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* The views expressed in this paper are not necessarily those of the USDA. The author was heavily assisted by Howard Nash.

Foreign Food Firms: Their Participation in and Competitive Impact on the US Food and Tobacco Manufacturing Sector

The United States has long been recognized as the leading source-country for private foreign direct investment (FDI). In 1976, US residents owned approximately 49 per cent of the world's stock of FDI (CTC 1978). Less appreciated, however, is the fact that the US is also the world's largest host-country for FDI, a position only recently wrested from Canada.

Foreign direct investment has in the course of the twentieth century largely supplanted portfolio investment as a device for the international transfer of private capital. FDI, which typically takes the form of debt or equity ownership of a foreign affiliate, implies a distinctly stronger degree of management control over an investment than does the purchase of bonds from a foreign institution. Unlike portfolio transactions, FDI flows have been directed mainly toward the manufacturing sectors of recipient countries (the oil-exporting countries being an obvious exception). Moreover, these flows have, among the developed market economies, been characterized by industrial interpenetration; that is, within a broadly defined manufacturing industry, FDI generally passes simultaneously in both directions between any two capital-exporting countries. Finally, in contrast to bond markets with their numerous small investors, FDI is carried out solely by a relatively small number of large corporations. To study FDI is tantamount to studying the multi-national corporation (MNC).

Therein lies the source of much of the public's concern over inward foreign investment. Foreign entities, most of them large and highly diversified, make decisions about the disposition of local resources on the basis of a global profit-maximizing strategy. Some of these decisions inevitably clash with the national welfare-maximizing criteria of host-country governments. The initially favourable balance of payments effect of a particular investment is in time reversed as dividend, interest, and royalty payments mount. As the proportion of international trade among affiliated firms rises, fears are expressed that considerations other than comparative advantage may affect the direction of trade. The decisions made
by MNCs on the location of production can seriously impinge on such national goals as high employment, stable investment, and balanced growth. The efforts of host countries to attract investment can lead to a disadvantageous bidding-away of potential tax benefits. Labour organizations often feel that the power of the strike is diminished by the geographic spread of firms and worry about the imposition of alien labour practices. Finally, several host countries are concerned about the potential loss of economic sovereignty that attends large amounts of foreign ownership or the "denationalization" of certain key industries. Implicit in most of these criticisms is the notion that domestic industry is workably competitive and that domestic profit maximization is closer to the social optimum than a global maximization criterion.

The concerns that were listed above are reinforced by what is known about the peculiar nature of the modern multi-national firm. They are generally large, complex organizations: the flows of information and authority follow multi-layered routes and require numerous co-ordinative management functions. MNCs tend to market a wide array of products, and their products or production technologies generally either incorporate relatively recent vintages of technology or exhibit the results of fairly intensive product differentiation efforts. Evidence for this characterization of MNCs is best provided by the findings of the Harvard Multi-national Project. For a large sample of US companies, they found that US MNCs displayed significantly higher levels of product diversification, progressiveness (R & D-to-sales ratios), and product differentiation (advertising-to-sales ratios) than the rest of the 500 largest industrial firms (Vernon 1971). These same characteristics are also known to be associated with oligopolistic markets; MNCs tend to inhabit highly concentrated industries in their home countries (Wolf 1977) as well as in their foreign markets (White 1974, Connor 1977). Partly as a result, MNCs are more profitable than their more domestic counterparts: they earn higher profits on their foreign than on their domestic assets (Newfarmer and Mueller 1975) and have higher domestic returns as a result of their foreign involvement (Bergsten, Horst, and Moran 1978). Many host-country industries clearly face a strong threat of restructuring due to the entry of powerful foreign firms. Whether competition is intensified or not remains, however, an open question.

Defenders of MNCs typically base their arguments on the increased efficiency of the allocation of resources world-wide, especially physical and financial capital, intangible assets such as patentable technology, and highly trained managers. These international transfers may also result in the more efficient utilization of host-country resources. Such claims are very difficult to establish definitively, and many of them are second-best arguments in that they assume that intra-firm allocation is superior to imperfect markets for these factors of production.

Foreign direct investment into the US food and tobacco manufacturing industries presents a researcher with a particularly interesting case study. First, this sector is only infrequently considered a prime example of one
with heavy MNC presence; automobiles, machinery, chemicals, and electronics rightly come first to mind. Yet, as we shall see, FDI is of above-average importance for food and tobacco. Second, these industries do not appear to fit very well the economic models developed to explain FDI: the sector is normally regarded as technologically "mature" and composed primarily of relatively standardized (or homogeneous) products. If this is true, then one of the prime justifications for FDI – its role in the international transfer of technology – undercut. Third, FDI in the food manufacturing sector has not raised nearly as much public concern as foreign investment in agricultural land, despite the fact that both absolutely and proportionately, FDI in the former is much larger and management control appears to be more centralized than the latter. Finally, the question arises as to why FDI would be extensive in a country like the US that already has a substantial population of its own successful food and tobacco multi-nationals. One would expect firms with the ability to do so to resist incursions into their home-base markets.

The principal purpose of this paper is to investigate the extent of the participation in the US food and tobacco manufacturing sector by "foreign food firms" and to determine their motives and competitive impact of their FDI. The general plan of the paper is first to examine what can be learned from aggregate, government-collected data on FDI. For this stage, the new benchmark study of FDI in the US in 1974 will be utilized (DOC 1976). Then, an original data set of the world's largest non-US food and tobacco manufacturing firms (FFFs) will be analysed. Results of a regression analysis of the determinants of FDI by these firms will be presented. Finally, the paper will briefly consider the adequacy of US policy toward FDI, in the light of these findings, to capture the potential benefits for FDI.

PATTERNS OF FOREIGN DIRECT INVESTMENT

In 1979, the total stock of FDI from the developed market economies will have reached about $425 billion, from a mere $105 billion in 1967. During 1971–76, average annual dollar growth was 13 per cent, a rate that was roughly double the GNP growth of the source-countries. In recent years about 47 per cent of all FDI from the major capital-exporting countries has been in manufacturing (excluding petroleum), and has been rising relative to other sectors (CTC 1978).

The share of world FDI originating from the US has fallen since the early 1950s (from over 60 per cent to 49 per cent now), as have the shares of the UK and France. While the world shares of West Germany, Switzerland and Japan have risen, ownership of FDI has not become more dispersed: the seven largest source-countries have accounted for about 88 per cent of all developed-country FDI over the whole 1967–76 period. Also, most FDI flows to only a few developed economies; the US, UK, Canada, and West Germany have received almost 50 per cent of all FDI
in recent years. The proportion of FDI going to the developing countries has fallen to only about 25 per cent of the total (CTC 1978).

Outward FDI in manufacturing has tended to occur intensively in only a few industries. The major industry groups in which US firms have invested abroad were petroleum, non-electric machinery, transportation equipment, and chemicals (including drugs and toiletries), in order of their absolute amounts of FDI. Food manufacturing ranks about fifth among the 20 major industry groups (Newfarmer and Mueller 1975). In terms of the proportion of foreign to total assets or sales, food manufacturing would rank relatively lower; one study places food processing ninth in terms of the degree of its multinationality (Vernon 1971: 14). Tobacco processing ranks quite low by both absolute and relative standards, probably because many countries have state monopolies in this industry and because exporting is fairly inexpensive for tobacco products. In 1976, food and tobacco manufacturing accounted for about 9 per cent of the stock of all US manufacturing FDI (Survey of Current Business).

Almost all of the US FDI in food processing lies in Western Europe (43 per cent), Canada (28 per cent), and Latin America (16 per cent) (Table 1). The estimated proportion of host-country sales by US affiliates varies considerably by area; for Europe and Latin America it is low, about 2 and 7 per cent, respectively (Hufbauer and Adler 1968); for Canada it is high, 46 per cent (MITC 1975). A recent study documents that US MNC sales were 26 per cent of total Mexican food processing sales and 3 per cent of Brazilian sales in 1970 (Newfarmer and Mueller 1975); MNC tobacco sales were 84 per cent and 0 per cent of the total for the two countries, respectively.

FDI INTO THE US FOOD AND TOBACCO PROCESSING INDUSTRIES

Data on inward FDI into the US food and tobacco processing sector are quite detailed because of a recent "benchmark" census of FDI by the US Department of Commerce (DOC 1976). This benchmark survey, the first since 1959, was prompted by Congressional hearings investigating whether there was adequate data to decide if the US public's "fear of foreign capital invasion" was justified (Foreign Economic Policy 1974).

That survey concluded that FDI into the US at year end 1974 totalled $26.5 billion. Between 1959 and 1972, total FDI rose by 6.5 per cent annually, but during 1973–77 the average annual increase was 16.4 per cent, reaching $34.1 billion in 1977. The total book assets of these foreign affiliates, 60 per cent of which are wholly owned, was $174.3 billion in 1974.

Manufacturing accounts for 40 per cent of all FDI in the US and is the fastest growing sector. The benchmark survey also determined that 17 per cent of all manufacturing FDI was in food processing and 3 per cent in tobacco; the $1.6 billion in food and tobacco processing FDI has
TABLE 1  US foreign direct investment in the food and tobacco manufacturing industries, 1929–76

<table>
<thead>
<tr>
<th>Year</th>
<th>Canada</th>
<th>Europe</th>
<th>Latin America</th>
<th>Other areas</th>
<th>All areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>1929</td>
<td>25</td>
<td>38</td>
<td>118</td>
<td>8</td>
<td>190</td>
</tr>
<tr>
<td>1940</td>
<td>110</td>
<td>56</td>
<td>62</td>
<td>17</td>
<td>245</td>
</tr>
<tr>
<td>1950</td>
<td>214</td>
<td>67</td>
<td>182</td>
<td>34</td>
<td>496</td>
</tr>
<tr>
<td>1957</td>
<td>320</td>
<td>149</td>
<td>201</td>
<td>53</td>
<td>723</td>
</tr>
<tr>
<td>1963</td>
<td>467</td>
<td>326</td>
<td>300</td>
<td>141</td>
<td>1,234</td>
</tr>
<tr>
<td>1966</td>
<td>600</td>
<td>597</td>
<td>365</td>
<td>209</td>
<td>1,771</td>
</tr>
<tr>
<td>1975</td>
<td>1,369</td>
<td>2,032</td>
<td>720</td>
<td>604</td>
<td>4,725</td>
</tr>
<tr>
<td>1977</td>
<td>1,519</td>
<td>2,435</td>
<td>869</td>
<td>714</td>
<td>5,537</td>
</tr>
</tbody>
</table>

Sources: Bruchey (1976, 1976a) and Survey of Current Business, various issues.

1 Foreign direct investment is measured by the value of US residents' net equity in and loans to foreign affiliates. Up to 1950 tobacco processing was included in these data.

increased at an average annual rate of 11 per cent over 1974–77. Food manufacturing ranks third among the 20 major industry groups (after chemicals and petroleum) in terms of total FDI; tobacco ranks eighth. Outward US FDI in food and tobacco manufacturing is roughly two and one-half times inward FDI in those industries.

The 1974 benchmark survey provided a breakdown of inward food manufacturing FDI into six major industry groups for the first time in 1974. Most US affiliates were primarily classified in beverages (50 per cent of FDI and 24 per cent of sales) and “miscellaneous foods” (34 per cent and 27 per cent); grain and bakery products accounted for the least investment (0.4 per cent), while meat, dairy, and preserved fruits and vegetables amounted to only 2 per cent to 9 per cent each. Thus, more than half of all FFF activity in the US involves such industries as alcoholic beverages, candy, margarine, coffee, tea, and snack foods—a highly differentiated product.

FDI in US food manufacturing is highly concentrated in terms of its geographical origin: Canada alone owns 41.0 per cent. Other prominent source countries are: Switzerland (24.7 per cent), the UK (15.8 per cent), the Netherlands (6.8 per cent), France (4.6 per cent), and Belgium (2.1 per cent). Japan accounts for only 1.0 per cent and no other country approaches as much as 0.5 per cent (Table 2). Of course, these FDI proportions are based on book asset components and may not translate into a similar sales or total asset distribution. The net sales of foreign food firms were primarily Swiss (27 per cent), Canadian 24 per cent), British (22 per cent), and other EEC-owned entities (23 per cent).

The estimated total assets of these foreign food and tobacco manufac-
turing affiliates ($5,119 million) were 6.1 per cent of all US food and tobacco manufacturers according to IRS figures; their net sales were about 4.0 per cent of the US total. Foreign-owned firms in the US handle a portion of US trade that is out of proportion to their sales or asset position. In 1974, US affiliates of foreign firms sold 24.5 per cent of the values of all US merchandise trade; they bought 30.4 per cent of all such imports. These foreign affiliates (both manufacturing and nonmanufacturing) originated 80 per cent of all US exports and 29 per cent of all US imports of food and tobacco manufacturers (DOC 1976: I, p. 36). On average, 36 per cent of all exports and 74 of all imports of these companies are intra-firm transactions. Most trade by US affiliates is with the parent firm’s home country, especially for Canadian and Japanese subsidiaries.

Foreign direct investment in food and tobacco manufacturing has increased twenty-eight-fold over 1934–77 (Table 3). In recent years, inward FDI has increased at an average annual rate of 11 per cent, almost double the rate of outward FDI in these industries. As a proportion of all inward FDI in manufacturing, food and tobacco investment is about 16 per cent today, but was twice as high in the 1950s.

**TABLE 2**  **Selected data on foreign food manufacturing activities in the US by country of parent company, 1974**

<table>
<thead>
<tr>
<th>Country of owner</th>
<th>Foreign direct investment in food mfg.</th>
<th>Total assets of food mfg. affiliates</th>
<th>Net sales of food mfg. affiliates</th>
<th>Merchandise trade of affiliates*</th>
<th>Exports</th>
<th>Imports</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>40.1</td>
<td>41.3</td>
<td>24.2</td>
<td>0.3</td>
<td>12.9</td>
<td>7.6</td>
</tr>
<tr>
<td>Switzerland</td>
<td>24.7</td>
<td>23.8</td>
<td>27.3</td>
<td>0.3</td>
<td>7.6</td>
<td>7.6</td>
</tr>
<tr>
<td>U.K.</td>
<td>15.8</td>
<td>15.6</td>
<td>21.6</td>
<td>2.0</td>
<td>26.3</td>
<td></td>
</tr>
<tr>
<td>Netherlands</td>
<td>6.8†</td>
<td>7.7</td>
<td>9.9</td>
<td>(*)</td>
<td>(*)</td>
<td>(*)</td>
</tr>
<tr>
<td>France</td>
<td>0.3†</td>
<td>1.3</td>
<td>(*)</td>
<td>(*)</td>
<td>(*)</td>
<td>(*)</td>
</tr>
<tr>
<td>West Germany</td>
<td>0.2</td>
<td>0.1</td>
<td>0.1</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Other Europe</td>
<td>6.7†</td>
<td>4.9</td>
<td>13.3</td>
<td>49.2</td>
<td>6.2</td>
<td></td>
</tr>
<tr>
<td>Japan</td>
<td>1.0†</td>
<td>3.7</td>
<td>2.4</td>
<td>28.4</td>
<td>26.2</td>
<td></td>
</tr>
<tr>
<td>Latin America</td>
<td>3.5†</td>
<td>1.6</td>
<td>1.2</td>
<td>20.1</td>
<td>20.8</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>0.9†</td>
<td>0.1</td>
<td>0.0</td>
<td>0.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1,384</strong></td>
<td><strong>3,864</strong></td>
<td><strong>5,534</strong></td>
<td><strong>12,117</strong></td>
<td><strong>3,118</strong></td>
<td></td>
</tr>
</tbody>
</table>

† Estimated from other ratios, residuals, or nearby years.
(*) Included in “Other Europe”.
*Trade in SITC 0 + 1, which includes some unprocessed foods and tobacco products.
Occasional surveys of inward FDI provide useful information on the main dimensions of the phenomenon. They are limited, however, by the increasing diversification of the parent companies and their affiliates and by their rules forbidding disclosure of information on individual companies. Little can be learned of the participation of foreign firms in particular markets, nor do official data lend themselves to analyses of industrial organization.

### PARTICIPATION OF THE LARGEST NON-US FOOD FIRMS

One approach that can reveal much about the competitive behaviour of foreign direct investors in particular markets is to collect detailed data on the major actors, their histories, and their market environments. Collecting data in this way is fraught with numerous empirical difficulties regarding the multiplicity of languages, differing accounting practices, and incompatible industrial classification schemes. Nevertheless, a summary of the results of one such search is reported in this section, and an analysis is performed on these data in the next section (details will be found in Connor 1980).

Studies of FDI using firms as the unit of analysis are not plentiful, and most of them have focussed on US MNCs (e.g., Horst 1974, Wilkins 1974). Some exceptions include Franko (1976) on Europe and Tsurumi (1976) on Japan. In the present study, we searched for all non-US food and tobacco processing firms with global sales exceeding $350 million in 1974 or 1975; also large diversified firms with food or tobacco as a major, but not necessarily principal, line of business are included if that segment

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**TABLE 3 Foreign direct investment in the US food and tobacco manufacturing industries, selected years, 1934–77**

<table>
<thead>
<tr>
<th>Year</th>
<th>Food manufacturing</th>
<th>Tobacco manufacturing</th>
<th>Total as a proportion of all manufacturing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Million dollars</td>
<td>Per cent</td>
<td></td>
</tr>
<tr>
<td>1934</td>
<td>64</td>
<td>13¹</td>
<td>14</td>
</tr>
<tr>
<td>1937</td>
<td>97</td>
<td>19</td>
<td>16</td>
</tr>
<tr>
<td>1941</td>
<td>150</td>
<td>29</td>
<td>24</td>
</tr>
<tr>
<td>1959</td>
<td>758¹</td>
<td>173</td>
<td>38</td>
</tr>
<tr>
<td>1974</td>
<td>1,384</td>
<td>244¹</td>
<td>20</td>
</tr>
<tr>
<td>1977</td>
<td>1,834</td>
<td>324¹</td>
<td>16</td>
</tr>
</tbody>
</table>

*Sources: Wilkins (1977); DOC (1976); Survey of Current Business.*

¹ Estimated from other ratios and residuals.
Foreign food firms
totalled at least $100 million.\(^8\) Foreign subsidiaries of US-based corporations are excluded.

In 1975 there were 117 foreign food firms (FFFs) meeting this criteria. Out of those 117 FFFs, 34 have significant US investments in the US food or tobacco sector. This finding is fairly close to that of a special study by the US Chamber of Commerce (using US Department of Commerce data) which found 26 food and tobacco companies with FDI in the US (Foreign Economic Policy 1974).

The 1974 benchmark survey showed that two-thirds or more of the net sales of FFF affiliates were made in markets characterized by more highly processed foods. The present study confirms that finding: most of the FFFs with US FDI have principal products like candy, sauces, alcoholic beverages, coffee, tea, snacks, and cigarettes. Further support for the notion that FFFs market mainly highly differentiated products in the US comes from 1975 media advertising data: they account for fully 11.1 per cent of all advertising. Since FFF affiliates account for only 4.04 per cent of the net US sales of processed foods and tobacco, that implies that their advertising-to-sales ratios (a common measure of product differentiation) are nearly three times as high as domestic US firms.

These FFFs display all the usual characteristics of MNCs. They are on average quite large ($1,204 million in sales) and fairly profitable entities (9.3 per cent return on equity). They are highly diversified for the most part and have complex corporate structures to handle their dispersed operations. (Some exceptions to this general rule include a few specialized beer and sugar firms, some dairy co-operatives, and state-owned cigarette or alcohol monopolies). They generally inhabit highly concentrated industries in their home countries: the average weighted four-firm sales concentration ratio for 68 of the FFFs for which data were available was 73 per cent. This average is 35 per cent higher than the weighted average concentration of all US industries in 1972 (adjusted for local markets). Finally, the weighted market shares of the FFFs in their home markets averaged 35 per cent. Such high market shares are indicative of well-entrenched oligopolists; strong market positions are known from other empirical work to generate substantial market power (Connor 1977). High shares coupled with highly concentrated home markets also imply that growth-minded companies have a more difficult time expanding their sales in their domestic markets; firms in such situations may be more likely to seek foreign expansion.

SOME DETERMINANTS OF FOREIGN DIRECT INVESTMENT

Our measure used for the propensity of FFFs to invest in the US, is the ratio of US food sales to total company sales (FDIR). The measure used to capture the extent of US market penetration is the extent of media advertising by the FFF relative to total advertising in the five-digit SIC product class (MAS). The market advertising share is a decent proxy for
the sales shares of nationally marketed consumer goods, but it reveals little about produce goods or private label products sold.

Regression analysis was used to relate several independent factors to each of these FDI measures. The symbols and data sources are given in Connor (1980), as is a somewhat more elaborate justification for their inclusion.

**Macro economic factors**
Two variables were introduced to model home-country and US similarities in taste:

1. PCGNP per caput GNP of the home country, and
2. PCAD per caput advertising expenditures of the home country.

Both variables are expected to exert a positive influence of investment and penetration. In addition, to test the ideas of cultural proximity, a separate subset of UK and Canadian firms was run.

**Market structure factors**
Several variables were designed to capture the influence of both home-country and US market structure dimensions on the FDI performance of the food firms in our sample:

1. HMS home-country weighted market share for food and tobacco products only,
2. HCR home-country four-firm weighted sales concentration ratio for food and tobacco only,
3. HADS home-country weighted firm advertising-to-sales ratio for food and tobacco products only,
4. UCR same as HCR, but only for the US food industries in which the FFF participates,
5. MES minimum efficient plant scale as a percentage of the US market(s), a measure of scale barriers to entry,
6. NETIMP net industry imports, a measure of the ease of foreign entry by export,
7. GEOG the Collins-Preston index of geographical US dispersion of production, a correction for the understatement in UCR due to regional markets,
8. and MP the extent of multiplant ownership in the industries in which the FFF participates.

For reasons given in the section above, HMS, HCR, HADS, and NETIMP are expected to yield positive signs; MES and GEOG should be negative. UCR should be specified as an upward-bending parabola, but if the range of values is too restricted either one slope or the other will dominate a non-linear specification. For the MAS levels, the outcomes for MES and NETIMP are indeterminate.
Firm-level factors
The following variables were included as potential explanatory factors in our regression model:

1. SIZE firm sales size,
2. HDIV product sales diversification using a Herfindahl index,
3. FOOD the extent of firm specialization in food and tobacco manufacturing,
4. OWN a classificatory variable taking a value of 1 if the firm is government-owned, co-operatively owned, or privately held.

We anticipate SIZE, HDIV, and FOOD, to be positive, but OWN to be negative. For the market penetration variables, the outcome for FOOD is a priori indeterminate.

REGRESSION RESULTS

The ordinary least-squares regression results are given in Tables 4 and 5. In order to reduce the overwhelming effect that a few large values might have on our results, the dependent variables have been transformed by taking their square root.

Results explaining FDIR
Equations 5.1 and 5.2 show our basic regression results for all 117 FFFs and for the 100 FFFs for which home-country concentration (HCR) data were available. The only significant national factor affecting investment is per caput advertising expenditure. Among the market structure factors examined, only home-country intensity (HADS) is significant; UCR, NETIMP, and MES have the expected signs, but are not significant. Home-country market share (not shown in Table 4) also had a positive impact on FDIR. Finally, four of the variables designed to capture individual firm characteristics are highly significant and correctly signed. Large, highly diversified, publicly owned firms with experience in food product marketing display a marked tendency to invest in the US.

Equations 5.3 and 5.4 attempt to clarify the effect that socio-economic proximity may have on the FDI propensity of firms. Equation 5.3 excludes two sets of firms whose economies appear to be the more dissimilar to the US: several less developed countries and Japan. Equation 5.4 narrows the concept of proximity even further by excluding all but Canadian and British firms; this relatively simple model explains over 50 per cent of the variation in FDIR. For these firms, SIZE no longer has any influence on FDI, but multi-plant operations (MP) do.9

Results Explaining MAS
Regression estimates for the 34 investor FFFs using their shares of media advertising expenditures as an index of market position are shown in Table 5.10 The fit of these models is closer than that of Table 4; Equation
TABLE 4  Regression results explaining the propensity to invest (FDIR) in the US food and tobacco manufacturing industries by the largest non-US food and tobacco manufacturing firms, 1975

<table>
<thead>
<tr>
<th>Equation no.</th>
<th>Const.</th>
<th>PCAD</th>
<th>HCR</th>
<th>HADS</th>
<th>UCR</th>
<th>NETIMP</th>
<th>MES</th>
<th>SIZE</th>
<th>HDIV</th>
<th>FOOD</th>
<th>OWN</th>
<th>MP</th>
<th>General statistics²</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.1</td>
<td>-0.25</td>
<td>0.01⁰</td>
<td>0.02¹</td>
<td>-0.00</td>
<td>0.002</td>
<td>-0.004</td>
<td>0.00002⁰</td>
<td>0.11⁰</td>
<td>0.0008⁰</td>
<td>-0.09⁰</td>
<td>0.37</td>
<td>7.1⁰</td>
<td>117</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(5.24)</td>
<td>(2.34)</td>
<td>(0.13)</td>
<td>(1.64)</td>
<td>(0.65)</td>
<td>(2.41)</td>
<td>(1.79)</td>
<td>(1.66)</td>
<td>(2.40)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.2</td>
<td>0.38</td>
<td>0.01⁰</td>
<td>0.0008</td>
<td>0.01¹</td>
<td>-0.00</td>
<td>0.002</td>
<td>-0.005</td>
<td>0.00002⁰</td>
<td>0.16⁰</td>
<td>0.0015⁰</td>
<td>-0.06³</td>
<td>0.48</td>
<td>8.3⁰</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(6.19)</td>
<td>(1.92)</td>
<td>(0.35)</td>
<td>(1.38)</td>
<td>(0.77)</td>
<td>(2.79)</td>
<td>(2.76)</td>
<td>(2.98)</td>
<td>(1.60)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.3</td>
<td>-0.40</td>
<td>0.01⁰</td>
<td>0.02¹</td>
<td>0.003</td>
<td>0.00002⁰</td>
<td>0.23⁰</td>
<td>0.0016⁰</td>
<td>-0.08³</td>
<td>0.45</td>
<td>7.7⁰</td>
<td>73</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>(4.23)</td>
<td>(1.85)</td>
<td>(1.56)</td>
<td>(2.15)</td>
<td>(2.87)</td>
<td>(2.40)</td>
<td>(1.64)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>5.4</td>
<td>-0.56</td>
<td>0.006⁰</td>
<td>0.03¹</td>
<td>-0.007²</td>
<td>0.0019⁰</td>
<td>0.41⁰</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>(2.58)</td>
<td>(1.97)</td>
<td>(2.12)</td>
<td>(3.29)</td>
<td>(1.87)</td>
<td>(2.21)</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

¹ Regression coefficients shown with t statistics in parentheses below. The superscripts a, b, and c indicate statistical significance at 1, 5 and 10 per cent, respectively.
² R² = coefficient of determination, F = calculated F statistic, n = number of observations.

Source: Data compiled by the author.
TABLE 5  Regression results explaining market advertising share (MAS) in the US food and tobacco manufacturing industries by the largest non-US food and tobacco manufacturing firms, 1975

<table>
<thead>
<tr>
<th>Equation no.</th>
<th>Constant</th>
<th>PCGNP</th>
<th>HADS</th>
<th>UCR</th>
<th>HCR</th>
<th>GEOG</th>
<th>MES</th>
<th>HMS</th>
<th>SIZE</th>
<th>FOOD</th>
<th>MP</th>
<th>R²</th>
<th>F</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.1</td>
<td>-1.89</td>
<td>0.00</td>
<td>0.18⁸</td>
<td>0.010</td>
<td>0.023</td>
<td>-0.009</td>
<td>0.65⁹</td>
<td>0.0003⁸</td>
<td>0.64</td>
<td>5.1⁸</td>
<td>28</td>
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<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td>(0.21)</td>
<td>(1.42)</td>
<td>(0.43)</td>
<td>(1.25)</td>
<td>(1.12)</td>
<td>(2.48)</td>
<td>(2.94)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>6.2</td>
<td>0.31</td>
<td>0.00</td>
<td>0.07</td>
<td>-0.040</td>
<td>-0.020⁹</td>
<td>0.80⁸</td>
<td>0.0004⁹</td>
<td>0.0003⁸</td>
<td>0.023⁹</td>
<td>-2.17</td>
<td>0.79</td>
<td>5.4⁸</td>
<td>23</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(1.36)</td>
<td>(0.42)</td>
<td>(1.22)</td>
<td>(1.94)</td>
<td>(2.87)</td>
<td>(1.94)</td>
<td>(2.90)</td>
<td>(1.53)</td>
<td>(1.35)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

¹ Regression coefficients shown with t statistics in parentheses below. The superscripts, a, b and c indicate statistical significance at 1, 5 and 10 per cent, respectively.
² R² = coefficient of determination, F = calculated F statistics, n = number of observations.
Source: Data compiled by the author.
6.2 explains nearly four-fifths of the variance in MAS. Most of the variables behave as expected. Either national income or advertising intensity are positive influences, but not both simultaneously. Concentration is not significant, but market share and technical barriers to entry (GEOG, MES) are. Size and food specialization are again important positive factors. Multiplant ownership may explain the investment decision, but it has no significant influence on the success of FFF market penetration in the US.

CONCLUSIONS

The models tested above do not provide a comprehensive explanation of the manifold forces impelling MNCs to invest abroad. Yet they do confirm that both firm organization and market structures are key determinants of FDI in the US food and tobacco manufacturing industries. Large diversified firms, publicly owned, marketing highly differentiated products, originating from countries with high advertising per caput are the most prone to invest in the US. Some degree of socio-economic proximity between the home-country and the US appears to strengthen these relationships. In addition, high home-country industry concentration speeds the flow of capital internationally, but there is no evidence that high barriers to industry entry deter FDI.¹¹

Most of the same factors influence the relative success of FFFs in establishing and maintaining market shares. Firm product diversification is not important, but high home-market shares, firm size, and high host-country scale barriers all impact positively on market penetration.

There are few economic factors omitted from our analysis; the desire to spread demand risk internationally and the technological progressiveness of the firms are two such factors. Besides the problem of data availability, the level of technology was ignored in the belief that differences among food processing firms in this regard are relatively unimportant. However, the empirical results should be judged in the light of fairly severe data limitations for several variables. We relied for much of the information on annual financial reports of companies; these vary in quality and in accounting standards. Many of the “home-country” market structure variables were developed in spite of gaps in the data.¹²

Further entry by foreign food firms into the US food and tobacco manufacturing sector seems like a safe prediction. Japanese, West German, French, and Scandinavian food firms appear to be underrepresented in the present mix of investors. Moreover, the continuing trend in the US toward higher levels of concentration, advertising, and profitability will attract more foreign firms anxious to increase their sale and profits in a market that is generally less regulated than their home countries.

The US has traditionally espoused a neutral attitude toward FDI. In part, this policy stance has evolved because of the presumed analogy
between the mutual benefits of free trade and the international, intrafirm movement of production inputs by MNCs. Furthermore, the entry of additional sellers into the market has generally been held to improve industry performance.

Both of these presumptions are open to serious question. FDI appears to be markedly different from pure trade—it is not easily explained by factors relating to national comparative advantage, but more by several firm and industry-specific characteristics. It seems clear that international movements of capital are not neutral to national factor shares or even income shares among investing countries. FDI probably increases the national income of recipient countries and the labour incomes in host countries; it also tilts the balance of incomes in the home country from labour to the owners of capital (Frank and Freeman 1978). The evidence presented here gives limited support to the view that FDI is motivated in part by the desire to obtain or retain market power. The policy decisions of recipient countries should at least consider this factor when evaluating the presumed efficiency or income gains from foreign direct investment.

NOTES

1 Official data show that the stocks of inward FDI in 1975 were $39 billion in Canada and $27 billion in the United States. A more detailed examination of Canadian data reveals that 35 to 40 per cent of Canada's FDI is owned by non-residents, primarily from the US. Thus, over one-third of Canada's inward FDI is owned by affiliates whose ultimate parents are non-Canadian corporations using their Canadian affiliates as conduits for investments in third countries (CTC 1978: 241). As late as 1967, FDI in Canada exceeded that in the US, even after making this adjustment. During the 1960s, the United Kingdom also had slightly more inward FDI than the US. These comparisons are sensitive to the definition used for FDI, especially the level of foreign ownership chosen as a criterion of foreign control, and to the choice of currency.

2 In the discussion that follows, attention will be restricted to horizontal rather than vertical investments. Raw materials ventures tend to be markedly different in motive and impact than geographic extensions of markets (Caves 1974).

3 Lest I be accused of rampant parochialism, let me assure the reader that the term foreign food firms was chosen solely for its euphonious and alliterative qualities and not for any pejorative purpose.

4 I use the American meaning for billion (one thousand million) throughout this paper. FDI by the less developed countries is negligible, except for what passes through tax-haven countries like Panama.

5 The industrial nomenclatures of most countries categorize petroleum as an extractive industry or as a separate sector because it is so highly vertically integrated. For domestic censuses, the US classifies petroleum refining as a manufacturing activity; for FDI surveys, petroleum is broken out as a separate sector.

6 FDI is defined as the net value of foreign residents' claims on their US affiliates' equity and debt. An affiliate is counted as foreign-controlled if the foreign parent owns 10 per cent or more of the voting stock and if the affiliate has at least $100,000 in assets or revenues. Previous sample surveys for 1974 had underestimated FDI by $3.6 billion.

7 Agricultural enterprises account for only 0.2 per cent of total FDI, in contrast to the 6.1 per cent for food and tobacco manufacturing. Grocery wholesaling, food stores, and eating and drinking places account for a further 1.1 per cent of FDI in the US. Thus, investment in the food system, broadly defined, amounts to 7.0 per cent of all FDIs in the US.

8 “Food” includes beverages and animal feeds, but excluded some fresh foods. Sales were...
translabeled into US dollars at average annual exchange rates; where possible excise taxes, tariffs, and intra-company sales are netted. A major source for our indexes of penetration into US markets was a tape of all US food and tobacco plants in 1975.

* Because PCAD is so close in Canada and the UK, it is dropped from the model; similarly, so few UK firms are privately or co-operatively owned that OWN is dropped.

10 Equations 6.1 and 6.2 use all the 34 firms for which HCR and HMS data are available, respectively.

11 Other factors tested without success were: (1) the cost disadvantage due to small scale entry, (2) firm export/sales ratio, (3) size of US market, (4) US tariff barriers, (5) firm growth, (6) firm profitability, (7) firm financial leverage, and (8) the extent of joint venture arrangements of the FFF with a US counterpart.

12 This applies particularly to market share and comparable concentration data. Also for three companies (Nestlé, Unilever, and George Weston Holdings) averages of more than one “home” country were employed.

REFERENCES


DISCUSSION OPENING – ALFREDO CADENAS

This paper, as the author emphasized in his presentation, is an abbreviated version of a larger research study in which a more elaborate treatment is given to the chosen subject, that is; the preservation of market competition in the US food and tobacco sector in view of the oligopolistic practices undertaken by multi-nationals.

This opener, claiming from the start no special expertise on the subject other than a general knowledge of the issues and problems presented by multi-national corporations in developing countries, feels that one cannot but praise J.M. Connor’s paper for having done a very fine job. His extensive use of previous studies, the pertinent literature citations, the compilation of data from numerous and widely dispersed documents, and the utilization of empirical analysis on which to base policy prescription, all deserve, I believe, high marks. Furthermore, I find the topic covered in the paper very interesting for, at least, three reasons.

First, because it represents the work of a pioneer and a good example of subject matter research in which facts and values pertaining to the theme of multi-national enterprises acting in the food and tobacco manufacturing sector of the US are examined. Also because it gives a clear diagnosis of problems as viewed by the American public and, besides, because some policy recommendations are discussed once an empirical (regression analysis) study is utilized to test several hypotheses which were inspired from industrial organization theory.

Second, because, to my understanding, there are few studies based on industrial organization theory as a subdiscipline of economic analysis. In this respect, I would dare to say that we agricultural economists in market-oriented economies have pretty much neglected the use of industrial organization principles in our own area of enquiry.

The third reason why I think the paper has great value is that studies about the participation and competitive impact of investments made by multi-nationals on the food and tobacco sector are of recognized and increasing importance in countries of different economic development. The paper should be commended, therefore, since it really provides a pattern which might be replicated in the investigation of a vast array of problems and issues relevant to other countries.

It seems to me that the purpose of the study is clearly spelled out in the paper. Its principal objectives are carefully to describe the participation of foreign firms in the US food and tobacco sector and secondly, to determine what are the motives and the competitive impact of the direct investment originated in these foreign firms.
There is, however, a third objective implicit in the presentation which, from my own perspective, deserves a more complete treatment; and it is the evaluation of presently existing US policies in the light of the findings of the regression study and the policy prescriptions which might be alternatives derived from them in order to capture the potential benefits of foreign direct investment.

This opener believes that, while one might say that the first two are fully accomplished in the paper, further elaboration and discussion of the policy recommendation is needed since there are many conflicting views and philosophical and even ideological positions involved.

More specifically I would like to have reactions from the author to the issue of nationalization versus regulation of already established firms as it seems to be the case in many developing countries. In this same context, I would appreciate further elaboration on the likely implications arising from the practice of screening foreign investments on a case-by-case basis with social benefit–cost analysis required for all large proposed investments. (This has been recently advocated in the US). Also I would like to hear about the implications of international codes of conduct being enforced by international or supranational agencies.

Finally, I would like to have further comments from the author on two quite specific points of his paper. The first has to do with the US food and tobacco sector. It seems to me that the results from the model could be predetermined depending on whether data on the fibre subsector and food retailing and wholesaling operations are retained in the model. The second item refers to the rationale, logic or economic theory behind the choosing of some independent variables used in the econometric model from which, afterwards, most conclusions and policy recommendations are derived – for example, advertising expenditures per caput of the multi-national’s home country as determinant of the propensity to invest and the size of direct investment of foreign firms participating in the US food and tobacco sector. It seems to me that prior to using it in the regression model, a statement is needed making explicit whether the relationship is proven through logical or empirical experiment, or else, that the independent variable is only a proxy which cannot be used or is without value for policy analysis.

GENERAL DISCUSSION – RAPPORTEUR: W.H. HUNTER

Commenting on the opener’s remarks concerning nationalization policy, the author felt that nationalization, which in manufacturing industry was more common in LDCs than in MDCs, was not a realistic policy alternative in the US. Rather, regulation, both directly (to close off potential inflows of FDI in areas such as communications) and through the widening of the use of anti-trust legislation, was followed and was more likely to be followed as a course of action in the US. The principle of “Potential Competitor Loss” could also be used to control FDI and could provide a
means of implementing a tougher take-over policy. Social benefit/cost analysis of multi-national corporations' (MNCs) activities would be a useful tool, so long as it encompassed estimates of the benefits and costs of "competition". The "International Code of Conduct" for MNCs, presently being promoted by OECD, would not, it was felt, have great impact on MNC's activities in the field of FDI.

Asked to speak on FDI in Canada, the Chairman (Murray Hawkins) indicated that this was particularly high in Canada in general and in food retailing in Western Canada in particular, with one firm holding a dominant position, to the extent that profit and marginal analysis of the food retailing industry in the area was of little value.

Attention was drawn to the possible relationship between FDI and the demand characteristics for products such as tobacco, oil and fats, and alcohol i.e. those with an unfavourable public image, which are included in the definition of food and tobacco manufacturing.

The author concurred with a suggestion that regression analysis had no cause/effect implications and reiterated his use of the term "determinants" to describe the factors influencing FDI.

Noting the conclusions in the paper that technical barriers to the entry of Foreign Food Firms (FFF) to the US were of a minimal nature, it was suggested that this may have stemmed from the interests of US food and agricultural firms in investing overseas and therefore of a policy on their part of maintaining a reasonable balance between the outflow and inflow of FDI.

In reply, the author felt that his analysis represented a move towards a more objective method of answering the question whether FDI was "good or bad" for a country: a question which hitherto had been considered only in terms of a value-judgement.

Participants in the discussion included Ludvig I. Madsen, Edward Karpoff, Edith H. Whetham and Edward C. Schultz.