abroad is designed to supply markets inside or outside the foreign host country. The table below lists the key questions the answers to which constitute necessary and sufficient conditions for framing any theory of direct foreign investment. In the table, A represents the home country of the TNC, and B the host country for direct foreign investment (and the TNC).

Direct Foreign Investment to Supply an Export Market	Direct Foreign Investment to Supply the Local Market
1. Why is the investment in B undertaken by a TNC and not a local firm?	1. Why is the investment in B undertaken by a TNC and not a local firm?
2. Why is the TNC investing in B rather than elsewhere, including its home country?	2. Why does the TNC not invest in its home country and serve its home market?
	3. Why does not the TNC invest at home and supply foreign markets through exports?
	4. Why does the TNC invest in B rather than another foreign country?
	5. Why does not the TNC supply B's market through licensing a local producer?

It would not be appropriate to provide here an exhaustive review of the voluminous literature on theories of direct foreign investment which attempt to provide answers to these questions because several competent surveys of the material already exist.[23] However, a brief indication of the theoretical approach which informs the subsequent analysis of the paper may be useful. Despite several sustained attempts to integrate the principles drawn from different branches of economic theory into a single model of direct foreign investment, the state of economic analysis as applied to TNCs is still characterized by eclecticism.[24] Thus, in identifying the determinants of direct foreign investment to supply an export market, recourse is had to elements of international trade theory, location theory and theories of the growth of the firm, while in the case of direct foreign investment to supply local markets, this corpus of economic principles must be supplemented by aspects of industrial organization theory and information theory.

Decisions to invest abroad are affected by factors existing at several different levels of analysis. For the purposes of this paper, it is useful to identify five such levels:

1) Global-factors such as recent improvements in worldwide communications and transportation, e.g., international telephone and telex services, growth of container transport and air freight, constitute the most general set of necessary conditions for the rapid growth of direct foreign investment in the last two decades. As regards foreign investment in the food industries of the developing countries, the activities of multilateral aid agencies such as the World Bank and the United Nations Development Programme might also be included as a much weaker set of contingent conditions at this level.

2) Region-specific factors refer to those determinants of direct foreign investment by U.S.-based TNCs in Latin America which are particular to the area as a whole. They include the region's proximity to the United States and its long history of political ties with its northern neighbour, the existence of preferential trade, and/or aid, agreements between Latin America and the U.S., and schemes for regional and subregional economic integration such as the Latin American Free Trade Area (LAFTA), the Andean Pact, the Central American Common Market (CACM) and the Caribbean Community (CARICOM). The activities of the Inter-American Development Bank (BID) should also be considered a regional specific factor.

3) Nation-specific factors relate to particular national characteristics of home and host countries. Of particular importance in the present context are the size and growth of national economies, specificities of consumer tastes existing at a national level, and government policies in home and host countries towards foreign trade and investment, industrial structure, i.e., anti-trust legislation, and regional development, e.g., SUDENE's incentives for industrial investment in the northeast of Brazil, or the Mexican federal government's investment incentives under the industrial decentralisation programme.

4) Industry-specific factors are associated with the market structures of particular industries in TNCs' home countries, and include the relative importance of research and development expenditures for generating advanced production technology and the use of advertising in the creation of marketing expertise where product differentiation is the dominant form of competition.

5) Firm-specific factors refer to determinants of direct foreign investment which may be identified at the level of individual corporations. They include the size and nationality (i.e., home country) of a TNC, the extent of its product line, its possession of any unique product, process or management skill, the nature of its internal organisation and its pattern of ownership and control.[25]

Having set out the questions which any theory of direct foreign investment must answer and identified the different levels of aggregation at which the determinants of such investment may be sought, it is useful to provide an overview of the presence of TNC affiliates in the different sectors of the Latin American food industry by the mid-1970's. In a recent report, the United Nations Centre on TNCs has distinguished three sectors of the food processing industry in developing countries: export commodities, staple goods sold locally, and branded goods (i.e., differentiated products) also produced for domestic markets.[26] Each of these sectors may be broken down into a set of subsectors, although certain subsectors serve both domestic and overseas markets and therefore present problems of categorisation. The report lists nine subsectors in all, each of which is composed of several industries classified at the 3- and 4-digit levels.[27]

Table 9 which has been drawn up on the basis of data in the U.N. report, indicates the extent of presence of TNC affiliates in the different sectors and subsectors of the food industry amongst Latin American countries in 1976. This report is the most comprehensive attempt to identify direct foreign investments in the Latin American food industries, but any interpretation of the figures in Table 9 is subject to several caveats. There is some double counting in the table with respect to the number of individual affiliates because some TNCs have multiproduct subsidiaries in certain countries. Furthermore, the coverage of both transnational food firms and Latin American countries is incomplete.[28]

Two features of Table 9 may be noted. Firstly, the ranking of the three most important host countries as measured by the total number of TNC affiliates in the food industry--namely, Mexico, Brazil and Venezuela--exactly matches the ranking of the three most important host countries as measured by the stock of United States direct foreign investment in the food industry in 1976 shown in Table 5. This merely confirms the dominant role of U.S.-based TNCs with regard to direct foreign investment in the region's food industry. Secondly, Table 9 allows the subsectors of the food industry in Latin America as a whole to be ranked by the extent of the TNCs' presence. Thus, the most important host industries to TNCs are, in descending order of importance, fruit and vegetable processing (which includes bananas and fresh produce), flour milling, dairy products, edible oils, animal feeds, fisheries, and meat processing.

TABLE 9

DISTRIBUTION OF TNC AFFILIATES BY FOOD INDUSTRY SECTOR AND SUBSECTOR AMONG LATIN AMERICAN COUNTRIES, 1976
(Number of Affiliates)

	EXPORTS						LOCAL MARKET STAPLES		LOCAL MARKET--BRANDED GOODS					
	Meat Packing & Processing[a]	Fish-eries	Fruit & Vege-table Processing[a]	Coffee Processing	Cocoa & Chocolate[a]	Tea[a]	Flour Milling[c]	Animal Feeds[b]	Dairy Products	Beer	Wines & Distilled Alcoholic Beverages	Edible Oils[b,d]	Soft Drink Concentrate	TOTAL
Argentina	4	2	5	1	2	4	4	4	5	1	4	3	3	42
Bolivia	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Brazil	6	2	13	4	4	2	7	8	6	2	5	9	4	72
Chile	-	2	2	1	1	-	1	2	2	-	1	2	2	16
Colombia	1	1	6	2	1	-	3	3	4	1	1	2	3	28
Ecuador	1	4	4	1	1	-	3	1	1	-	-	-	1	17
Mexico	5	5	14	2	5	3	7	4	10	-	7	6	6	74
Paraguay	1	-	-	-	-	1	-	-	-	-	-	-	-	2
Peru	-	3	4	1	-	-	2	4	2	-	-	3	-	19
Uruguay	2	1	1	1	1	-	3	1	1	1	-	1	1	14
Venezuela	6	1	13	1	4	2	8	4	6	2	3	3	2	55
Guyana	-	1	-	-	-	-	2	-	-	-	-	-	-	3
Surinam	-	1	1	-	-	-	-	-	-	1	-	-	-	3
El Salvador	1	1	2	1	-	1	2	2	1	-	-	1	-	12
Honduras	-	-	2	-	-	-	2	1	-	1	-	2	-	8
Guatemala	3	3	4	3	-	1	4	4	2	-	-	4	-	29
Panama	3	4	3	-	-	-	3	1	4	-	-	2	1	21
Costa Rica	-	1	6	1	-	-	1	-	1	-	1	2	1	14
Nicaragua	-	3	2	1	-	-	4	1	1	1	-	2	-	15
Dominican Republic	1	-	2	-	-	-	-	-	3	-	-	-	-	6
Bahamas	-	2	-	-	-	-	-	-	1	-	-	-	-	3
Jamaica	-	1	3	1	1	-	1	3	5	1	1	1	1	19
Barbados	-	-	1	-	-	-	1	-	1	-	-	-	-	3
Trinidad	-	-	-	1	1	-	1	1	2	1	-	1	-	8
Total	34	38	88	22	21	14	59	44	58	12	23	44	25	482

NOTES: [a]This industry also supplies domestic markets; [b]this industry also supplies export markets; [c]wheat and maize flour; [d]includes maize, palm, soybean, sunflower, coconut, peanut, and cotton seed.

SOURCE: Transnational Corporations in Food and Beverage Processing (United Nations Centre on Transnational Corporations, 1980).

At this point, the analysis of the determinants of direct foreign investment and divestment in the Latin American food industry is divided between those production establishments serving export markets and those supplying the domestic market.

Foreign Investment and Divestment in the Export Sector

The food export sector is itself diverse, having at one pole the traditional plantation subsector composed of sugar and bananas, and at the other pole, a modern subsector based on processed fruit and vegetables, sea foods and animal feed. In between these two extremes are some TNC affiliates in coffee roasting, coffee extracts and cocoa grinding.[29] The traditional subsector is analysed first since it has existed far longer and it offers more examples of divestment than the modern subsector.[30]

Why were such investments undertaken by TNCs and not by local firms? In the British West Indies, sugar plantations using slave labour had been established on the islands since the 16th century to supply the metropolitan country with foodstuffs. Thus, by the time of the TNCs' entry into the region in the early decades of the 20th century, locally owned firms did not exist owing to the experience of three hundred years of colonial rule. In Central America, the growth of TNCs' presence was often due to the companies' control over key elements of economic infrastructure such as railways. Thus, the beginnings of the United Fruit Company can be traced to a railroad construction company formed in Costa Rica in 1885 by Minor Keith, who had refinanced the English debt on the railroad a year earlier, and in return for completing construction of the line, was granted a 99-year lease on the railway and 800,000 acres of state land in any part of the country. Bananas were planted alongside the newly laid track to finance construction, and later the company began to purchase fruit from independent growers.[31] This dependence by formally sovereign governments in Central America on U.S. companies for the development and management of infrastructural facilities crucial to the growth of exports, and for loans in time of financial crisis, constituted the main advantage enjoyed by these TNCs over any potential local rivals in the late 19th and early 20th centuries.

As to why foreign companies invested specifically in these countries rather than elsewhere, there were at least three reasons. Firstly, both climate and soils gave these areas a comparative advantage in the production of tropical fruits and foodstuffs. Secondly, and of particular relevance to direct investments by U.S. companies in Central America and Cuba, the costs of transporting bulky low-unit-value commodities like sugar and bananas to final markets were lower than from alternative sources of supply. Thirdly, there was often a purely fortuitous element which pushed these companies into acquiring assets in the region's food export sector. Thus, W.R. Grace and Company acquired ownership of Cartavio, its first sugar plantation in Peru, through foreclosing on a bad debt in 1882,[32] and Tate and Lyle's initial investment in the sugar industry in Jamaica and Trinidad in

1937 was prompted by the British government's nationalisation of the domestic sugar beet processing industry in 1936.[33]

Since the 1950's, several clear trends may be identified regarding the investment strategies of these companies. In the first place, U.S.-based TNCs in the sugar industry, facing a relatively slow overall growth of demand for the commodity in the developed countries and with local sales often subject to government price control, diversified their product line by finding industrial uses for several byproducts of cane and sugar. The leader in this field was W.R. Grace and Company, which first produced paper from sugar bagasse on a commercial scale in 1939 at its Paramonga plant in Peru.[34] Diversification at Paramonga continued during the 1940's when a chlorine and caustic soda plant was established. The distillery produced gin and vodka, and in 1967 a polyvinylchloride plant came into operation using cane alcohol as an input.

In the Caribbean, the U.S. South Puerto Rico Sugar Company was the first company to produce furfural from cane bagasse at the Central Romana in the Dominican Republic in 1953 under a technology contract with Quaker Oats. Following the acquisition of the Central Romana by Gulf and Western Industries in 1967, production of the chemical was greatly expanded.[35]

The second trend in TNC investment in this sector, and particularly amongst the U.K.-based companies, has been the concentration of company resources at points in the food chain other than direct agricultural production, e.g., marketing, shipping and the provision of managerial and technical services. Thus, Tate and Lyle has established separate companies for sugar trading and transport (Tate and Lyle International) and for supplying engineering and consulting services (Tate and Lyle Engineering). The latter recently provided a turn-key sugar mill for the Bolivian government and has also been active in Brazil.[36] After the nationalisation of its sugar interests in Guyana in 1976, Booker McConnell established a subsidiary for the provision of managerial and technical services to the sugar industries of developing countries (Bookers Agricultural and Technical Services, since renamed Booker Agriculture International, Ltd.). This company has provided managerial assistance to the sugar industry in Guyana and joined with a Dutch-based TNC, HVA International BV, to provide a detailed consultancy report and evaluation of the state-owned sugar industry in the Dominican Republic in 1977.[37]

The reasons for this reallocation of resources within the food chain are intimately linked to the third trend in these companies' activities in the last decade: the progressive divestment of their assets in the Latin American sugar industry, and particularly their land holdings. This process of divestment has been both forced and volitional. W.R. Grace's two sugar plantations in Peru were amongst the first properties to be affected by the military government's agrarian reform law of July 1969, while a year later, Tate and Lyle was pressured to sell majority ownership of its Trinidadian subsidiary to the host government. In 1971, the Jamaican government compulsorily purchased Tate and Lyle's two sugar estates on the island, and in 1973,

the company sold off 9,000 acres of cane land to farmers in Belize, but retained majority ownership of the two sugar mills in that country. Booker McConnell's sugar interests in Guyana were expropriated in 1976 at a time when they represented nearly half of total corporate assets. The nationalisation came as no surprise and the company had been diversifying in the U.K. several years previously, particularly into food distribution and engineering.[38]

In the Dominican Republic, Gulf and Western has sold off approximately 11,000 acres of land since acquiring the assets of the South Puerto Rico Sugar Company in 1967.[39] Most of the land has been sold to individual outgrowers, but the corporation has plans for transforming more than 35,000 acres of arable land to a specially created company wholly owned by its employees. This should result in the Central Romana obtaining half its cane supplies from outgrowers in the future.

The reasons for these divestments are not difficult to identify. In the British West Indies and Guyana, the two U.K.-based TNCs fell victim to the surge of post-independence nationalism following decolonisation in the 1960's. Local technical and managerial staff were available to run the mills and plantations, while bringing the sugar industry into the state or parastate sector was considered to facilitate the setting of national economic goals and the framing of policies to reach them. The growth of nationalist criticism of TNCs also provided a necessary impetus behind Gulf and Western's decision to divest itself of significant areas of land in the Dominican Republic. However, the company has been the target of local criticism for years, so why is it only now that it has responded through selective divestment? There are several contributory factors, which include land divestments by TNCs in the sugar industry elsewhere in the Caribbean, growing population pressure in the rural areas of the Dominican Republic and inadequate employment opportunities which must increase the likelihood of land invasions on company property, and the emergence of a group among the company's own stock-holders who have been increasingly critical of the conditions of employment of cane cutters at La Romana.[40]

Anti-trust proceedings launched against a TNC in its home country may also lead to the divestment of foreign assets. The United Fruit Company was affected in this way, having suffered the attentions of the Justice Department during the 1950's, culminating inter alia, in the forced sale of the company's banana operations in Guatemala to Del Monte in December 1972.[41]

In sum, where TNCs still have an equity presence in the traditional subsector of food export industries in the region, it is with regard to the ownership of processing and marketing facilities, while inputs of agricultural raw materials are increasingly procured through production contracts rather than through direct investment.[42]

In the more modern branches of the food export sector where TNCs are present, the same basic determinants of direct foreign investment are evident--i.e., comparative costs, transport costs and security of supply--but with more complex variations. This section concentrates on processed fruit and vegetable exports from Mexico, partly because processed food exports from TNC affiliates are more significant there than in most other Latin American countries, and partly owing to the availability of secondary information.[43]

An examination of the role of TNCs and the export of processed fruit and vegetables from Mexico suggests that there are at least three different situations, in each of which the determinants of direct foreign investment vary slightly. However, as a preliminary it should be noted that most TNC affiliates in the Mexican food industry, as elsewhere in Latin America, serve the domestic market, and in general, TNCs are more active in vegetable than in fruit processing.[44]

The first situation is one in which the TNC affiliate enjoys a comparative advantage throughout the year in the production of a final branded good. This would include the export of tinned asparagus by Del Monte and a range of canned and frozen vegetables by local subsidiaries of General Foods and Birds-Eye, e.g., frozen broccoli and canned peppers. In this case, the relative cheapness of Mexican agricultural land and labour (particularly the latter) compared to the United States has led to the virtual relocation of sections of the domestic U.S. food processing industry across the border. Mexican-owned firms are also active in the production and export of canned vegetables, so security of supply must be mentioned as an additional necessary condition explaining the presence of TNCs in this sector.

The second situation arises where a TNC affiliate enjoys a year-long comparative advantage in the production of an intermediate good which is exported either to the parent company in the U.S. (i.e., a third party independent of both the TNC parent and the Mexican affiliate). Such transactions may occur for one of several reasons. As early as 1942, the Mexican subsidiary of Pepsicola was exporting cola syrup to the parent company in the U.S. At that time, Pepsicola had several sugar-related interests in Mexico.[45] This situation obtained not only because of the relative cheapness of labour and sugar in Mexico, but also because locally owned firms were excluded from such transactions owing to the barrier to entry constituted by Pepsicola's patent rights on the manufacture of its syrup.

Intra-firm trade may also occur where a TNC requires continuity of supply and/or a level of quality control which a locally owned firm is unable to provide. This may explain the export of banana puree by the Mexican subsidiary of Gerber Products and the export of tomato paste by the Mexican subsidiary of Campbell Soup to their respective U.S. parent companies.[46]

The last situation to be examined in this section of the paper concerns the special case of the strawberry industry.[47] Here Mexican growers enjoy a comparative advantage in the production of a non-branded final good during part of the year (i.e., fresh strawberries during the winter months), a significant proportion of which is exported by U.S. brokers, who are also substantial direct investors in freezing plants which produce an intermediate good in which Mexico has a comparative advantage for certain other months of the year (frozen strawberries).[48] In this case, the U.S. investors are often relatively small firms--compared to the other TNCs mentioned in this paper--which entered the food processing industry in Mexico from a strong position as international commodity traders, and as a direct consequence of the dual role of strawberries as both a final and intermediate product in the U.S. market. To the extent that these U.S. processors enjoy a competitive edge over their Mexican rivals, this seems largely due to their superior marketing expertise and connections within the United States, and their access to greater financial resources for the provision of working and fixed capital.

Foreign Investment and Divestment in the Domestic Market

Most direct foreign investment in the contemporary Latin American food industry is undertaken to supply domestic markets, and the purpose of this section of the paper is to examine the reasons for such investments and divestments in order to make comparisons with the analysis given in the previous section.

It has been suggested that the process of direct foreign investment by TNCs in food industries serving the domestic market in developing countries can be adequately explained by the product cycle model.[49] However, there are at least five features of the pattern of corporate expansion into developing country food industries which do not coincide with the original product cycle model as defined by Vernon.

Firstly, certain inherent characteristics of processed foodstuffs inhibit their entry into international trade, such as low unit value, relatively high transport costs, and in some cases, perishability (e.g., bread). Although clearly not insuperable, these entry barriers are compounded by such factors as the food-hygiene regulations of importing countries and differences in consumer tastes regarding food which vary widely over small geographic distances and which militate against serving a given national market through imports.[50]

Therefore, the choice for the firm may be between supplying a market through direct foreign investment or not supplying it at all.[51] This argument receives support from Buckley and Pearce, who found that of 156 TNCs studied, those in the food products and beverages industry had the highest sourcing ratio (96.2%).[52]

Secondly, although some of the largest U.S. food firms grew domestically on the basis of a single product, certain of these have expanded their sales abroad as much by licensing foreign producers as by direct foreign investment, e.g., Coca Cola.

Thirdly, several U.S.-based food firms not only went transnational initially on the basis of more than one product, but have also continued to expand abroad through direct foreign investment while retaining product lines which have been remarkably stable over time with market shares maintained or even increased, e.g., CPC International.[53]

Fourthly, Horst has shown how "American firms have . . . acquired or established subsidiaries producing products with which they had little or no direct experience," e.g., General Foods.[54] This, together with the previous point, suggests that it is the possession of general marketing skills which has been the key determinant in the overseas expansion of U.S.-based food processing firms.[55] Furthermore, the experience of a company like CPC International indicates that such skills may well not be so easily eroded by local competitors as skills in a specific production technology.

Fifthly, and most important of all, the product cycle model assumes that in the first or new-product stage, a U.S. firm is already supplying a national domestic market.[56] However, Horst has shown how the growth of many U.S. food firms from a regional to a national level of operations was both chronologically prior to, and may have constituted more of an entrepreneurial challenge than, going transnational, as instanced by the establishment of a subsidiary in, say, Canada.[57] This crucial process of corporate growth and development in the domestic market is omitted from the product cycle model, yet it was this process that gave rise to the general marketing skills which were required for survival in the increasingly oligopolistic market structure of the U.S. food industry, and which constituted the critical source of advantage possessed by U.S. food firms vis-a-vis local firms when they penetrated overseas markets through direct foreign investment.

Therefore, if the product cycle model is not wholly adequate as an explanation of direct foreign investment by U.S. companies in those industries in the food sector supplying domestic Latin American markets, what other determinants of this pattern of corporate expansion abroad have been identified? As a preliminary, it can be stated that, at least for certain U.S.-based TNCs, the overall rate of return on net assets in the Latin American food industry is generally higher than in the U.S. food industry.[58] Thus, in one company whose food operations in the region exclusively serve domestic markets, the area vice president for South America only approves investment projects when the estimated rate of return is at least double that of the achieved rate of return on domestic food operations. By all accounts, this ex ante differential in profitability is maintained ex post as well.[59]

However, in order to disclose the underlying reasons which explain the profitability of TNCs' activities in the Latin American food processing industry, it is necessary to review a wider body of secondary evidence which includes reports of interviews with corporate executives, the findings of surveys undertaken by business journals, and the results of formal econometric analysis carried out at both firm and industry levels. Furthermore, it is important to distinguish between the determinants of initial direct foreign investment by TNCs and the determinants of subsequent investments.

The most common stimulus to U.S. food companies to make their first direct investment in Latin America has been a combination of the threat, or actual imposition, of tariffs (or other forms of discrimination against imports such as the imposition of quotas) and the threat, or appearance, of increased competition from locally based firms, whether these be locally owned or affiliates of rival TNCs. This was the reasoning behind the decision of the Corn Products Refining Company to establish a plant in Argentina in 1928, while a similar logic appears to have applied more than thirty years later when Arbor Acres invested in an egg hatchery in Venezuela to produce breeder stock for the local poultry industry rather than importing breeder chicks from the U.S.[60]

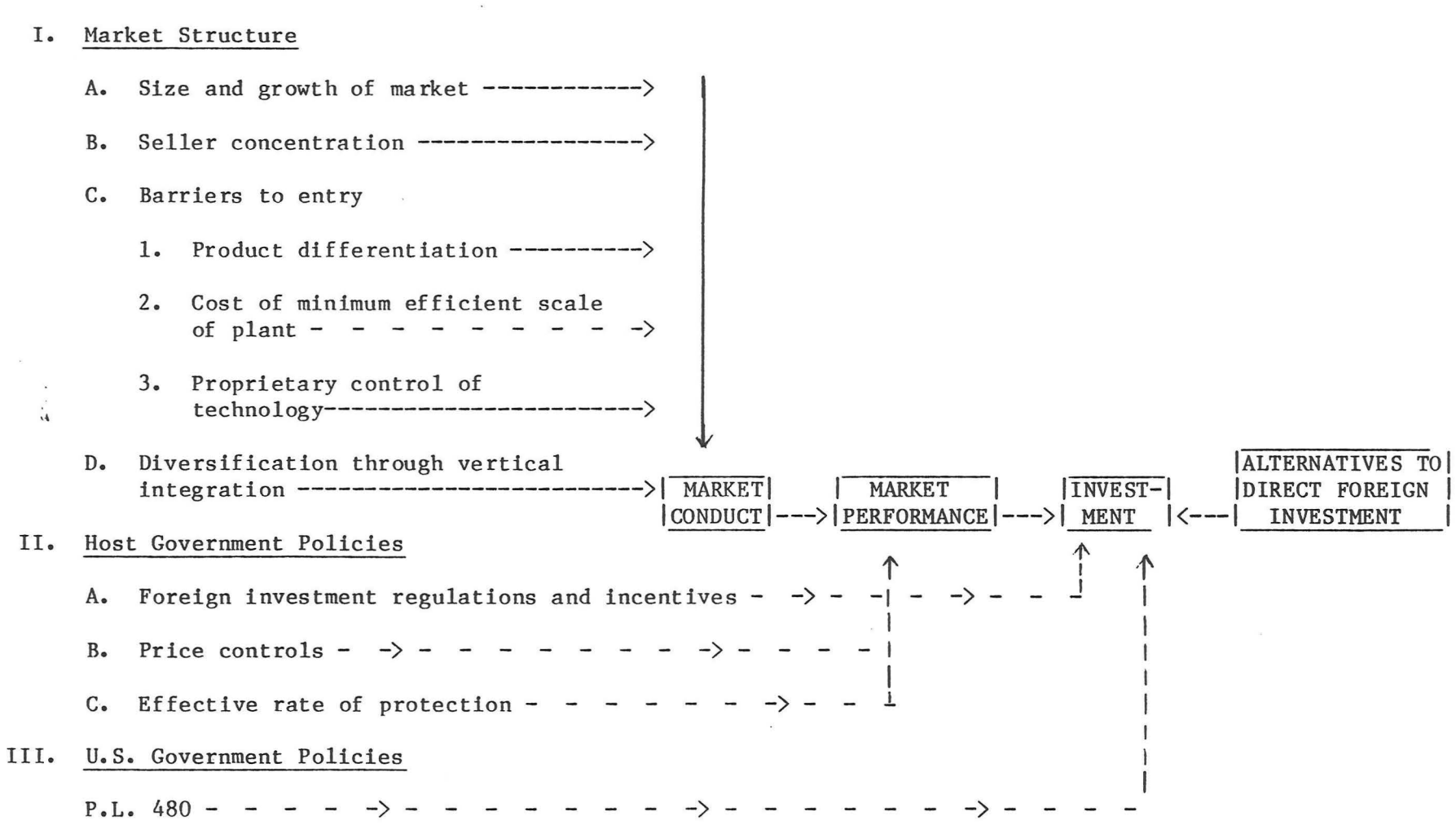
Once one foreign company makes an investment in a given country, this often prompts its rivals to follow suit for fear that any loss in the share of any national market may put a company at a long-run disadvantage in the global struggle for profits.[61] One possible example of this pattern of oligopolistic reaction may be found in the Peruvian milk industry. Carnation submitted a request to the Peruvian government on 1 May 1939 to establish a milk processing plant in the south of the country and this was followed by a similar request from Nestlé three weeks later to construct a plant in the north. Both companies were granted leave to undertake their investments in the same government resolution in July 1939. However, it is not clear in this case to what extent the two companies colluded in their respective decisions, because investment behavior which might be interpreted as competitive rivalry could also be construed as tacit market sharing.[62] In fact, the latter interpretation is the more likely, given Nestlé's earlier agreement with Borden to withdraw from the U.S. condensed milk market and the company's shared ownership in overseas milk plants with Carnation and Pet during the 1930s.[63] The depressed state of the world economy in the inter-war period encouraged collusion and market-sharing arrangements among TNCs, and Knickerbocker's model is of most relevance after 1950.[64]

In seeking the determinants of a firm's direct foreign investment over time, the analysis necessarily becomes more complex. The most original and complete model of intra-industry growth and development elaborated specifically to examine the investment behaviour of TNCs in the Latin American manufacturing sector has been presented by Jenkins in relation to the automobile industry.[65] However, there are certain difficulties in applying this model directly to the food processing industry. Otherwise, the available evidence refers to the relative importance of individual variables which are not always assessed in the context of an explicit theoretical framework, while the food industry is often treated at a very high level of aggregation.

Diagram 1 has been drawn up to provide a minimal framework for the analysis in the remainder of this section of the paper.[66] It differentiates between primary determinants of direct foreign investment and those determinants which are of secondary importance, or which are still subject to controversy. In the terminology established previously, the diagram refers exclusively to firm-, industry-, and nation-specific factors.[67] This framework suggests

DIAGRAM 1

Relationship between Market Structure, Conduct, Performance and Investment



NOTE: ------- = Primary determinant

\- - - = Secondary determinant or factors whose significance is subject to controversy

that investment over time by a TNC producing a foodstuff for local sale in Latin America is determined by the rate of return (i.e., performance) which is directly derived from the relative intensity of competition among firms in the industry (i.e., conduct). This pattern of behaviour is in turn conditioned by the different elements of market structure which encompass both demand and supply factors.

The first structural factor listed in Diagram 1 is size and growth of markets (i.e., demand).[68] Interview data and trade-journal surveys suggest that this was and continues to be a primary determinant of both initial and subsequent foreign investment in the food industry. Thus, out of 11 production plants in Mexico in which Nestlé had ownership rights in 1976, five had been established primarily for this reason, while market growth was a secondary factor explaining investment in a further three factories.[69] Similarly, in a Business International poll of 134 U.S., European and Japanese-based TNCs active in the food industry, 42% mentioned size and growth of markets as a determinant of foreign investment.[70]

By contrast, the results of econometric analysis relating market growth to profitability are more ambivalent. Connor found that in Brazil, rates of growth of industry output in the manufacturing sector were not significantly related to the profitability of TNC affiliates in those industries, while such an association as did exist suggested a negative effect of industry growth rates on the rate of return. In Mexico, a similar negative relationship was discovered between these two variables which was statistically significant. However, when non-linear forms of the regression equation were employed on the Mexican data, increases in industry growth rates made a positive contribution to profitability.[71]

The results of Connor's analysis regarding other structural determinants of profitability of U.S. TNCs in the manufacturing sector were more robust, particularly in Brazil. The four-firm concentration ratio was positively related to the rate of return and was significant in both countries.[72] This implies that the higher the degree of oligopoly in a given industry, the greater was the profitability of U.S.-based TNCs in that industry. Of the two proxy variables used to measure product differentiation, the advertising-to-sales ratio contributed positively to profitability in Mexico and Brazil, but had more consistent statistical significance in the latter, particularly in the non-linear form of the model. Research and development intensity (measured by R and D expenditures as a proportion of sales), which also reflects the strength of attempts at product differentiation in these countries rather than the extent of any basic research effort, was positively and significantly associated with the rate of return in Mexico but was insignificant in Brazil.

This demonstrates that a capacity and a willingness to spend heavily on advertising and other forms of market promotion are rewarded by higher rates of return. This result is of particular interest given the heavy advertising expenditures by U.S.-based TNCs in the processed food industry.

Another potential barrier to entry which may affect industry performance and thence TNC investment behaviour is minimum efficient plant size.[73] In the case of the processed food industry, the consensus seems to be that the investment requirements of such threshold plants are relatively low.[74] However, the figures in a recent U.N. report on minimum efficient plant size in Mexico in 1970 suggest at least two things. Firstly, the variation in threshold plant size across different industries within the food sector is very great. The required investment in distilled alcohol processing was 200 times larger than that in processed meats. Secondly, certain of the industries with the highest levels of required investment in Mexico are hosts to some of the largest TNCs--e.g., Nestlé in powdered/condensed milk processing, CPC International in wet corn milling (where the company is planning a new $25 million plant), and Ralston Purina (with eight animal feed plants).[75] Furthermore, where there exist scale economies at the plant level, a company's marketing skills become even more important in order to sustain high volume production whether by securing high market shares for individual products or launching new commodities.[76] The third barrier to entry listed in Diagram 1, namely the proprietary control of technology, is discussed below in the context of licensing in the food industry. However, it may be noted at this point that host government legislation in Latin America may strictly limit the use of patents. Thus, in the Brazilian food industry, "products or processes are simply not patentable, recourse to litigation is cumbersome and unused patents are quickly forfeited."[77]

The last element of market structure to be considered is that of forward vertical integration in the food industry, which has resulted from firm investment strategies aimed at economic diversification.[78]

Several reasons for this pattern of direct foreign investment can be adduced. Firstly, profitability in the production of intermediate goods in the food industry is subject to much greater cyclical fluctuations than profit rates in the consumer goods sector, e.g., wet corn milling. Consequently, forward vertical integration into the manufacture of branded final goods, which are generally considered more "recession proof," will stabilise a TNC's cash flow.

Secondly, with local production capacity for an intermediate product already in existence, a TNC can exploit fully its marketing advantages in branded consumer products through its ability to create greater value added on this intermediate good than the locally owned firms to which the company has been selling. Such a situation is likely to derive from the TNC's greater success in product differentiation compared to local firms. This may be an important incentive to "internalise" such transactions and integrate downstream.

Thirdly, and from the opposite perspective, with its own production of semi-processed material inputs, a TNC affiliate may be able to raise the value added of its branded consumer goods above what it was when purchasing these inputs at arms length. This is owing to certain conditions surrounding the supply of the intermediate product. Self-sufficiency in the supply of a crucial industrial material may bring improved continuity in the flow of consumer-goods production due to improved coordination in deliveries of the intermediate product which

may reduce costs through holding lower inventories of material inputs. The quality of both intermediate and final products may also be higher if the manufacture of both is vertically integrated. Most important of all is the avoidance of the uncertainties of bilateral monopoly under vertical integration.[79] These uncertainties have actually precipitated TNCs to divest themselves of affiliates, if they were unwilling to undertake vertical integration.

Thus, Standard Brands abandoned yeast production in Mexico and Central America recently because it did not control the production of hydrogenated oil, a key input in the manufacture of yeast, and local suppliers squeezed their profits by raising the price of the oil.[80]

Fourthly, and more speculatively, vertical integration may permit a TNC greater flexibility as to where and how it declares its profits within a given host country, which may reduce its overall tax burden nationally compared to what that burden would be if the TNC produced the same value of output with less diversified operations. While considerable attention has recently been given to the existence of transfer pricing in the international transactions of TNCs, it seems that relatively little is known regarding price decisions which affect transactions amongst the different affiliates and/or plants of a single TNC in a given host country.[81]

An alternative to vertical integration sometimes chosen by TNCs in the food industry as a means of guaranteeing supplies of intermediate inputs at stable prices is the establishment of a joint venture for the manufacture of the branded good. The other partner, who may be a host-country national or another TNC affiliate, then provides the key intermediate product from a separate, independently owned operation. Such an arrangement was a necessary condition for the entry of BSN-Gervais Danone, a French TNC, into Mexico to produce yoghourt and desserts in 1973.[82] Standard Brands operates its tea processing plant in the state of Sao Paulo (Brazil) in a similar manner. Ownership of the plant itself is shared with a Brazilian partner who is a Japanese immigrant. The latter supplies the factory with tea from his own 5,000-acre plantation which is supplemented by contracted production from 600 Japanese immigrant farmers in the region.[83]

On occasion, a joint venture is formed where the partner has a purchasing rather than a supply commitment. This occurred with Arbor Acres' broiler chick operation in Venezuela, which is jointly owned with a large U.S. feed corporation (Ralston Purina). Under the terms of the agreement,

> the feed mill guarantees that it will take all of the production of this company, with the understanding that the price will be such that a fair return on investment will be earned by this company (even though the chicks might then be sold by the feed company to the farmer at a lesser price).[84]

The long-term viability of all these ventures turns crucially on the continued acceptance by both parties of such specially negotiated pricing arrangements.

The next set of potential determinants of direct foreign investment in the food industry listed in Diagram 1 are host government policies. These may be divided into three groups for the purposes of evaluation:

1) Negative policies: "negative" is used here not in any pejorative sense but merely to identify those policies which indicate to TNCs in which sectors or industries they are excluded from holding an equity stake (e.g., steel, petroleum and nuclear energy), and which types of transaction are prohibited by them (e.g., annual profit remittances abroad above a certain ceiling defined in terms of a percentage of net fixed assets in the host country). Thus, negative policies are forms of regulation established by host governments specifically to prevent TNCs doing certain things.

2) Positive policies: in contrast to negative policies, positive policies attempt to induce or encourage TNCs to invest in host countries. They may take a wide variety of different forms but the most common involve the granting of some type of tax incentive, whether this be outright exemption during a period of years or generous allowances for depreciation.

3) Indirect policies: these are policies which are not aimed specifically at foreign investors, but which nevertheless may have an important effect on TNC investment behaviour. Examples of such policies include domestic price controls and rates of protection.

Most host-country governments in Latin America now operate all three sets of policies simultaneously.

On the basis of the available evidence, it may be tentatively concluded that negative policies are more successful in reducing the flow of United States direct foreign investment than positive policies are in encouraging it. This may be explained by two reasons. Firstly, whereas some negative policies are absolute, e.g., denial of entry into a particular industry, all positive policies are relative to what other host countries are offering at one point in time, e.g., tax incentives. Secondly, while corporate executives appear to view negative policies as relatively immutable, they consider positive policies to be more unstable and transient. Although there are no doubt exceptions to the rule, the consensus of opinion both in the secondary literature and that arising from my own discussion with company staff is that positive policies are of limited significance in most foreign investment decisions in the Latin American food industry.[85] Fiscal incentives for investment in specific regions within certain Latin

American countries may well affect the location of TNC plants in these countries, but not the more fundamental decision of whether to make the investment at all.[86] However, such regional investment incentives as do exist are usually available to all investors and not specifically to TNCs, thereby making this policy instrument "indirect" in my terminology.

It is much more difficult to reach definite conclusions regarding the effects of host-government indirect policies on TNCs' investment behaviour. In the case of government price controls, this term means different things in different Latin American countries. In Brazil, with the exception of drugs produced by TNC affiliates in the pharmaceutical industry, there is no attempt to set a uniform price for a single product line among all firms in the industry. Requests for increases in price from firms covered by the legislation are apparently treated on an ad hoc basis.[87] However, in Venezuela according to one source, price control is applied more rigidly, at least with regard to staple products.[88] As a consequence of this ambiguity in meaning, there is a considerable conflict of evidence regarding the relative disincentive effect of price control on investment as between different Latin American countries as well as on its significance within a given national economy.[89] Nevertheless, it is likely that price control affects TNCs' investment in the food industry through affecting the choice of product line, with branded goods being favoured over staple goods because of the former's exemption from control.[90]

The topic of price controls is closely related to an assessment of host-government policies of protection and their effects on TNCs' investment behaviour in the food industry. While there is general agreement that the introduction or raising of tariffs may well constitute a necessary condition for a company's initial direct foreign investment, there exists more controversy regarding the direct impact of protection on the profitability of TNC affiliates in the manufacturing sector and thence on subsequent investments abroad. Estimates of the effective rate of protection (ERP) of individual food processing industries in Latin America have not been available to me, but Connor found that there was no significant relationship between the levels of import protection and the profitability of TNC affiliates in the manufacturing sector of Brazil and Mexico.[91] Thus, in Mexico, the beverages industry (208) had the highest rate of return of all industries in which TNC affiliates were present in 1972 (48%), and an effective rate of protection of +40%, while grain products also had a relatively high level of profitability (27%) but an ERP of -21%.[92]

There are at least three different sets of reasons which may explain this apparent lack of association between rates of effective protection enjoyed by TNC affiliates in Mexico and Brazil and their profitability. Firstly, for purely methodological reasons having to do with how the effective protection rate is calculated, there are no a priori grounds for expecting a deterministic relationship between the ERP and any measure of company profitability. This is

because heavy positive protection can be associated with both high positive and high negative values of the ERP. Conversely, the most commonly used measure of the ERP takes on a negative value both when effective protection of a particular activity is negative (i.e., domestic value added is less than world value added) and when it is positive, but where value added in the activity when calculated at world prices is itself negative. This latter phenomenon is by no means uncommon in developing countries, and may arise, for example, when the use of imported inputs (e.g., intermediate goods and raw materials) to produce a protected final product is technically inefficient compared to world exporters of the commodity. Thus a firm can generate negative value added when world prices are used to value its inputs and output, and can at the same time be highly profitable to its owners, even without the receipt of government subsidies. Therefore, the use of a measure of the effective rate of protection as an independent variable in multiple regression analysis to "explain" profitability is fraught with serious methodological difficulties.[93]

Secondly, Connor's results are also likely to be affected by measurement error in the data. He used 1972 company profitability figures for Mexico and Brazil, while the protection rates used as independent variables were industry averages and were calculated by Balassa with respect to 1960 for Mexico and to 1967 for Brazil.[94]

Thirdly, there may be substantive economic explanations for the lack of association between effective protection rates and profitability even when both measures are calculated at the firm level. It was noted above that both high positive and high negative values of the ERP implied heavy positive protection. However, a numerically high and positive ERP could be associated with a low rate of return in cases where the wage bill constitutes a large proportion of domestic value added. Transfer pricing by TNC affiliates in the two countries is also likely to have affected Connor's results, but in what manner is not clear. Where there is a zero or low ad valorem tariff on intermediate goods purchased by the foreign affiliate from the parent company, combined with controls over profit remittances to the home country, then there is a strong incentive for the subsidy to overinvoice imported components in order to reduce host country tax incidence and to repatriate funds. However, one cannot say a priori what effect such pricing arrangements will have on calculations of the effective protection rate. This depends on the relative importance of these imported inputs in average total costs, as well as on the extent of the difference between the domestic and world price of the final good, which in turn depends inter alia on which exchange rate is employed for currency conversion. The more significant are components imported from the parent company in the affiliate's unit costs and the smaller the absolute difference between the domestic and world price of the final product, the greater will be the tendency for overinvoicing to reduce the effective rate of protection and even make it negative. In the converse situation of high tariffs being levied on components imported from the parent firm leading to underinvoicing, the argument is reversed. In any case, until more disaggregated information is available, the role of protection as a long-run determinant of direct foreign investment in the Latin American food industry must remain unresolved.

Home-country government policies appear to be of even less significance than those of host governments in explaining direct foreign investment in the region's manufacturing sector. In the case of the U.S., it is difficult to talk of "a" or "the" government's policy toward direct foreign investment in Latin America. Rather, there exists a large body of disparate legislation which has accumulated over a long period of time, occasionally giving rise to the creation of specialised federal agencies, which may affect firms' decisions to invest overseas. This list includes the Webb-Pomerene Act of 1919, which exempts from anti-trust legislation "an association entered into for the sole purpose of engaging in export trade";[95] the deferment of tax payments on corporate income earned abroad until this income is remitted back to the U.S.; the provision of loans and insurance cover against expropriation of foreign assets to U.S.-based TNCs by the Overseas Private Investment Corporation (OPIC); and Public Law 480. It is this last item which has attracted the most attention as a potential inducement for U.S. food processing companies to invest overseas to serve local markets. The first three titles of the law were passed by Congress in 1954, with a fourth title added in 1961 permitting the purchase of grain on concessionary terms by developing nations with U.S. dollars as well as with local currency.[96] The objective of PL 480 was to dispose of the accumulating surpluses of U.S. foodgrains in such a manner as to alleviate hunger among the poor in developing countries. Without attempting a full-scale evaluation of this component of U.S. foreign aid in the post-war period, it may be argued that PL 480 induced United States direct foreign investment in the food industry through at least two mechanisms.

Firstly, the availability of subsidised foodgrains to the developing countries induced foreign consumers to substitute products embodying these cheap cereals for products elaborated on the basis of agricultural inputs which had become relatively more expensive. This substitution effect was important because by the early 1970's, by which time the terms of PL 480 had "hardened" and global grain scarcities were evident, these changes in consumer tastes were already well established and to a great extent irreversible.[97] Furthermore, access to PL 480 grain supplies may have induced foreign food processors to substitute imported cereals for locally produced grain as material inputs.

Secondly, there was a financial effect, since under a provision added to Title 1, local currency funds generated by the sale of PL 480 foodstuffs in developing countries were made available to U.S. corporations operating abroad at very low interest rates.[98] Several of the largest U.S. grain processing firms took advantage of these Cooley Loans when they established plants in Latin America. In 1958, Ralston Purina constructed a feed mill in Colombia drawing on Cooley funds, and it received similar loans amounting to more than $2 million for food industry investments in Mexico, Peru and Chile in subsequent years.[99] In Colombia, CPC International was a beneficiary of Cooley Loans in 1959 and 1964.[100] However, the financial impact of PL 480 on U.S. companies' investment decisions should not be exaggerated. Financial considerations were

generally of secondary importance compared to other factors such as size of market, while between 1954 and 1969 the cumulative value of Cooley Loans amounted to only 5.6% of total local-currency funds generated over the period.[101]

Overall, two conclusions may be risked with respect to the role of PL 480 as a determinant of United States direct foreign investment in the food industry. Firstly, the substitution effect among overseas consumers and food processors (both U.S. and local) was more important than the financial effect among overseas U.S. producers. Secondly, the substitution effect is likely to have been weaker in Latin America relative to other developing areas (particularly Asia) because of the region's longer historical exposure to North American consumption patterns.[102]

By this stage of the argument, I have attempted to establish why U.S. companies sought out overseas markets, why they preferred to service such markets through direct foreign investment rather than through exports, and what the relative significance of home- and host-government policies have been as determinants of such investment. There remains the question of why the companies do not supply overseas markets through licensing foreign producers rather than by undertaking direct foreign investment themselves.

This aspect of the international transfer of technology has attracted much academic attention recently, and several interesting theoretical contributions have been made.[103] However, in this paper, there is only space for the briefest and most general of comments on this topic, not least because the secondary literature on licensing in the Latin American food industry is scarce.

Firstly, it is important to distinguish licensing arrangements the basis for which concerns the use of an exclusive process or material input in production, e.g., bottling Coca Cola, from those which merely constitute permission to sell a relatively simple manufactured product under a particular brand name. In practice, this distinction may be more of a continuum than a dichotomy, but at the extremes there may be a significant difference in the content of what is being licensed, and therefore, in the nature of the transaction between licensor and licensee.

Secondly, and in addition to the more abstract reasons for market failure which explain TNCs' preference for direct foreign investment over licensing, a foreign company's willingness to license will depend on the extent and forms of competition in particular industries, which includes the identity of potential licensees. Thus, a TNC may not wish to license a local producer because of the absence of any national firm with adequate production and/or marketing skills (implying that potential competition from local firms is weak), while conversely, it may reject a licensing arrangement because of concern that the licensee may quickly develop a rival product (implying that potential competition from local firms is strong). The phenomenon of cross-licensing amongst TNCs themselves may be due to the absence of locally owned firms with the required skills, but it

also derives from the permanently unstable balance of competition and collusion at a world level that characterizes relations amongst the global corporations.[104]

Thirdly, a TNC may be unwilling to license another producer because such arrangements are seen as a sign of corporate weakness. Where rapid growth in a market is a TNC's objective, then licensing simply may not be an alternative to direct foreign investment. Thus, in one U.S. company, a rate of market penetration for a given product in a company from zero to 50% in a single year was considered, no doubt on the basis of experience, as a feasible goal. It was suggested that the managers of locally owned firms rarely if ever contemplated growth rates of this magnitude.[105]

This concludes the review of the determinants of investment and divestment by TNCs in the Latin American food industry. The analysis, which covered a good deal of ground, was guided by the questions set out on page 15, the answers to which are required in order to provide a necessary and sufficient explanation of direct foreign investment.

Diagram 2 has been drawn up in an attempt to pull the argument together, and it may serve as the conclusion to this section of the paper. Employing a terminology already defined and discussed in the text, the diagram indicates that most direct foreign investment in the Latin American food industry can be explained as a result of some combination of firm-specific and nation-specific comparative advantage. In the case of TNC affiliates established to supply export markets (Cells [1] and [2]), national comparative advantage in particular products is crucial, while the importance of firm-specific comparative advantage--based primarily on market skills (e.g., expertise at differentiating products) and market power (e.g., superior access to information, control over items of economic infrastructure such as transportation networks and storage facilities)--varies considerably both within and between the traditional and modern industries in the export sector.

With regard to direct foreign investment in food industries serving domestic markets (Cells [3] and [4]) it is firm-specific factors which are of primary importance. Some companies such as Nestlé are less foot-loose within host countries than others due to their dependence on supplies of a highly perishable agricultural commodity: fresh milk. The presence of TNC affiliates in Cell (4), is often due to a host nation's comparative disadvantage in the production of wheat. Generally, it may be expected that volitional divestment by TNCs will be more common in Cells (2) and (4) than in (1) and (3), because of the greater weakness of firm-specific comparative advantage in those sectors. Indeed, both the examples in Cell (4) are joint ventures.

DIAGRAM 2

Firm-Specific and Location-Specific Factors as Determinants of Direct Foreign Investment

FIRM-SPECIFIC COMPARATIVE ADVANTAGE

NATIONAL COMPARATIVE ADVANTAGE	STRONG	WEAK
STRONG	(1) Griffin and Brand (frozen strawberries, Mexico) Del Monte (tinned asparagus, Mexico) Cargill, Bunge and Born (soy meal and oil, Brazil)	(2) Gulf and Western (sugar, Dominican Republic) United Brands (bananas, Central America
WEAK	(3) Nestlé (milk products)[a/] Coca Cola (soft drinks) CPC International (branded goods) Standard Brands (branded goods)	(4) Seaboard Allied Milling (flour mill, Ecuador) Campbell Taggart (bakery, Brazil)

NOTES: [a/] Location of plant within a country determined by locational factors, e.g., comparative costs and transportation costs.

SOURCE: Based on N. Lundgren, comment on paper by J.H. Dunning in Ohlin, Kesselborn, and Wijkman (eds.), The International Allocation of Economic Activity (London: Macmillan, 1977), p. 425; CDE Stock Ownership Directory, No. 2: Agribusiness, 1979; text of paper.

Conclusion

Given the scope of subject matter covered in the paper, it may be useful to summarise the main points prior to indicating their implications for further analysis and for policy.

In reviewing the Commerce Department's data, it was found that the Latin American share of United States direct foreign investment in the food industry has declined over a period (1966-78) when the nominal rate of return on this investment has consistently risen. Furthermore, the stability of profit rates in the region's food industry was greater than anywhere else outside the U.S., and its relative profitability also increased with respect to Canada and Europe after 1974.

Within Latin America, the rate of return on United States direct foreign investment in the food industry was generally higher than for the manufacturing sector as a whole, but it was less than the average profit rate on aggregate United States direct foreign investment.[106] By 1978, Brazil, Mexico and Venezuela were the main host countries to United States foreign investment in the region's food industry, while the relative importance of Argentina and Peru had diminished over the course of the previous decade. The mean rate of return on United States direct foreign investment in the food industry between 1973 and 1978 explained more than three-quarters of the variation in the nominal value of the stock of United States direct foreign investment in the industry among four countries and one subregion over this period. However, the instability of profit rates had no significant effect on investment.

In the second part of the paper, it was suggested that any theory of direct foreign investment must find answers to certain key questions and that answers to these questions could be sought at five different levels of analysis. The presence of TNC affiliates in the processed food export sector could be explained by a combination of firm-specific (e.g., initial control of infrastructure, security of supply to parent company and superior access to export markets) and nation-specific (e.g., comparative costs and locational advantage) factors. Certain recent trends in the traditional export subsector were identified and explained, of which the most important was the divestment of land and its replacement by production contracting as a procurement strategy by those TNCs still maintaining an equity presence in this subsector. In the modern processed food export subsector, the phenomenon of intra-year comparative advantage was observed owing to different seasonal patterns of fruit and vegetable production in Mexico and the U.S.

With regard to the presence of TNC affiliates in food processing industries supplying domestic markets in Latin America, it was suggested that the product cycle model did not offer a wholly adequate explanation. However, historical developments in the American economy and food industry were certainly crucial "push" factors in inducing U.S. food firms to invest abroad. The relatively slow growth of demand in the U.S. for foodstuffs in the post-war period, coupled with the

ever-present threat of anti-trust actions if large food firms sought to merge, led the biggest U.S. companies to diversify their interests domestically, thus adding to their range of general marketing and production skills, as well as to look abroad for more dynamic markets. Indeed, diversification at home and investment overseas became increasingly interlinked for U.S. TNCs. Companies which they acquired in the U.S. often had foreign assets, while recent evidence has shown that ownership of overseas production facilities raises the profitability of U.S. TNCs' domestic investments above the level of their non-TNC competitors in the home economy.[107]

As Horst has argued, the single most important source of oligopolistic advantage enjoyed by U.S. TNCs relative to potential local competitors in foreign markets (i.e., firm- and industry-specific comparative advantage) is the possession of a wide range of general marketing skills, and particularly the knowledge, experience and confidence that heavy advertising expenditures generate high rates of return. It was further suggested that such marketing skills may be much less easily eroded than an advantage based on a patented process or product innovation. However, U.S. TNCs' advantage in the area of marketing may be further buttressed by barriers to entry in the shape of large minimum efficient plant size (particularly in the production of intermediate food products) and economies of forward vertical integration.

The appearance of persistent food surpluses in the U.S. after 1950 and their disposal abroad through the instrument of PL 480 may have prompted some direct foreign investment, particularly in cereal milling. Host-country fiscal incentives to U.S. food companies, in contrast, appear to be of limited significance as determinants of direct foreign investment.

What are the implications of the analysis for further research and for policy? I conclude the paper by outlining four policy areas in which I hope to pursue the research further:

1) Industrial policy: the presence of TNCs in the food processing sector has had a major impact on the market structure of individual industries. However, is this presence generally beneficial through increasing levels of competition, either with locally owned firms or between different TNC affiliates, or has it led to the increasing oligopolisation and denationalisation of local industry to the detriment of consumers and host governments alike?[108]

2) Nutritional policy: evidence is accumulating that direct foreign investment by TNCs in Latin America is growing most rapidly in the branded food sector where value added per unit of output is high and nutritional content is low, e.g., soft drinks and convenience foods. Does this process provide grounds for concern? If so, how might the TNCs' acknowledged marketing skills be harnessed to promote products of greater nutritional value? In particular, should the TNCs themselves be encouraged to produce directly protein-rich foods aimed at

low-income consumers, or should the companies' managerial and financial resources be tapped indirectly to build up a locally owned capacity to manufacture such products?

3) Trade policy: in the context of a world economy characterised by volatile price changes, the energy crisis and an increased dependence on the U.S. as a source of imported food grains, many Latin American governments are giving increased priority to self-sufficiency as a food policy objective. However, what does "self-sufficiency" mean for different countries, and what contribution, if any, can TNCs make to achieving it?

4) Rural development policy: the establishment by TNCs of food processing plants in selected rural areas has incorporated groups of agricultural producers into new contractual relationships. The spread of production contracting in the region is profoundly changing the decision-making environment of farmers. To what extent are managerial decisions being transferred from grower to processor, and what are the costs and benefits of this change in relations between industry and agriculture in Latin America?

APPENDIX

Definition of Terms

This paper follows United Nations usage in referring to companies which control assets in two or more countries as transnational corporations. The advantage of this definition is that it includes companies operating in all economic sectors (i.e., including finance and services) while it correctly implies that these are firms which operate from their home bases across national borders.[109] Such companies are not necessarily owned or controlled by nationals of more than one country, and it is useful to reserve the term multinational corporation (MNC) or multinational enterprise (MNE) for organizations that are so owned and controlled.[110] However, the United Nations definition has some potential drawbacks. Firstly, by according transnational status to companies which control assets in more than one country, many relatively small firms are included which are excluded by more restrictive definitions which require a TNC to have a presence in a minimum number of nation states other than its home country.[111] Whether the breadth of the U.N. definition constitutes a drawback depends on the purpose at hand. In this case, it would present problems only if companies having subsidiaries in many foreign countries including affiliates in the Latin American food industry displayed investment and divestment behaviour substantially different from companies controlling foreign subsidiaries in a much smaller number of countries, including affiliates in the Latin American food industry. There is little evidence for the existence of such differences from the secondary literature available.

Secondly, such a broad definition includes sales agencies and distribution outlets owned by foreign companies, mere possession of which is sometimes felt to be insufficient to accord a firm transnational status. This is unfortunate because the difference between owning and controlling production facilities abroad and possessing a foreign distribution network is a significant one.

Thirdly, there is the problem common to virtually all attempts to define TNCs, which concerns the meaning of control. The crucial difference between portfolio investment and direct foreign investment is that only in the latter case does the investor exercise operating control of the firm. However, what proportion of the voting of stock of firm A must be held by firm B in order for B to exercise operating control? There is no single correct answer to this question. Nevertheless, in order to establish the extent of a country's direct foreign investment position, specific criteria have to be used in order to distinguish between portfolio investment and DFI. Thus, the U.S. Department of Commerce defines a direct investment ownership interest as occurring when:

> a single U.S. person, or an associated group of U.S. persons jointly, holds at least 10% of the voting stock of an incorporated foreign business enterprise (or an analogous interest in an unincorporated business enterprise), and such ownership interest reflects a direct investment position of at least $50,000.[112]

However, in the instructions to U.S. reporters at the time of the 1966 benchmark survey, the Department referred to foreign affiliates where 25% or more of the voting securities were held by the U.S. reporter as "controlled organizations," but this term was replaced by that of "allied affiliate" when the Final Data were published in 1976.[113]

Therefore the U.S. direct investment position abroad measures the value of U.S. reporters' net claims on the assets of their foreign affiliates, i.e., net equity plus net loan capital.

The relation between an increase in USDFI brought about by a foreign affiliate reinvesting part of current earnings and the net capital outflows shown in the U.S. balance of payments should also be indicated, not least because many textbooks imply that all direct investment abroad necessarily implies an international capital flow.[114] In the case of unincorporated affiliates, reinvested earnings are included as an income receipt on current account (+) and also as a component of net capital outflow (-) on capital account. However, until June 1978 for incorporated affiliates, the flow of reinvested earnings appeared neither as an income receipt nor as part of net capital outflows in the balance of payments.[115] However, since June 1978, the reinvested earnings of incorporated affiliates have been treated in the same way as those of unincorporated affiliates in the balance of payments, although due to the method of data collection, these flows from the two types of affiliates are listed separately.

The meaning of divestment should also be clarified. It is useful to distinguish between three situations:

1) Non-investment: This simply refers to the decision not to invest in a specific project after an appraisal has been made. One of the few authors to analyze this decision process is Aharoni.[116]

2) Disinvestment: This implies that annual gross investment by a TNC affiliate is less than annual "real" depreciation, i.e., physical wear and tear of equipment and imputed obsolescence, so that net investment is negative.

3) Divestment: Three types of divestment are discussed in the paper:

   i) Plant divestment: This implies a reduction (by the parent company) in its degree of ownership of an affiliate's assets in a processing plant. Such transfers in asset ownership vary in regard to the degree of volition with which the TNC undertakes the divestment.

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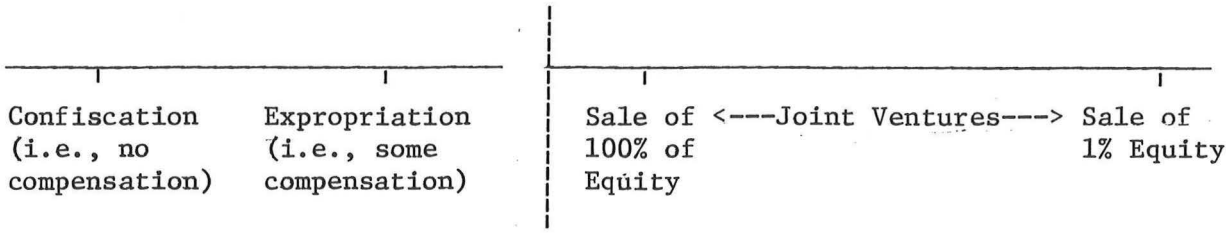

In the diagram above, the extreme form of involuntary divestment is taken to be the confiscation of an affiliate's assets by the host government implying that no compensation is paid. This is followed on the scale by expropriation, which also implies involuntary divestment, but where some compensation is paid. To the right of the vertical dotted line the balance between volitional and non-volitional divestment is more complex.

Thus, a TNC may transform an existing wholly owned affiliate into a joint venture for one of several reasons:

a) The host government requires that by some future date the maximum equity stake of TNCs in their affiliates in particular economic sectors shall be X%, where X can equal zero.

b) The host government indicates that <u>if</u> a TNC reduces its equity stake in its local affiliates <u>to</u> X% by a certain date, then it will enjoy certain benefits not available to wholly foreign-owned subsidiaries.

c) The parent company decides to reduce its equity stake in an affiliate for its own internal reasons without host-government pressure or incentives to do so.

ii) <u>Land divestment</u>: This refers to the sale, expropriation, or confiscation of agricultural land owned by a TNC. It differs from plant divestment insofar as only the ownership of a <u>single specific asset</u> is affected rather than the complex of assets represented by a functioning subsidiary; e.g., land, fixed capital, stocks, and consumer "good will."

iii) <u>Product divestment</u>: This refers to a company's decision to discontinue production of a given commodity at one or more of its plants. It does not imply any change in asset ownership.

By the food industry, I refer primarily to the <u>food processing industries</u>. In the broadest sense, these industries include all the forms of material transformation which a set of agricultural products (including livestock and fish) undergo between harvesting (or delivery to the slaughterhouse, or netting) and emergence as either a final edible good, or an intermediate product purchased by a manufacturer of non-edible goods, e.g., corn starch sold to the paper

industry. However, for present purposes, any processing activities in the wholesale and retail segments of the food chain, which are in any way primarily concerned with the distribution rather than with the material transformation of products, are excluded, as are commercial establishments which prepare and serve food directly to the public, e.g., restaurants.

Fibres and timber processing are excluded, along with agricultural production itself, except for certain cases where TNCs own and control agroindustrial complexes which vertically integrate field and factory operations. There is also no specific discussion of tobacco, and little mention of fish processing in the paper.

Although several difficulties arise in attempting to relate this definition of food processing to the different forms of industrial classification, it approximates the United States Standard Industrial Classification (USSIC), Code 20 - Food and Kindred Products (Numerical List of Manufactured Products) (1978).[117]

Analysis in the paper is undertaken both at this aggregate level and at a more disaggregated level. For the latter, I have followed the U.N. report's tripartite distinction between export products, staple goods for local consumption and branded goods for local consumption. These three subsectors are discussed in more detail in the text.

Finally, the extent to which the largest U.S. food processing firms are "transnational" is still a matter of debate. Thus in a recent OECD report it is stated that:

> The existence of enterprises like Unilever and Nestle should not be allowed to distort the picture, for not all the big food firms have "gone multinational," although they are tending to follow this trend. The majority of those that have are American and not European.[118]

The report then reproduces a table from the AGRODATA index compiled by J. L. Rastoin, et al., at the Institut Agronomique Mediterraneen in Montpellier. This table, based on 1974 data, indicates that of the world's 100 largest food processing firms (excluding the Soviet Union, the Peoples' Republic of China, and the Eastern Bloc countries), there are four American companies with no production facilities outside the United States (Amstar Corporation, Norton Simon, Campbell Taggart and Hershey Foods Corp). However, the Stock Ownership Directory No. 2 Agribusiness, published by Corporate Data Exchange, Inc. of New York containing information for 1976, lists the value of foreign assets and identifies overseas product lines for three of these four companies, the exception being Amstar Corporation, which only produces refined sugar and high fructose corn syrup exclusively in the U.S.

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Although it is possible that the three companies concerned acquired their foreign assets between 1974 and 1976, it is more likely that both the AGRODATA index and the OECD report have underestimated the degree of "transnationality" among the largest U.S. food processing firms. Perhaps the only economic organizations in the U.S. involved in domestic food processing, the growth of which has not led, and is unlikely to lead, to their "going transnational" are farmer-owned agricultural marketing cooperatives, some of which are active in canning, pasteurizing, concentrating, churning, cheesemaking, drying, extracting and freezing.[119]

REFERENCES

[1]This estimate is based on information from the United Nations Statistical Office on Industry (3 digit International Standard Industrial Classification group). See United Nations Centre on Transnational Corporations, Transnational Corporations in Food and Beverage Processing (United Nations document ST/CTC/19, 1980), Annex, Table A-1, p. 182.

[2]Major studies of TNCs in the Latin American food industry either recently completed or in the process of completion include the project directed by Gonzalo Arroyo at the Centre de Recherche sur l'Amerique Latine et le Tiers Monde (CETRAL) in Paris, a study undertaken by Raul Trajtenberg and Raul Vigorito at the Instituto Latinoamericano de Estudios Transnacionales in Mexico City, and research conducted by Roger Burbach and Pat Flynn to be published by NACLA and Monthly Review Press later this year under the title Agribusiness in Latin America. The recent report by the United Nations Centre on Transnational Corporations on TNCs and the food processing industries of developing countries (cited in Footnote 1) also contains valuable information on Latin America.

[3]I.M.D. Little, T. Scitovsky, and M.F. Scott, Industry and Trade in Some Developing Countries: A Comparative Study (London: Oxford University Press, 1970).

[4]The valuation of the stock of USDFI as shown in Table 1 gives rise to many accounting problems which cannot be discussed here. However, it should be noted that the annual U.S. direct investment position abroad is calculated in current U.S. dollars and the Department of Commerce has no set of asset price indices for deflating these figures.

[5]By way of comparison, the food industry made up 28% of U.K. foreign manufacturing investment in 1971. S. Lall and P. Streeten, Foreign Investment, Transnationals and Developing Countries (London: Macmillan, 1977), p. 9.

[6]Regressing the Latin American share of USDFI in the food industry on time gave the following results:

$$F = +19.81 - 0.39t \qquad R^2 = 0.73$$

where F = Latin America's share of USDFI in the food industry
t = year of period (1.....13)

[7]Calculations of the profitability of direct foreign investment are subject to a wide range of methodological problems, such as the use of transfer pricing whereby resources are moved between an affiliate and the parent company in such a way as to minimize global tax incidence and/or to evade foreign exchange control in host countries. The definition of rate of return used in this section of the paper is annual income (=adjusted earnings) expressed as a percentage of the end year direct investment position abroad

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(DIPA) (=net equity and net loans). Certain figures in Tables 2 and 3 may differ from the Commerce Department's calculations of rates of return which are based on the average of the beginning- and end-of-year direct investment positions, which is statistically preferable to the end year figure as a denominator. Income excludes payments of fees and royalties by Latin American affiliates of U.S.-based TNCs to their parent companies, which are included in the concept of "broad profits" used by some authors (J.M. Connor and W.F. Mueller, Market Power and Profitability of Multinational Corporations in Brazil and Mexico. Report to the Subcommittee on Foreign Economic Policy, Senate Foreign Relations Committee, U.S. Congress, April 1977). For further details on the methodology employed by the Commerce Department with regard to U.S. direct foreign investment and associated international transactions, see U.S. Department of Commerce, U.S. Direct Investment Abroad - 1966 - Final Data and C.L. Bach, "U.S. International Transactions, First Quarter, 1978," Survey of Current Business, pt. II (June 1978), 6-15.

[8]R.C. Caves, "International Corporations: The Industrial Economics of Foreign Investment," Economica, 38 (1971), 1-27.

[9]Regressing the rate of return on USDFI in the food industry by region on time produced the following results:

Canada: ROR = +8.56 + 0.19t R^2 = 0.28
(N.B.: Missing data for the ROR in 1974-75 were calculated as follows: The figure for 1974 was the average for 1972-73, and the figure for 1975 was the average for 1973-74.)
Europe: ROR = +13.47 - 0.07t R^2 = 0.02
Asia and Pacific: ROR = +18.74 - 0.44t R^2 = 0.12
Latin America: ROR = +5.66 + 0.95t R^2 = 0.91
where ROR = rate of return on USDFI in the food industry
t= year of period (1.....13)

[10]Most USDFI in the food industry is located in Canada and Europe. In Africa and the Middle East, where the value of the direct investment position abroad is very small, rounding the figures to the nearest U.S.$1 million may have exaggerated the nominal rate of return.

[11]The rate of return (i.e., earnings as a percentage of net assets) on United Kingdom direct foreign investment in the food, drinks, and tobacco industry was also higher in Latin America in 1974 than anywhere else, i.e., 19.7%. Organisation for Economic Cooperation and Development, Directorate for Science, Technology and Industry, Ad Hoc Policy Group of Multinational Enterprises, Impact of Multinational Enterprises on National Scientific and Technical Capacities: Food Industry (Paris: OECD, 1979), p. 294.

[12]It should be noted that the region's share of USDFI in the food industry did increase in the last three years of the period (1976-78).

[13]A brief comment is required on the relationship between the value of the coefficient of determination (R^2) and the value of the instability index. While the former must take on a value between zero and unity, the value of the latter may range from zero to infinity. Although an inverse relationship between the two measures may seem intuitively plausible when comparing different data sets with two variables and the same number of observations, there is no such necessary relationship between them.

[14]Two regression equations were estimated in an attempt to explain the growth of USDFI in the food industry in the four regions for which the relevant data are available.

$$(1)\ A = b_o + b_1 ROR + b_2 INS$$
$$(2)\ P = c_o + c_1 ROR + c_2 INS$$

Where,

A = Absolute change in the nominal value of USDFI in each region's food industry between 1966 and 1978.

P = Absolute change in the nominal value of USDFI in each region's food industry between 1966 and 1978 expressed as a percentage of the nominal value in 1966.

ROR = Mean rate of return on USDFI in each region's food industry, 1966-78.

INS = Value of the instability index for the rate of return on USDFI in each region's food industry, 1966-78.

In neither equation were either of the independent variables significant at a confidence level of 0.90.

[15]R.O. Jenkins, Dependent Industrialisation in Latin America: The Automotive Industry in Argentina, Chile, and Mexico (New York: Praeger, 1977), p. 177.

[16]The following figures are illustrative:

Average Annual Growth Rates (%) of Private Consumption

	1960-1970	1970-1977
Brazil	5.4	9.1
Mexico	6.7	4.5
Argentina	4.1	2.9
Venezuela	4.9	7.6[a]

Note: [a]1970-1976

SOURCE: World Bank, World Development Indicators (1979), p. 17.

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[17]This fell from 4.2% between 1960-70 to 2.9% between 1970-77. World Bank, World Development Indicators, p. 13.

[18]The major items of legislation affecting foreign investors in Mexico during the 1970's included a law relating to the transfer of technology and the use of patents and trade marks (1972), a law for the promotion of national investment and the control of foreign investment (1973), and a further law concerned with licensing (1976). For more details, see R. Montavon, L'implantation de deux entreprises multinationales au Mexique (Paris: Presses Universitaires de France, 1979), pp. 24-29.

[19]See next page for Footnote 19 and accompanying table.

[20]Missing values for the industry's rate of return in Argentina (1969-1972) and Brazil (1969-1972) prevented the calculation of the instability indices over the whole period 1966-78.

[21]The regression results were as follows:

(1) $B = -57.59 + 7.98ROR$ $\quad R^2 = 0.76$
$\quad\quad\quad\quad\quad\quad\quad\quad (2.57) \quad\quad$ F ratio = 9.65

(2) $C = -106.34 + 12.37ROR$ $\quad R^2 = 0.85$
$\quad\quad\quad\quad\quad\quad\quad\quad (3.01) \quad\quad$ F-ratio = 16.85

Where,

B = Absolute change in nominal value of USDFI in the food industry between 1973 and 1978.

C = Absolute change in nominal value of USDFI in the food industry between 1973 and 1978 expressed as a percentage of the nominal value in 1973.

ROR = Mean rate of return on USDFI in the food industry 1973-78.

The figures in parentheses under the regression coefficients are the standard errors.

When the instability index (INS) was added to equation (1) as a second independent variable, and both independent variables were forced into the regression, the value of R^2 increased infinitesimally. The coefficient on INS was positive but insignificant, and the standard error of ROR increased. The same procedure was carried out on equation (2) with the same results.

[19] The following table is of interest; it shows the average market shares in 1966 and 1972 of US TNCs' affiliates operating in specific food industries in Brazil and Mexico in 1972:

Industry	Brazil				Mexico			
	No. of 5-digit Products in 1972	Average Market Shares (5-digit SIC Products) in % 1966	1972	Change (%)	No. of 5-digit Products in 1972	Average Market Shares (5-digit SIC Products) in % 1966	1972	Change (%)
Grain Products (204)	3	43	51	+8	12	12	20	+8
Beverages (208)	6	22	36	+14	4	7	13	+6
Other Food	11	34	32	-2	46	17	25	+7

SOURCE: J.M. Connor, The Market Power of Multinationals: A Quantitative Analysis of U.S. Corporations in Brazil and Mexico (New York: Praeger, 1977), p. 96.

This table includes all products being sold by firms active in 1972, including those which initiated production between 1966 and 1972. Therefore, the increases in average market shares shown above could have come about through any one of three channels.

i) A TNC affiliate producing a given product in 1966 increased its market share of that product by 1972. In a related table, Connor shows this not generally to have been the case, because the market shares of TNC subsidiaries which produced a given commodity in both 1966 and 1972 generally dropped or remained constant between these two dates.

ii) TNC affiliates not in existence in 1966 entered particular product markets by 1972.

iii) TNC subsidiaries in existence in 1966 diversified into new product lines by 1972.

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[22]This may be seen from the following table:

	(1) No. of Years When $ROR_{Food} > ROR_{Manufacturing}$	(2) Total No. of Years Observed, 1966-78	(3) [(1) ÷ (2)]%
Argentina	5	8	62
Brazil	7	9	78
Mexico	9	13	69
Venezuela	7	13	54
Central America	3	12	25

SOURCE: Table 6.

[23]See Connor; Lall and Streeten; P.J. Buckley and M. Casson, The Future of the Multinational Enterprise (New York: Holmes and Meier, 1976); J.H. Dunning, "Trade, Location of Economic Activity, and the MNE: A Search for an Eclectic Approach," in Ohlin, Hesselborn, and Wijkman (eds.), The International Allocation of Economic Activity (London: Macmillan, 1977); and N. Hood and S. Young, The Economics of Multinational Enterprise (London: Longman, 1979).

[24]Kojima and Casson have attempted to formulate unified theories of international trade and investment within a neoclassical framework. See Kiyoshi Kojima, Direct Foreign Investment: A Japanese Model of Multinational Business Operations (London: Groom Helm, 1978), and M. Casson, Alternatives to the Multinational Enterprise (New York: Holmes and Meier, 1979). Vernon's work on the product cycle also attempts such a synthesis but less formally and with greater stress on the role of technology. R. Vernon, "International Investment and International Trade in the Product Cycle," Quarterly Journal of Economics, 80 (1966), 190-207; Sovereignty at Bay (England: Penguin Books, 1971); and Storm Over the Multinationals: The Real Issue (London: Macmillan, 1977). The eclectic state of current theorizing on the determinants of direct foreign investment is well set out by J.H. Dunning, "Trade, Location of Economic Activity, and the MNE: A Search for an Eclectic Approach," in Ohlin, Hesselborn, and Wijkman, eds., The International Allocation of Economic Activity (London: Macmillan, 1977).

[25]Thus, any explanation of the investment program of Jari Forest Products Inc. in the Amazon region of Brazil must start from the personal objectives of the company's owner, Daniel K. Ludwig. A dominant role in corporate decision-making by particular individuals who have both a managerial and a proprietorial stake in the companies they run is also evident in the cases of Lonrho ("Tiny" Rowland) and Generale Occidentale (Sir James Goldsmith). In fact, Rowland and Ludwig recently established a joint venture to invest in hotels and condominiums in Mexico, and they reportedly have plans for projects in other areas of the world (Wall Street Journal, June 18, 1980).

[26]I am grateful to Arthur Domike of the UNCTC for access to this report.

[27]The subsectors are as follows: meat, dairy products, fisheries, fruit and vegetables, cereals, oils and fats, sugar and related products, alcoholic beverages, and tropical beverages. For further details on the aggregation procedure used in the report, see U.N., Transnational Corporations in Food and Beverage Processing.

[28]To undertake a census of all TNCs with a presence in the food industries of noncommunist countries and to estimate their quantitative importance in terms of output and employment is an extremely ambitious and notoriously difficult task. In the face of such a challenge, the authors of the U.N. report are to be commended for their achievement. They discuss the coverage of their data base in detail and conclude that "it is possible that 10 to 15 additional firms fit the study criteria in 1976, but could not be included for lack of sufficient information" (U.N., Transnational Corporations in Food and Beverage Processing, p. 8). The figures in the report from which Table 9 was derived were consistent, with the exception of minor discrepancies with regard to the total number of TNCs with developing country affiliates in the wheat flour, wine and brandy, and fisheries industries.

There are also certain inconsistencies between the U.N. report and other sources regarding the presence of TNCs in particular food industries in specific Latin American countries. Thus, a chart based on M. Herold's Multinational Enterprise Data Base, which is included in R. Burbach and P. Flynn, Agribusiness in Latin America (New York, Monthly Review/NACLA, forthcoming), identifies an alcohol blending plant owned by National Distillers in Bolivia which is not mentioned in the U.N. report. The presence of smaller sized North American firms in the beef industry in Honduras, such as International Foods, analysed by D. Slutzky, L'agro-industrie de la Viante au Honduras (Paris: Serie Transnationales et Agriculture, Cahier de Recherche No. 5, CETRAL, 1979), also seems to have been omitted by the U.N. publication, while Puerto Rico was apparently excluded as a host developing country.

[29]U.N., Transnational Corporations in Food and Beverage Processing, p. 146.

[30]The industries in the traditional processed food export subsector discussed in the paper are those in which U.S. TNCs still retain a contemporary presence. The entry of U.S. meatpackers into Argentina in the early years of the 20th century, which was one of the earliest examples of U.S. corporate expansion abroad in the food sector, is not discussed because the firms involved had exited from the Argentine industry in 1950 (Swift) and 1958 (Armour). See T. Horst, At Home Abroad (Cambridge, Mass.: Ballinger, 1974), p. 125.

[31]M.A. Seligson, "Agrarian Policies in Dependent Societies: Costa Rica," Journal of Inter-American Studies and World Affairs, 19:2 (May 1977), 218-219.

REFERENCES

[32]P. Klarén, Modernization, Dislocation, and Aprismo (Austin: University of Texas Press, 1973), p. 9.

[33]R. Goldberg and R.C. McGinity, Agribusiness Management for Developing Countries: Southeast Asian Corn System (Cambridge, Mass.: Ballinger, 1979), p. 490.

[34]E. W. Burgess and F. H. Harbison, Casa Grace in Peru (Washington, D.C.: U.S. National Planning Association, 1954), p. 29.

[35]C.D. Scott, Technology, Employment and Income Distribution in the Sugar Industry of the Dominican Republic, Report to International Labour Office (PREALC), Regional Employment for Latin America and the Caribbean, March 1978, pp. 17-20.

[36]Goldberg and McGinity, pp. 448-489.

[37]Scott, p. 37.

[38]Goldberg and McGinity, pp. 493, 495, 537. In 1979, Booker McConnell established a joint venture with the Rockefeller family to undertake a wide range of agribusiness activities in developing countries. The new company was formed by merging the International Basic Economy Corporation (IBEC)--in which the Rockefellers held a controlling interest--with Bookers' agricultural holdings, most of which are located in various African sugar industries. Booker McConnell is the minority partner with a 45 percent stake, with the remainder of the equity held by the Rockefeller group. The company's main line of business is developing breeding chickens and producing hybrid seeds (The Guardian, 11 December 1979).

[39]This figure is taken from an official company publication, Gulf and Western in the Dominican Republic, Report No. 3, May 1978, p. 56. For a critical review of this document, see H.J. Frundt, Gulf and Western in the Dominican Republic: An Evaluation (New York: Interfaith Center on Corporate Responsibility, 1979).

[40]See the company's document entitled Response to Questions from Adrian Dominican Sisters about Gulf and Western Operations in the Dominican Republic, 21 September 1977.

[41]Moody's Industrial Manual, 1979, p. 521. United Fruit was taken over by the conglomerate AMK Corporation in the late 1960's and was renamed United Brands Co. on June 30, 1970. For further details, see M. Wilkins, The Maturing of Multinational Enterprise: American Business Abroad, 1914-70 (Cambridge, Mass.: Harvard University Press, 1974), pp. 422-423.

[42]The transition from direct investment to production contracting by a TNC may be eased by the intervention of third parties. Thus, in Honduras, the Standard Fruit Co. recently sold an area of land to the government, but wished to retain its supply of bananas. The National Agrarian Institute (INA), a government agency, suggested that the peasants, who had benefited from this redistribution of land, form a production cooperative to supply the company with fruit. However, the INA's staff was inadequate for this purpose, so a training program for cooperative members was established by the International Development Foundation, a U.S. voluntary agency. The company will provide technical assistance to and a market access for the cooperative. (Interview, Nancy Truitt, Fund for Multinational Management Education, New York, 5 March 1980.)

[43]Brazil is the other country in the region to match Mexico in importance with regard to processed food exports from TNC subsidiaries. The country exports several processed foods, not all of which are produced by TNC affiliates, but each item of which contributed more than 2% of total export earnings in the early 1970's, i.e., frozen and canned meat, preserved fruits, animal feeds, tobacco and soy beans and soy oil (Connor, The Market Power of Multinationals, p. 49). For a brief description of TNC activities in Brazilian agricultural production, see P. Perkins, "Multinationals in Brazilian Agricultural Production," unpublished manuscript (Washington, D.C., 1979). A key reference for this section on Mexico is R. Rama and R. Vigorito, Transnacionales en America Latina: El complejo de frutas y legumbres en Mexico. Report of the Instituto Latinoamericano de Estudios Transnacionales (Mexico City: Editorial Nueva Imagen, 1979).

[44]Note also that all TNC affiliates established in the Mexican food industry after July 1970 are required to have at least 52% of the equity held by Mexican nationals.

[45]H.J. Frundt, "American Agribusiness and U.S. Foreign Agricultural Policy" (Ph.D. diss., Rutgers University, 1975), p. 61.

[46]Rama and Vigorito suggest that most of the output of Campbell Soup's tomato paste plant in Mexico is purchased by another of the company's Mexican subsidiaries which manufactures soups and sauces for sale in the domestic market. This was denied by the U.S. parent company's Manager for International Development. (Telephone interview with Eric Johnson, Campbell Soup Company, 2 July 1980.) Rama and Vigorito also mention exports of fruit purees by Mexican affiliates of TNCs to ice-cream manufacturers in the U.S. but do not give any further details. Rama and Vigorito, p. 225.

[47]E. Feder, Strawberry Imperialism: An Enquiry into the Mechanisms of Dependency in Mexican Agriculture (Mexico City: Editorial Campesina, 1978).

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[48]Most frozen strawberries are exported to the U.S. for use in preserves. Feder, p. 19.

[49]U.N., Transnational Corporations in Food and Beverage Processing, p. 25. In barest outline, the product cycle model has the following characteristics, and it should be noted that it was framed specifically to explain the timing of foreign investment by U.S.-based TNCs (mainly in Western Europe), and not for TNCs in general. In the first half of the 20th century, product innovation was most intense in the U.S. owing to the rapid growth of per capita income and labor scarcity. In the first phase of the cycle--the innovative new product stage--U.S. entrepreneurs produce locally to supply the domestic national market. This occurs because the product is as yet unstandardized, technical problems in the manufacturing process are still unresolved, and firms need to monitor consumer responses continuously to obtain immediate feedback for product development.

The second phase of the cycle is the maturing product. As experience in the manufacture of the new product accumulates, the most efficient production methods are identified and the form of the product becomes clearly established. As the domestic market grows, so economies of scale appear in production. When foreign markets appear, they are served first by exports which continue so long as the marginal costs of production in the home country plus transportation costs are less than the unit costs of overseas manufacture. At some point in this phase it will become profitable for U.S. firms to invest abroad, particularly in markets where per capita income levels and demand patterns are similar to those in the U.S., i.e., Western Europe.

The final phase of the cycle is that of the standardized product. At this stage, the commodity is homogeneous and uniform, and competition in the industry is based on price. The location of production increasingly depends on comparative costs and the labor-intensive states of manufacture may be transferred to developing countries. For further details see Vernon, "International Investment and International Trade in the Product Cycle" and Sovereignty at Bay.

[50]The product cycle model also refers primarily to consumer goods. Intermediate inputs to the food processing industry seem particularly ill-suited to being exported to Latin America despite the introduction of refrigeration and air freight. Thus,

> While yeast will keep in excellent condition for many months if properly refrigerated, still the ability to furnish a fresher, more uniform product was in all probability a factor favourable to the establishment of a plant [in 1932?-CDS] near Rio de Janeiro by Standard Brands Inc. Spoilage results from improper refrigeration, and at times refrigeration ocean carriers cannot be relied on. Handling in unloading and delays in clearing through customs may likewise cause deterioration. Even when products themselves are not subject to deterioration, their saleability may be lessened if containers become soiled and shopworn. In importing,

overestimation of demand may create a time interval of many months between production in the United States and final sale to consumers in South America. (D.M. Phelps, Migration of Industry to South America. Reprinted first edition (Westport, Conn.: Greenwood Press, 1969), pp. 79-80.)

A more recent example is to be found in Arbor Acres' decision to produce breeder stock in Venezuela for the local poultry industry in the early 1960's. The import of breeder chicks from the U.S. not only had to face a tariff barrier, mentioned in the text, but the chicks also suffered stress damage as a result of the flight, and any unexpected delays during the journey could lead to the loss of the entire flock. Wayne Broehl, The International Basic Economy Corporation (New York: National Planning Association, 1968), p. 236.

[51]Vernon himself considered that the food processing industry constituted a variant of the product cycle model because ". . . the bulky character of the final product . . . has generally prevented producing firms from testing and developing large foreign markets by way of exports from the United States." Sovereignty at Bay, p. 81.

[52]The sourcing ratio is defined as

$$\left[\frac{\text{Production of Foreign Affiliates}}{\text{Production of Foreign Affiliates} + \text{Parent Company Exports (weighted by sales)}}\right] \%$$

See P.J. Buckley and R.D. Pearce, "Overseas Production and Exporting by the World's Largest Enterprises: A Study in Sourcing Policy," cited in Hood and Young, p. 161.

[53]See Goldberg and McGinity, pp. 217-234; CPC Directory and Fact Book 1979-80; and J. Cook, "Handsome Is as Handsome Does," Forbes, March 3, 1980, pp. 43-48.

[54]Horst, At Home Abroad, p. 109.

[55]This is the central thesis of Horst's book. However, my argument differs from that of Horst in two respects. Firstly, I suggest that there is a greater degree of technical interdependence between production and marketing technology than he allows. Secondly, it is useful to "unpack" these "general marketing skills" (his term) into their different components. Two elements may be distinguished:

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1) the possession of managerial skills in the specific areas of product design, packaging and presentation, distribution, and the use of advertising.

2) the possession of an intangible asset in the form of a trade-mark or brand name, which may have existed unchanged for a long period of time, e.g., Coca Cola, and which may confer on the owner a substantial degree of market power.

Although there exists close interdependence between these two elements, they are important to distinguish because it is the second which seems to constitute the biggest barrier for locally owned firms in Latin America to overcome in competing with TNCs--e.g., there is no serious local challenge to Pepsico and Coca Cola in the Latin American cola market for this reason.

In the early years of a company's growth in its home economy, it is the combination of technical and managerial skills, sometimes aided by a windfall product innovation, which creates the market power of a trade-mark. However, for later generations of managers and in subsequent stages of the company's development, it seems more accurate to describe a trade-mark or brand name as an existing asset which provides a source of oligopoly power for extracting rent.

At this point, one can enter into normative arguments concerning the "appropriateness" of certain food products marketed in developing countries by TNCs, e.g., Nestle's infant feeding formula, and of the companies' marketing technology itself, e.g., their use of advertising. However, these issues fall outside the scope of this paper.

[56]In his 1966 article "International Investment and International Trade in the Product Cycle," Vernon refers consistently to the United States market in the section on the location of new products.

[57]Horst.

[58]Using data on individual companies published annually by Business International, I intend to test statistically the following hypotheses as a next step in the analysis:

i) The rate of return on foreign assets (sales) of U.S. food firms is greater than that on domestic assets (sales).

ii) U.S.-based food firms with a higher proportion of their total assets abroad obtain a higher rate of return on their foreign assets.

iii) Annual changes in the rate of return of U.S. food firms' domestic and overseas assets (sales) are inversely

correlated, which may suggest that direct foreign investment provides a "cushion" against fluctuations in the profitability of home country operations.

[59]Interview, with Charles W. Carleton, Area Vice President --South America, Standard Brands, Inc., 7 May 1980, New York.

[60]On CPRC's decision, see Phelps, pp. 63-64. For further details on Arbor Acres operation in Venezuela, see Broehl, pp. 232-241.

[61]F. T. Knickerbocker, Oligopolistic Reaction and Multinational Enterprise (Cambridge, Mass.: Harvard University Press, 1974).

[62]I am grateful to Manuel Lajo for this information on Carnation and Nestlé in Peru.

[63]Horst, pp. 36-37.

[64]E.M. Graham, "Oligopolistic Imitation and European Direct Investment in the U.S." (Ph.D. diss.: Harvard Business School, 1974).

[65]Jenkins.

[66]The diagram borrows heavily from industrial organization theory, and, in particular, the work of Connor, The Market Power of Multinationals.

[67]This is not to deny the importance of region-specific determinants of direct foreign investment, which may be decisive (as necessary conditions) in specific instances. The catalytic role played by the Inter-American Development Bank in Nestlé's decision to establish a milk processing plant in Nicaragua is discussed by F. Meissner in "Agribusiness Development of Latin America: The Role of the Inter-American Development Bank," mimeo prepared for Seminar on International Agriculture , Cornell University, April 16, 1980.

[68]Size of market is not only a function of the level and distribution of a country's GNP, but also of national specificities in consumer tastes. Thus, gelatin consumption per capita in Panama and Ecuador is twice as high as in the U.S., despite the fact that these two Latin American countries had per capita incomes which only amounted to 14% and 9% respectively of U.S. per capita income in 1977 (interview with Charles W. Carleton, cited in Note 59). Furthermore, the level of monetary demand for processed foodstuffs is also affected by the continuing flow of rural-urban migration. Newly arrived migrants in the towns are compelled to purchase foodstuffs which formerly they may have grown and/or processed themselves.

REFERENCES

[69]C. Iffland and A. Galland, Les Investissements Industriels Suisses au Mexique (Lausanne: Centre de Recherches Europeennes, 1978), p. 74.

[70]Cited in Rama and Vigorito, p. 224.

[71]Connor, pp. 175-202.

[72]The four-firm concentration ratio measures the proportion of total sales in an industry--in this case defined at the 5-digit SIC level--accounted for by the largest four firms in that industry. A weighting procedure was used where a single TNC affiliate produced in more than one industry (Connor, p. 167).

[73]This may be difficult to define because it depends not only on technological factors but also on relative factor prices. See Jenkins, p. 266.

[74]Horst, p. 77; U.N., Transnational Corporations in Food and Beverage Processing, pp. 194-195.

[75]Interview with Mr. Timberlake, Vice-President, International Division, CPC International, Englewood Cliffs, New Jersey, May 8, 1980. Also Montavon, and Corporate Data Exchange, CDE Stock Ownership Directory No. 2: Agribusiness (New York, 1979).

[76]This may be illustrated by the case of wet corn milling in Peru. Universal Starch was the first foreign company to establish a corn starch plant in the country, which allowed them to secure a larger market share than their rival, an affiliate of CPC International which entered Peru at a later date. The CPC subsidiary continues to operate at a competitive disadvantage because of its lower volume of output, which must be translated either into smaller plant size or a lower level of capacity utilization than its competitor. (Interview cited in Footnote 75).

[77]Connor, p. 64.

[78]The development of CPC International's operations in Mexico provides an example of this strategy:

> In Mexico, we started out with a small corn wet milling plant. Then came Maizena. Next we came in with Knorr products. We built another plant and expanded that. We've got a whole line of products there now, and Mexico is on the verge of taking more bouillon cubes than any other country anywhere in the world, more even than Italy. (George E. Hoff, Vice President - Corporate Technical Support, CPC International, quoted in Cook, "Handsome Is as Handsome Does.")

[79]Bilateral monopoly exists when a single producer of an intermediate product sells it to a single producer of a final product.

[80]Interview cited in Footnote 59.

[81]This practice refers to the pricing of transactions within a single TNC which, in the absence of a well-defined external or arms-length price, may be used by the corporation to transfer resources between the parent company and its subsidiaries located in different countries for the purpose of minimizing global tax incidence or evading measures of foreign exchange control.

[82]Montavon, pp. 57-61.

[83]Interview cited in Footnote 59.

[84]Broehl, The International Basic Economy Corporation, p. 240. Emphasis in original.

[85]Confirmation of this statement with regard to the secondary literature may be found in Lall and Streeten, p. 38. See also interviews with Carleton and Timberlake cited in footnotes 59 and 75.

[86]Regional incentives may have played a role in CPC International's decision to build a corn milling plant in the northeast of Brazil (interview cited in footnote 75), while it possibly affected BSN-Gervais Danone's choice of plant location in Mexico (Montavon, p. 62). However, in the latter case, the fact that Huehuetoca was in the zone receiving the highest benefits under the industrial decentralization law seems to have been coincidental. The selection of a local joint-venture partner to supply fresh milk was by far the most important consideration regarding location.

[87]In Brazil, price control applies both to particular products and to firms whose sales are above a certain level.

[88]I am grateful to Rosemary Werrett, editor of Business Latin America, for the information on price control in this paragraph. Interview, New York, May 6, 1980.

[89]As an illustration of this diversity of views, I was informed by the editor of Business Latin America that price control was much less strict in Brazil than in Venezuela, while a day later, the Vice President--South America for Standard Brands told me that Brazil was the only country in Latin America where price control was a problem.

[90]A rather special example of this can be taken from the experience of two protein-rich products produced by TNC affiliates in Colombia. In 1961-62, the Colombian subsidiary of Quaker Oats undertook to manufacture INCAPARINA, a protein-rich pre-cooked flour mixture developed by the Institute of Nutrition of Central

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America and Panama (INCAP), for the domestic market. The product was promoted as a low-cost nutritional beverage for the poor and as such its price was subject to control. However, after a promising start it was withdrawn from the market in 1973 after falling sales. In 1969, the Colombian subsidiary of CPC International began to produce a protein-rich product as a rival to INCAPARINA. However, DURYEA (as the CPC flour mixture was named) was marketed as a weaning food for babies and was exempted from government price controls. DURYEA was still being manufactured in Colombia in 1979-80 according to company sources. R.J. Ledogar, Hungry for Profits (New York: IDOC, 1975), pp. 101-108; CPC Directory and Fact Book, 1979-80, p. 27.

[91]Connor, p. 209. The effective, as opposed to the nominal, rate of protection measures the amount by which actual value added (i.e., wages and gross profits) in a protected industry differs from value added in the same industry when inputs and outputs are valued at free trade prices. This difference, which may be positive or negative, is then expressed as a percentage of value added using world prices. W.M. Corden, The Theory of Protection (Oxford: Clarendon Press, 1971), pp. 35-40.

[92]Profits included payments to the parent company for technology and management services (Connor, p. 158 and appendix F).

[93]Little, Scitovsky, and Scott, pp. 172-174.

[94]B. Balassa, The Structure of Protection in Developing Countries (Baltimore: Johns Hopkins University Press, 1971).

[95]According to one source, ". . . these associations have not been widely used, partly because the Federal Trade Commiss and the courts exclude individually owned and jointly owned f subsidiaries. A Webb association, therefore, cannot follow success with a foreign subsidiary, nor regulate the subsid of members. Since firms view foreign investing as a natur ment of exporting, they may be discouraged from exporting." (C.F. Bergsten, T. Horst, and T.H. Moran, American Multinationa and American Interests [Washington, D.C.: Brookings Institution, 1978], pp. 258-259.) It has also been argued that "the provisions of the Webb-Pomerene Act facilitated the collusion between the two primary American producers of evaporated milk in foreign markets" (Horst, p. 37)--i.e., Pet and Carnation formed the General Milk Co. under the Webb-Pomerene Act to promote export sales of milk products in 1919. The General Milk Co. was disbanded in 1923.

[96]Under Titles I and IV, food is sold for local currency or dollars under long-term loans at concessionary interest rates. Under Title II, food is supplied ". . . on a grant basis to governments, voluntary agencies and the U.N. World Food Programme (WFP). The commodities supplied are used in nutritional programs for vulnerable groups such as mothers, infants, and school children; in 'food for work' programs to build needed infrastructure such as irrigation and drainage facilities, schools and roads; and in disaster relief activities." L.R. Brown, By Bread Alone (New York: Praeger, 1974), pp. 65-66.

[97]Between 1971 and 1974, the annual volume of food sold for local currency under Title I of PL 480 dropped noticeably in comparison with the previous decade (Brown, p. 65).

[98]Initially, such loans were subject to a ceiling of 25% of the local currency funds generated by PL 480 sales in a given country. This ceiling was abolished in 1964. Frundt, "American Agribusiness and U.S. Foreign Agricultural Policy," p. 114.

[99]Ledogar, p. 95.

[100]Ibid., p. 105.

[101]Frundt, "American Agribusiness and U.S. Foreign Agricultural Policy," p. 109.

[102]Isolating the influence of U.S. foreign aid from other factors which may have prompted changes in overseas consumers' tastes is exceedingly difficult. Thus, it has been argued that PL 480 was the major factor precipitating the substitution of wheat for rice products in Japan in the postwar period (Ibid., p. 112). However, is it possible to distinguish the consequences of PL 480 from the impact of the presence of the U.S. army of occupation at this time? Indeed, warfare has been a potent device for the diffusion of new processed foodstuffs both within and between countries. Condensed milk became firmly established as part of the American diet during and immediately following the Civil War, while exports of the product to Europe more than doubled between 1914-1918 (Horst, pp. 14, 36).

[103]J. Katz, Importación de tecnologia, aprendizaje local e industrialización dependiente (Mexico: Fondo de Cultura Económica, 1976); Casson, Alternatives to the Multinational Enterprise.

[104]For examples of cross licensing, see U.N. Transnational Corporations in Food and Beverage Processing, p. 76.

[105]Interview cited in footnote 59.

[106]This last result may be due in no small part to the rapid rise in profits on USDFI in the Venezuelan oil industry after 1973.

[107]Bergsten, Horst, and Moran, pp. 230-248.

[108]Vernon and Knickerbocker argue in favor of the former position for the manufacturing sector in general, while Connor and Jenkins support the "denationalization" thesis. Vernon, Storm over the Multinationals; F.T. Knickerbocker, Market Structure and Market

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Power Consequences of Foreign Direct Investment by Multinational Corporations. Occasional Paper No. 8 (Washington, D.C.: Center for Multinational Studies, 1976); Connor, The Market Power of Multinationals; Jenkins, Dependent Industrialisation in Latin America.

[109]United Nations, Transnational Corporations in World Development: A Re-examination (U.N., 1978).

[110]One of the basic objectives of the Latin American Economic System (SELA) is to create Latin American MNEs which would be enterprises owned and controlled by several participating countries and which would be financed by state, parastate, private, or mixed-capital contributions. For further details, see A. Fuentes Mohr, "The Latin American Multinational Enterprise of Agricultural Cooperation: A Practical Expression among Developing Countries," Nueva Sociedad (special issue, 1977).

[111]Thus, one of the criteria used for including a firm in the Harvard Multinational Enterprise study was the control of manufacturing subsidiaries in six or more foreign countries in 1965 or before.

[112]U.S. Department of Commerce, U.S. Direct Investment Abroad, Final Data, 1966, p. 2.

[113]The 1966 benchmark survey employed a second criterion for defining a direct investment ownership interest which was considered to occur where:

> in the case of publicly held foreign business enterprises, unaffiliated U.S. persons in aggregate hold 50% or more of the voting stock, but no single U.S. person owns as much as 10% of the voting stock; as a further requirement in such cases the board of directors must include U.S. persons. (Ibid., p. 2)

This additional criterion was of significance only in regard to the stock of two large Canadian companies which was publicly traded in the U.S. and was subscribed by many small U.S. investors. However, because these holdings were much closer to portfolio investment than to DFI, this criterion was dropped in the mid-1970's.

[114]R.C. Caves and W. Jones, World Trade and Payments. 2nd ed. (Boston: Little, Brown, and Co., 1977), p. 165.

[115]U.S. Department of Commerce, U.S. Direct Investment Abroad, Final Data, 1966, p. 54. Incorporated affiliates are foreign business organizations in which U.S. reporters have a direct investment ownership interest and which are registered abroad as separate juridical entities having limited liability. Unincorporated affiliates are foreign business organizations in which U.S. reporters have a direct ownership interest but which are not registered abroad as separate juridical entities. They are simply

overseas extensions of the domestic U.S. company. The commonest form of unincorporated affiliate is the branch which may be found in many extractive industries.

[116]A subgroup of his sample of individuals and corporations was termed "almost investors," or those who investigated the possibility of investment in Israel but rejected it. Y. Aharoni, The Foreign Investment Decision Process (Cambridge, Mass.: Harvard Busn., 1966), p. 11.

[117]For a discussion of the problems of defining "processing" in a general way, see D. Wall, Industrial Processing of Natural Resources. Commodity Working Paper No. 4 (Washington, D.C.: World Bank, 1979), while the U.N. compares the listing of food processing activities in different industrial classification systems (U.N., Transnational Corporations in Food and Beverage Processing, technical annex F).

[118]OECD, Impact of Multinational Enterprises on National Scientific and Technical Capacities: Food Industry, p. 255.

[119]U.S. Department of Agriculture, Economics, Statistics, and Cooperatives Service, Cooperatives in Agribusiness. Cooperative Information Report No. 5 (Washington, D.C., 1978), p. 28.

COMMENTARY

[An earlier version of this paper was presented by its author at a colloquium held at the Woodrow Wilson International Center for Scholars on July 17, 1980. The presentation was followed by commentaries from Arthur Domike (United Nations Centre of Transnational Corporations) and Frank Meissner (Inter-American Development Bank). The following summarizes the remarks made by Scott, the commentators, and members of the colloquium audience.]

Christopher Scott explained that his paper is intended to provide a preliminary analysis of the determinants of investment, and to a lesser extent of divestment, in the food industry in Latin America. It examines the relevance of existing theories on direct foreign investment for this specific case. Understanding the determinants of investment is a necessary prerequisite for examining the consequences of foreign investment, which he will do at a later stage.

Scott argued that it is important to understand the dynamics of investment in the food industry in Latin America for three reasons. In the first place, transnational corporations play an important role in certain parts of the world food system. A few large companies completely dominate the global trade of certain products, such as grains. In fact, some international trade may actually be more appropriately considered intra-firm trade. On the national level, affiliates of transnational corporations as a group often control a considerable part of the market for certain branded goods; an example is domination of the cola-drink market by Coca Cola and Pepsi Cola. On a subnational level, investment by transnational corporations in the food industry has had a notable impact on the transformation of land use--for example, the change from subsistence to dairy farming in the northern highlands of Peru. The growth of institutional arrangements such as production contracting has also changed the decision-making process for small farmers.

In the second place, Latin America specifically is of interest because various countries in the region are important agriculturally--including Argentina and Brazil, which are major exporters, and Mexico, which is in an agricultural crisis today even though it was the laboratory for the "Green Revolution."

Thirdly, some Latin American countries have become increasingly concerned about agricultural development. Mexico, for example, has drawn up plans for a national food system (which has not yet gone beyond the level of rhetoric, however).

The single most essential condition for foreign investment, Scott said, is that foreign companies have a marketing position which is superior to that of local producers. The transnational corporations' advantage consists of two major elements: managerial, which includes the design and packaging of products and the use of advertising to change tastes, and the exploitation of a trademark or

brand name. Initially, managerial skills are very important. Over time, however, as a result of these skills, the reputation of the trademark or brand name is established and the latter becomes an asset in and of itself. Although managerial skills and the importance of a brand name are clearly related, Scott argued that the latter now constitutes the main barrier to the entry of local firms in the market. Somewhat paradoxically perhaps, indirect host-government controls such as pricing policies are likely to encourage foreign companies to move toward branded goods and away from staples, which are more likely to be regulated.

In his commentary, Arthur Domike pointed out that there are a number of groups working to de-mystify the role of transnational corporations, but that it will take a long time to do this. The United Nations, the OECD, UNCTAD, and others have begun to look at the food industry specifically. The food processing industry, however, has received very little attention even though it is one of the world's largest. It is growing very rapidly in Latin America, and Domike projected that it will double in that region in the next 15 years as a result of increased population and modest growth in personal income. The highest levels of growth are found in those sectors with the highest value-added: dairy products, meat, and branded goods. Rural areas will become more commercially oriented as a result of the food industry's growth. This growth does not mean, however, that the rural masses will be better off; in fact, experience indicates the contrary.

According to Domike, the Department of Commerce data which Scott used in the first part of his paper have serious limitations, especially in trying to link profit figures with motivations for foreign investment. In the first place, these figures do not include payments for trademarks, technical assistance, etc., which are very important for businesses. These payments can equal as much as 10 percent of sales, and frequently are not taxable in the host country. A second problem results from distortions in the data due to transfer pricing and other types of "creative accounting." Presumably, it is possible to obtain better data, even from the Commerce Department.

Looking at the determinants of foreign investment, Domike noted that although the food processing industry is very diverse, it can be divided into the three categories delineated by Scott (export commodities, staple goods sold locally, and branded goods produced for the domestic market). He also agreed that foreign companies should be understood in terms of the inherent advantages which they enjoy over local firms and which are a prerequisite for foreign investment. Companies will try to reinforce these advantages over time as well as protect their major markets, as United Brands has been criticized for doing. The best starting point for analyzing transnational corporations is to look at the strategic advantages which they have in the industry and in the market. Host countries need to understand these factors, as well as their own advantages, in order to negotiate skillfully with the companies. Transnational corporations are adept

at product differentiation. In fact, according to Domike, it is generally agreed in the business community that food companies are among the best marketing firms. Some occasionally have the additional advantage of a strong trading position--for example, the grain companies, which have built up an oligopoly position in world markets. Domike attributed more importance than Scott did to the influence of PL 480 and similar programs, such as European support of the dairy industry.

Domike noted that Scott lays out a research agenda which includes consideration of industrial, nutritional, trade, and rural-development policies. Much of the work already done on these questions is merely exploratory, and the arguments are often based more on ideology than on experience. But most of the relevant work can be done only at the country level, not the regional level. Economists, Domike suggested, need to "get their hands dirty" and get to know the industries, the bureaucracy, and other sources at a close level.

Frank Meissner's major criticism of Scott's paper, which he thought was excellent overall, centered on its omission of the potential role which multilateral development banks can play in the development of the food industry in Latin America. He argued that they can strengthen the incentives for foreign investment, by reducing the friction between transnational corporations and governments which do not want to associate openly with foreign companies.

The Inter-American Development Bank (IDB) now channels 30-35 percent of its funds to rural development projects, of which agro-industries form an important part. The IDB and the World Bank have a backlog of experience demonstrating how governments' resistance to direct foreign investment can be reduced through joint projects with the banks. Examples include negotiations now taking place for a Nestlé project in Nicaragua and a forestry project in Honduras. In the latter case, the IDB is providing infrastructure financing for the exploitation of Caribbean pine resources which have never been developed because of prohibitively high initial costs. The multilateral development banks, Meissner said, can act as valuable catalysts in industries where Latin American countries need the expertise of transnational corporations. They can also help in the bargaining process between their client countries and the transnational corporations.

Meissner did not think that internal rates of return are very helpful in understanding the determinants of investment; they are one factor, but not the most important. To be operationally useful, he said, one must turn to case studies and focus on the specific microeconomics of each situation. He also noted that, contrary to Scott's assertion, the Grace Co., for which he was working at the time, made its decision to divest in Peru before Velasco came to power.

Questions from the audience ranged over a variety of issues, including the validity of Scott's breakdown of the food industry; the impact of foreign investment; the source of financing for direct foreign investment; the interest in achieving food self-sufficiency; and political factors.

One member of the audience questioned Scott's breakdown of the food industry into three sectors when the industry is so diverse. Although the whole food industry technically falls into the industrial sector, parts of it have the characteristics of primary commodities (such as minerals) while other food products involve much more elaborate processing. Scott responded that this point was well taken, but that it is very difficult to break down the industry in more detail using consistent criteria. He did, however, use finer distinctions when discussing specific cases. One crucial difference between agriculture and mining, though, is the seasonal character of the former. For example, some agricultural products from Mexico enjoy an intra-year comparative advantage until California and Florida products come on stream.

To what extent have food industries stimulated agricultural production and devised new uses for agricultural products? Scott did not have specific information on the effect of agricultural production. In order to know to what degree underutilized potential is tapped when milk is diverted from producing local cheese to a processing plant, for example, would require detailed studies. The best example of new uses for agricultural products comes from the sugar industry: before World War II, a whole new set of subproducts was developed from industrialization of the byproducts of sugar production.

A number of questions concerned the impact of foreign investment in the food industry: What is its effect on employment? What impact does foreign investment have on local nutrition and on land-use policies? What has been its effect on the husbanding of essential lands? (It was pointed out that in Mexico, for example, the expansion of commercial cattle-raising at the expense of land used for cultivation has been a cause for concern. These lands cannot be replanted and can only be used for grazing for 3 to 5 years at the most.)

Scott responded that his paper did not focus on the consequences of foreign investment. He did note, however, that the nutritional impact of investment in the food industry is an area which he would like to explore further. He added that there are grounds for encouraging economists to develop a nutritional index for use in project evaluation rather than relying on a single composite index (the social rate of return). He also discussed attempts by transnational corporations to market high-protein foods aimed at low-income groups. Most of these products have been failures because of differences in tastes and problems with price controls. In addition, these foods were seen as a poor man's commodity, while

the companies needed to obtain a rate of return on their sale which was justifiable to their stockholders. Perhaps it is a mistake for the transnational corporations to produce this type of goods directly, Scott asserted. It might be better for them to use their marketing and other skills in cooperation with local agencies. The real question which arises from this issue, of course, concerns the validity of a market system of allocation. In response to a question concerning conservation, Scott pointed out that land ownership by transnational corporations is very much an exception today; soil conservation and other related issues do not affect transnational corporations directly. In some cases where foreign companies are directly involved, however, they have taken great care with reforestation, etc.

A member of the audience asked how investment by transnational corporations is financed. Transnational corporations' general pattern in Latin America is to rely on retained profits. To the extent that this is true in the food industry, the figures on profits may be important. Rate-of-return figures are probably not reliable, however, because of the difficulty in estimating the value of the capital base upon which the rate is calculated. Scott responded that, so far as he knew, most investment in the food industry, is based on reinvested profits or local financing. He added that despite the problems with the Department of Commerce data, use of such data may be the first stage in trying to get the Commerce Department and other agencies to develop more useful measures.

Addressing the subject of joint ventures, Scott pointed out that there is more of an incentive to use transfer pricing with joint ventures than in the case of affiliates. Anything that appears on the bottom line of a subsidiary's statement has to be shared; the same is not true of joint ventures.

In response to a question as to whether food self-sufficiency is a realistic goal, Scott said that he was not always certain what people meant by that term. The question is always: "food self-sufficiency at what cost?" The situation varies enormously from one country to another. It is noteworthy that the Mexicans have become interested in self-sufficiency at the same time that one would expect the discovery of large amounts of oil to have greatly reduced the balance-of-payments pressures. Domike stated that the Mexicans are attempting: (1) to bring large, relatively neglected areas cultivated by small farmers into commercial production, rather than trying to solve rural problems through more land redistribution; (2) to expand the availability of basic food (essentially a political decision since there are approximately 15 million underfed Mexicans; and (3) to reduce reliance on imports of basic staples for balance-of-payments reasons and because many consumption needs are in locales close to areas of potential production. There is considerable political pressure in favor of these measures.

Another member of the audience commented on Scott's conclusion that positive incentives by host governments are an insignificant factor in attracting foreign investment. Why is this so? One can think of specific cases, such as Puerto Rico and the southern states of the United States, where they have been effective. In addition, are indirect incentives more important than Scott indicated? If Scott is correct, it leaves relatively few instruments for governments to use. Scott responded that one can question whether industrial incentives have been effective even in the United States. If one is referring to some type of tax break, then the enterprise must be profitable in the first place. It is different if one is talking about capital grants. Another question raised was why incentives are effective within countries but not between countries, as Scott indicated may be the case. Scott answered that it is still difficult to separate different possible motivations when one considers the location of plants within developing countries. He was struck, however, by the consistency with which corporate executives in the United States said that positive host-government policies were a secondary, rather than a primary, incentive for investment.

A final question concerned the political factors involved in foreign investment. It is interesting that Nestlé is working in Nicaragua. But in some other countries, such as Argentina, foreign companies have become part of the left-wing demonology and are the objects of violent attacks. Food producing companies, however, are usually left out of this. Why? Scott considered this question interesting, but said that his first priority is to understand the economics clearly; then he will look at the politics.

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