The Determinants of U.S. Foreign
Production: Unions, Monopoly Power,
and Comparative Advantage

by

Thomas Karier*

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*The Jerome Levy Economics Institute of Bard College

ABSTRACT
    Based on an analysis of industry by region data the
author finds little evidence that U.S. unions have been a
significant factor in the decision of U.S. firms to produce
abroad. Additional evidence suggests that U.S. foreign
production may have had a negligible effect on the domestic
unionization rate. Corresponding with previous research,
the results do indicate that comparative advantage, monopoly
power, and foreign tariffs are important determinants of
U.S. foreign production.

The conditions that motivate U.S. corporations to make

foreign investments rank among the most studied topics of

international economics. Although the abundance of prior

research has established a framework for characterizing

industries with the greatest propensity for foreign

production, several related questions have yet to be

answered. Among these is the role of unions. Are unions an

identifiably important reason for U.S. firms to undertake

foreign investments. There has also been little effort to

distinguish between the factors that encourage U.S. firms to

invest in developed countries as compared to developing

ones. The model used to examine these questions is based on

a logical extension of contemporary models of foreign

investments combined with greatly improved industry data on

U.S. foreign affiliates. The results indicate that unions

are not one of the factors motivating foreign expansion.

However, consistent with other studies, comparative advantage and monopoly power are found to play major roles.

Previous research has identified a number of factors that are likely to encourage U.S. foreign investments including, concentration, advertising, research and development, capital intensity, high average wages, and foreign barriers to imports. Most of these factors were originally found by comparing sample characteristics of transnational or multinational firms with strictly national ones (Dunning, 1973; Caves, 1971). When regression analysis was employed in these early studies, it was often restricted to U.S. investments in particular countries, typically developed ones like Canada and the European Economic Community (Horst, 1972; Scaperlanda and Mauer, 1969).

More comprehensive statistical analyses were produced by Baldwin (1979) and Lall (1980) who estimated models for all foreign production of U.S. industries. All of this research tended to reinforce prior observations that multinational firms originate from more concentrated industries, are more capital intensive, and spend relatively more on educated workers, research and development, and advertising. The exception is Baldwin (1979) who found U.S. direct foreign investments to be negatively related to capital intensity. The most recent work in this area has centered on refining theoretical models but has contributed very little to expanding or modifying the established

empirical results (Dunning, 1988; Ethier, 1986; Samuelson, 1986).

In none of these studies was the effect of unions included nor was a distinction made between the motivation to invest in developed verse developing countries.1   The model developed here explores these issues by employing many of the standard concepts established in the literature. Reference to these will be brief and only when they deviate significantly from previous work will they be discussed in much detail.

It must be kept in mind that the sum of U.S. foreign ownership is comprised of three very different types of investment.   The first distinction is between foreign holdings that are acquired and those that are newly established by multinational companies.   This distinction is important because acquired capacity is unlikely to benefit as directly from U.S. advantages in technology, production methods, product design, or name recognition, as new establishments.   Acquired capacity may be modified by U.S. owners through reorganization or new investment programs but the effect is likely to be more incremental than if the firm had constructed a completely new plant.   According to a

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1 Baldwin (1979) did estimate a single equation based on sales of U.S. foreign affiliates in Latin America which included the capital-output ratio, labor-output ratio, three education categories, concentration, transportation costs, and tariffs. Only education was significant, indicating a positive effect of both very low and very high education on U.S. foreign production.

sample of 180 U.S. multinational firms in 1975, Vernon
(1977, p. 70) found that 55% of their foreign manufacturing
subsidiaries were acquired as opposed to newly formed. In
addition, Vernon suggested that foreign acquisitions were
more common in developed countries only because prospective
targets were often lacking in developing ones.
Unfortunately more recent data which distinguishes between
the value of acquired and established U.S. investments is
not currently available.

In addition to the distinction between acquired and
newly established, there are some U.S. plants located abroad
that ship their output back to the U.S. The cost-savings
from these so-called "platforms" are evidently sufficient to
offset any additional transportation costs or import
charges. Canada is by far the largest beneficiary of this
investment, accounting for 46% of all U.S. platform
production in 1984 (Barker, 1986). The next three were
miscellaneous developing countries (16%), Asia and the
Pacific (15%), and Latin America (13%). It also seems
likely, although comprehensive statistics are lacking, that
most platform production was newly established as opposed to
acquired. This is at least the case for U.S. auto plants in
Canada, maquiladoras in Mexico, and free trade zones in
general. Compared to total U.S. foreign investment,
platform production also tends to be relatively small. In
1984 only 7% of the sales of all U.S. foreign affiliates
were shipped back to the U.S. (Brereton, 1986).

Comparative Advantage

U.S. foreign investments may in some cases substitute for U.S. exports. This is particularly true in the case of newly established investments whereby U.S. firms can transfer certain advantages across borders while cutting costs associated with transportation, tariffs, or other barriers. These transferable advantages are generally associated with capital or technology intensive production. Industries of this kind tend to spend disproportionately more on research and development, highly educated workers, and capital.

While these factors may constitute a push, there may also be a pull caused by nontransferable advantages within foreign countries - cheap unskilled labor in the case of developing countries or natural resources generally. The ideal foreign investment for a U.S. firm is one that combines the talents and skills of the parent company with the production advantages of a foreign location.

Because U.S. unions are known to raise wages by 15% to 25%, they may further increase the appeal of low wage countries. The question is how important are they given that the union wage differential pales in comparison to the much greater wage differences existing between developed and developing countries. In 1988 for example, average compensation for production workers in the U.S. was five times larger than in Taiwan and nine times larger than in

Brazil (Handbook of Labor Statistics, 1989). Whether or not U.S. unions provide an additional impetus for foreign investment is left for the empirical analysis, but it is worth noting that less than one-third of the shipments of U.S. foreign affiliates in 1984 originated in developing countries. The majority of U.S. foreign production was not located to take advantage of super low wages.

Platform production is qualitatively different because the output is sold in U.S. markets rather than foreign ones. In this respect it shares more similarity with imports than exports. Consequently one might expect that industries undertaking these investments are the ones with the most to gain from cheap labor or natural resources, implying that they will tend to be more labor or resource intensive.

There is a current within industrial organization that claims that firms in concentrated industries exercise their monopoly power by setting higher markups and generating higher rates of profit (Bain, 1951, Weiss, 1974, Karier, 1985 & 1988). Because firms from these industries have higher profits and a disincentive to expand in their own domestic industries, they may be more inclined to explore alternative opportunities for expansion in general and horizontal expansion abroad in particular. The importance of oligopoly and product differentiation are well established in the literature on foreign investment (Caves, 1971; Hood and Young, 1979; and Lall, 1980). Therefore one

would expect more foreign production from industries with high levels of concentration and advertising.

The preceding discussion can be summarized by the following function for U.S. foreign investments where v/V represents the ratio of value added by U.S. affiliates abroad to value added in the corresponding domestic industry. Regional dummy variables are added to the model to control for variations in the size of each region, natural resource endowment, and other nonspecified geographical factors.

v/V= F(Concentration, Unions, R&D, Advertising, Education, Labor to capital ratio, Foreign tariffs and barriers, Regional dummy variables)

Each variable is expected to have an unambiguously positive effect on foreign production except for the ratio of labor to capital and the regional dummy variables. A labor intensive industry has more to gain from low cost foreign labor but alternatively, U.S. firms that are going to replace domestic export production with a foreign plant are more likely to be capital intensive (Karier, forthcoming). Consequently, the resulting sign on this variable depends on the relative strength of these two factors.

An advantage of this model is that it distinguishes between the effects of unions and education on foreign production. Prior estimates by Lall (1980) found a strong

positive effect of wages which may itself result from either high levels of education or unionization. Which of these factors is particularly important can only be determined by including both variables separately.

The Data

The dependent variable in this study is the ratio of value added produced in 1982 by majority owned U.S. foreign affiliates[2], to the value added of corresponding U.S. domestic industries. There are 187 industry by region observations that cover thirty-two manufacturing industries in ten different geographical regions.[3] Many observations were omitted because data were suppressed in order to protect the identity of particular companies.

In general, value added is better than sales as a measure of foreign activity because it excludes material costs. A foreign plant with high sales may actually produce very little value if material costs are particularly high. Employment ratios are deficient because they ignore capital and capital ratios are similarly deficient because they ignore labor's contribution. The use of value added as the measure of foreign production also distinguishes this study from previous work.

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[2] I greatly appreciate the assistance of Arnold Gilbert at the Bureau of Economic Analysis in obtaining this data.

[3] These include (1) Canada, (2) European Communities, (3) Other Europe, (4) Japan, (5) Australia, New Zealand, and South Africa, (6) Latin America, (7) Other Africa, (8) Middle East, (9) Other Asia and Pacific, (10) International.

Each industry is ranked in Table 1 according to its ratio of foreign value added to domestic value added in 1982. The three leading industries in foreign production are tobacco, automobiles, and computers. The least foreign production is associated with printing and publishing, nonautomotive transportation (aircraft, ships, missiles, etc.), lumber, wood and furniture.

[Insert Table 1 here]

Each of the other variables are described in more detail in Table 2 but two of them warrant further explanation, foreign tariffs and barriers. The tariff measure was originally a dummy variable for industries with a "substantial foreign tariff" as reported by the U.S. Trade Representative in 1985 for a primary U.S. trading partner. When industries were further aggregated to correspond with those in this study, the original variable was averaged using domestic sales as a weight which produced a variable ranging from 0 to 1. The fact that this variable is restricted to primary trading partners makes it a good measure of the incentive for U.S. firms to replace exports with foreign production. The measure of nontariff barriers is explicitly based on developed countries and is equal to the number, "by industry, of major trade protection actions taken by Japan or members of the EEC against U.S. exporters" as reported by the UNCTAD Secretariat in 1983.

[Insert Table 2 here]

Since the data is specified by region as well as by industry, it is possible to measure the separate effect of each variable on developed and developing countries. This is accomplished by multiplying each variable by dummy variables for developed and developing countries and estimating two coefficients for each variable. Approximately half the observations pertain to developing countries.

Before turning to the results it is important to note a high potential for multicolinearity to bias the results in this model. The simple correlations between the key variables are reported in Table 3. The highest correlations are between education and R&D (.54), unions and concentration (.42), and R&D and concentration (.36). In each of these cases, significance tests on specific coefficients are likely to be greatly affected by the inclusion of correlated variables. The fact that a particular coefficient becomes insignificant when other variables are included should not necessarily be grounds for dismissing it as insignificant.

[Insert Table 3 here]

Results

The regression results are presented in Table 4. As expected, concentration, R&D, and education, are all found

to have a positive effect on foreign production but only in developed countries. Each of these coefficients are significantly different from zero, even at the one percent level. The union coefficient, however, is far from statistically significant even though the coefficient is positive for developed countries. The advertising coefficient is also not statistically significant although it is positive for both developed and developing countries.

[Insert Table 4 here]

The labor to capital ratio is statistically significant and negative in each case for developed countries. This suggests that capital intensive firms rather than labor intensive ones are most likely to make foreign investments in developed countries. The magnitude of the coefficient declines in every case for developing countries to the point of being statistically insignificant. Perhaps this is because the greater propensity of capital intensive industries to sell in foreign markets is partly offset by the attraction of labor intensive industries to low wage developing countries.

The coefficient on foreign tariffs is positive and significant for developed countries in every case except when concentration is included. It should be noted that the tariff variable is based on primary U.S. trading partners and approximately two-thirds of U.S. trade is conducted with developed countries. Consequently it isn't surprising that

the variable is significant for developed countries and insignificant for developing ones. Nontariff barriers is similarly positive for developed countries but not statistically significant.

In the final column in Table 4, all the variables are included and only R&D and labor intensity lose their significance. The coefficient on R&D is severely affected by multicolinearity with education and concentration and the labor intensity coefficient declines and slips below statistical significance. Once again the union coefficient is not statistically significant, failing to support the idea that unions have played an important role in encouraging U.S. firms to invest in either developed or developing countries.

For the sake of comparing these results with those of earlier studies, Table 5 presents the results of substituting employment and sales for value added in the measure of foreign activity. Advertising is significantly positive for employment but the labor to capital ratio is not. In several cases the coefficient on foreign nontariff barriers is also positive and significant but in most respects using employment and sales ratios as dependent variables has little effect on the results. Concentration and education continue to be key determinants of U.S. foreign investments.

[Insert Table 5 here]

Unions

In general, these results suggest that U.S. unions are not particularly important in motivating foreign investment. Firms appear to be involved in foreign production primarily to avoid foreign tariffs, to exploit U.S. advantages based on capital, R&D, and education, and as an outgrowth of monopoly power at home.

With this data it is also possible to make a rough calculation of what would happen to the U.S. unionization rate if all of the value added abroad by U.S. foreign affiliates in 1982 were instead produced in the United States. It is assumed that the amount of labor required to produce each dollar of foreign value added is proportional to the industries' domestic ratio of employment to value added. It is also assumed that the share of new union jobs is proportional to the industry unionization rate.

One objection to this calculation is that 1982 unionization rates may already reflect the effects of corporate flight. If unionization rates were low in 1982 because unionized plants were shutdown and moved abroad, then this calculation would show small gains in union jobs. For this reason it seems justifiable to use 1974 unionization rates which predate many of the plant closings of the late 1970s and early 1980s. It is important to keep in mind that the starting point for this exercise is based on applying the unionization rates of 32 manufacturing

industries in 1974 to employment in these industries in 1982.[4] The base unionization rate in U.S. manufacturing according to these assumptions is 36.1%.

Transfering all of the value added from foreign affiliates to domestic industries results in an increase of 707,000 jobs as compared to actual foreign employment of 1,796,000. The reason for the difference is because the ratio of employment to value added is so much lower within U.S. boundaries. The effect on the unionization rate however is miniscule, increasing to only 36.4%. The results aren't any different if we were to bring back each foreign job rather than each dollar of value added. We therefore have the interesting result that even if foreign production by U.S. companies were entirely transferred to the United States, the effect on U.S. unionization rates would be negligible.

A more comprehensive calculation would take into account the additional indirect employment effects derived from an input output table. While indirect effects are usually included in calculations of this kind, they are omitted here because the percentage of intermediate goods utilized by U.S. foreign affiliates but originating in the U.S. is unknown. For example, if foreign susidiaries

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4 These 32 industries cover all manufacturing except SIC industry 29, petroleum and coal products, which was omitted because it was aggregated with extraction operations. Unlike the industry by country data, the industry totals were not affected by omissions to protect firm identities.

currently receive 100% of their intermediate goods from the U.S. then there would be no indirect employment gains of returning foreign production to the U.S. The actual percentage is obviously less than 100% but how much less remains a question.

There is at least one reason to expect that indirect employment effects would not greatly alter this calculation. While it is true that including indirect effects will raise the gains in domestic employment, it will affect the unionization rate only if the rates differ significantly between intermediate and final goods producers. Since there is no reason to expect this to be the case, the conclusions are also not expected to change by including indirect effects.5

Conclusions

The results of this study indicate that U.S. foreign investments were no more likely to originate in heavily unionized industries than lightly unionized ones. This is also the case for U.S. foreign investments located in developing countries where one would expect to find the strongest evidence of corporate flight from union strongholds. To emphasize this point it was shown that

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5 In a related study, I found that unionization rates of manufactured commodities, which includes all intermediate goods producers, was highly correlated with unionization rates of manufacturing industries (Karier, forthcoming).

transferring foreign production from U.S. affiliates abroad to the United States would have virtually no effect on the unionization rate in the United States.

How can one reconcile these results with the common perception that U.S. businesses were particularly inclined to close unionized domestic plants in order to expand foreign production? (Harrison and Bluestone, 1982) Before rejecting this perception it is worth considering some of the arguments in its favor. For example, it is important to remember that only some U.S. foreign investments were matched by a comparable disinvestment in the U.S. It is possible that highly visible cases of disinvestment during the late 1970s and early 1980s were in fact disproportionately union. But based on the evidence in this study, high unionization was not a general characteristic of most U.S. foreign investment in manufacturing. There is also the possibility that the origin of U.S. foreign investors changed after 1982, switching towards more heavily unionized sectors. But a preliminary inspection of less detailed data shows very limited changes in composition between 1982 and 1987 (Whichard, 1989).

Another concern about this study is the possibility that foreign affiliates are not accurately represented by the broad industry categories used here. The results would be biased if foreign production were in fact concentrated within narrower and more highly unionized subcategories of the broadly defined industries used in this study.

Unfortunately a finer level of disaggregation is not currently available for U.S. foreign investments.

An important result of this study is that many of the factors commonly thought to influence U.S. foreign expansion are only relevant for investment in developed countries. There is no evidence here that U.S. investments in developing countries are affected by concentration, R&D, capital intensity, advertising, or education levels. Most previous studies relied on data for single developed countries or for developed and developing countries combined and could have easily missed this point. By separating the two it becomes clear that current theories of multinational production are much more relevant for developed countries than developing ones.

These results should also be of interest to those who are investigating the recent expansion of foreign production in the U.S. If foreign investments are determined in a parallel manner to U.S. investments, then the key determinants should be foreign transferable advantages, U.S. import barriers, and monopoly power of investing firms in their home market. However, foreign advantages may be relatively less important in this case because of the overwhelming preponderance of acquisitions in foreign direct investments. The data in this regard is considerably superior. For foreign investment in the U.S. the ratio of acquired to newly established outlays was four to one from

1981 to 1987 and as high as twelve to one in 1988.6 Since most foreign assets were initially constructed and operated by U.S. firms, it is questionable how many advantages were actually transfered. I suspect that the other two factors, U.S. barriers and monopoly power, are much more relevant for explaining the growth of foreign direct investment.

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6 See Herr(1988) and <u>The Economist</u>, Dec. 16, 1989, page 63.

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Table 1
U.S. FOREIGN PRODUCTION BY INDUSTRY

	Ratio of Value Added by U.S. Foreign Affiliates to Domestic Value Added, 1982	
Industry Description (SIC)	All Countries	Developed Countries
Tobacco manufacturers (210)	.73	.61
Motor vehicles and equipment (371)	.50	.42
Office and computing machines (357)	.46	.41
Rubber products (301,2,3,4,6)	.32	.22
Drugs (283)	.29	.22
Soap, cleaners, and toilet goods (284)	.23	.15
Paints, and other chemical products (285,9)	.21	.16
Industrial chemicals and synthetics (281,2,6)	.18	.14
Construction, mining, and material handling machinery (353)	.15	.12
Household appliances (363)	.15	.11
Instruments and related products (380)	.13	.12
Grain mill and bakery products (204,5)	.13	.11
Electronic components and accessories (367)	.12	.07
Glass products (321,2,3)	.12	.09
Agricultural chemicals (287)	.11	.07
Electrical lighting and wiring equipment and other electrical machinery (361,2,4,9)	.11	.09
Radio, television, and communication equipment (365,6)	.11	.10
Beverages (208)	.11	.08
Farm and garden machinery (352)	.11	D
Paper and allied products (260)	.09	.06
Meat, dairy, fruits, vegetables, and other foods (201,2,3,6,7,9)	.09	.06
Stone, clay, and other nonmetallic mineral products	.07	.06
Fabricated metal products (340)	.07	.06
Engines, turbines, and metalworking, refrigeration and other nonelectrical machinery (351,4,5,6,8,9)	.07	D
Primary metal industries, nonferrous (333,4,5,6)	.06	.04
Miscellaneous plastic products (307)	.06	.05
Leather goods and miscellaneous manufacturing (310,390)	.06	.04
Textile products and apparel (220)	.03	.02
Primary metal industries, ferrous (331)	.02	.02
Lumber, wood, furniture, and fixtures (240)	.02	.02
Transportation equipment except for motor vehicles (372,3,4,5,6,9)	.02	.02
Printing and publishing (270)	.01	.01

D - Suppressed to avoid disclosure of data of individual companies.

Table 2
DESCRIPTION OF VARIABLES

Variable	Mean	Standard Deviation	Description and Source
Foreign Investment	.15	.15	Ratio of value added of U.S. foreign affiliates to value added of U.S. domestic industries in 1982. Sources: Unpublished data from the Bureau of Economic Analysis, Department of Commerce and the Annual Survey of Manufacturers (ASM)
Concentration	.401	.157	Domestic four firm concentration ratio in 1982 aggregated to the industries in Table 1 with a (sales) weighted average. Source: ASM
Unions	.376	.140	Percentage of all workers identified as a union member in the Current Population Survey from 1973 to 1975. Source: Freeman and Medoff, 1979.
Research and Development	.027	.034	Ratio of research and development expenditures for 1980 to industry sales for that year. Source: National Science Foundation, "National Patterns of Science and Technology Resources: 1987".
Education	12.02	.57	Median years of education: Source: 1970 Census of Population.
Advertising	.020	.031	Ratio of total advertising expenditures to sales in 1972. Source: Department of Commerce, Input-Output Tables, and ASM.
Labor to capital ratio	.048	.025	Ratio of total domestic employees in 1980 to capital. Source: Census-SRI-Penn dataset and ASM.
Foreign Tariffs	.22	.54	Dummy variables indicating a substantial foreign tariff on U.S. imports for at least one primary trading partner aggregated by a (sales) weighted average to the industries in Table 1. Source: Hilke and Nelson, 1985.
Foreign Non-tariff Barriers	21.0	46.1	The number of trade protection actions taken by Japan or members of the E.E.C. against U.S. exports. Source: Hilke and Nelson, 1985.

Table 3
SIMPLE CORRELATION COEFFICIENTS

	CR	UN	RD	ED	AD
Concentration (CR)	1.00				
Union (UN)	.42	1.00			
Res. & Dev. (RD)	.36	-.22	1.00		
Education (ED)	.10	-.11	.54	1.00	
Advertising (AD)	.18	-.22	-.13	.11	1.00

Table 4
REGRESSION RESULTS
(Standard errors in parentheses)

Variable	Dependent Variable: Value Added Ratio					
	1	2	3	4	5	6
Concentration						
Developed	.057** (.016)					-.061*: (.025)
Developing	.024 (.016)					.025 (.023)
Union						
Developed		.010 (.019)				-.009 (.027)
Developing		-.001 (.019)				-.009 (.024)
R&D						
Developed			.228** (.084)			-.057 (.141)
Developing			.005 (.071)			-.022 (.117)
Education						
Developed				.015** (.005)		.015** (.007)
Developing				-.002 (.005)		-.001 (.007)
Advertising						
Developed					.071 (.075)	-.019 (.095)
Developing					.135 (.091)	.095 (.108)
Labor/Capital						
Developed	-.286* (.127)	-.270* (.135)	-.404** (.137)	-.219* (.132)	-.261* (.134)	-.212 (.154)
Developing	-.147 (.112)	-.167 (.121)	-.167 (.118)	-.173 (.116)	-.139 (.117)	-.140 (.131)
Foreign tariffs						
Developed	.008 (.006)	.015** (.006)	.012* (.006)	.016** (.006)	.015** (.006)	.010* (.006)
Developing	-.002 (.006)	-.001 (.006)	-.001 (.006)	-.001 (.006)	-.001 (.006)	-.002 (.006)
Foreign nontariff Barriers						
Developed	.27 (.57)	.18 (.60)	.59 (.61)	.76 (.62)	.13 (.59)	.76 (.62)
Undeveloped	.07 (.56)	.003 (.58)	.01 (.58)	-.07 (.60)	.008 (.57)	-.03 (.59)
Country Dummy Var.	x	x	x	x	x	x
R2	.51	.47	.49	.49	.47	.53
N	187	187	187	187	187	187

Note: * significantly different from zero at the 5% level.
** significantly different from zero at the 1% level.
(Based on a one-tailed test for all variables except the
labor to capital ratio which was based on a two-tailed test).

Table 5
REGRESSION RESULTS
(Standard errors in parentheses)

| | Dependent Variable | | | |
| | Employment | | Sales | |
Variable	7	8	9	10
Concentration				
Developed	.094**	.083*	.046**	.063*
	(.033)	(.051)	(.018)	(.029)
Developing	.027	.017	.003	'-.007
	(.033)	(.017)	(.018)	(.026)
Union				
Developed		-.016		-.042
		(.055)		(.031)
Developing		-.035		.008
		(.050)		(.028)
R&D				
Developed		.060		-.037
		(.288)		(.163)
Developing		.075		.031
		(.239)		(.135)
Education				
Developed	.040**	.033**	.027**	.024**
	(.011)	(.015)	(.006)	(.008)
Developing	.012	.006	.006	.005
	(.010)	(.013)	(.006)	(.008)
Advertising				
Developed		.395*		.063
		(.194)		(.110)
Developing		.444*		.159
		(.220)		(.124)
Labor/Capital				
Developed	-.48	-.44	-.30*	-.34*
	(.27)	(.32)	(.15)	(.18)
Developing	-.31	-.34	-.10	-.08
	(.24)	(.27)	(.13)	(.15)
Foreign tariffs				
Developed	.021*	.023*	.011	.011*
	(.012)	(.012)	(.007)	(.007)
Developing	.014	.016	.004	.004
	(.012)	(.012)	(.006)	(.007)
Foreign nontariff Barriers				
Developed	2.22*	1.83	1.42*	1.16*
	(1.28)	(1.27)	(.70)	(.71)
Undeveloped	.75	.62	.25	.26
	(1.23)	(1.21)	(.68)	(.68)
Country Dummy Var.	x	x	x	x
R2	.53	.57	.57	.59
N	187	187	187	187

Note: * significantly different from zero at the 5% level.
   ** significantly different from zero at the 1% level.
(Based on a one-tailed test for all variables except the
labor to capital ratio which was based on a two-tailed test).