

# MARKET ORIENTATION OF MULTINATIONAL ENTERPRISES IN CHILE: AN ECONOMETRIC ANALYSIS

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## 1. Introduction (\*)

Quantitative analyses on the performance of multinational enterprises (MNEs) in less developed countries (LDCs) represent only a small part of the existing literature on the subject, the bulk of it being constituted by empirical surveys based on case studies and questionnaires. The reasons lie in the paucity of sufficiently detailed and updated quantitative information, due to the unwillingness of firms to disclose this information. This lack of reliable and disaggregated data causes a serious drawback for theoretical and empirical research in this field, research which certainly remains in a backward position if compared with the insight achieved in macroeconomic studies in international economics.

An aspect which has been particularly neglected within this scope is international trade transactions by MNEs. Similarly to other topics relative to the performance of MNEs in LDCs, international trade activities by these firms are interpreted in various ways, which often lead to controversial conclusions with reference to possible policy recommendations for the LDCs concerned. The analysis which follows is based on data on imports and exports of MNEs in Chile in 1979 and aims at exploring foreign versus internal market orientation of these firms and at comparing the results with some hypotheses suggested by recent studies in this respect, according to possible criteria of distinction. Due to the present scanty theoretical knowledge of the topic, both exploratory and confirmatory econometric methods are applied.

The analysis proceeds as follows: in the second section an overview of the principal hypotheses on trade activities of MNEs in LDCs, particularly in Latin America, is presented; in the third section the analysis focuses on issues of direct concern to the country and the set of MNEs considered in the study, i.e. the recent Chilean government strategy vis-à-vis MNEs and the main characteristics of the sample, besides giving some hints to the approach used in the econometric study; section 4 shifts to the major results of this study and confronts them extensively with the hypotheses and the indications of the two preceding sections. Finally, in the fifth section conclusions

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(\*) The author carried out the present research during his stay at the Institute of Social Studies (The Hague) in the second half of 1985, after completing an 18-month research project on « Multinational Companies and Trade Flows with LDCs (with some reference to Latin America) ». While the whole responsibility remains with the author, ideas and suggestions from M. Wuyts (ISS, The Hague), J. Pereirinha, A. Marcelino (Lisbon University) and S. Pio (UN-ECLA, Santiago) are gratefully acknowledged.

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are drawn with respect to possible theoretical reformulations and policy implications suggested by these results.

## **2. Main hypotheses on trade activities of multinational enterprises in LDCs, with particular reference to Latin America**

Among the various contributions of recent empirical studies aimed at exploring the patterns of international trade of MNEs with subsidiaries in LDCs several approaches can be distinguished. Some studies assume MNEs on the whole as a homogeneous group in order to compare them with the trade behaviour of local enterprises in the host countries and to evaluate their impact on the balance of payments of these countries. Others tend instead to focus only on MNEs, also because of data constraints which render difficult and unreliable a comparison between local and foreign investors, and they distinguish them according to the location of their subsidiaries at a regional, subregional and national level, to their sector and kind of products, to their country of origin, and to some further specific characteristics at the individual enterprise level. Furthermore, a few authors use data which allow them to make a distinction also among different countries involved in the international trade transactions of the subsidiaries and among different modalities and « channels » for these transactions, i.e. commodity exchange between independent producers or between units of the same enterprise.

As for a comparison between the levels of inward versus outward-orientation of foreign vis-à-vis local enterprises, some studies stress the relatively higher import propensity and lower export propensity of the former group of enterprises, for several host developing countries, in Latin America in particular, and most sectors (Marinho 1981; Blair 1983). While for import flows most studies seem to point out similar results, i.e. higher propensity in industries where MNEs are more concentrated and, *ceteris paribus*, higher propensity of MNEs, for export flows some authors achieve results which contrast with those just mentioned, since export propensity of subsidiaries of MNEs located in LDCs appears in the average higher due to stronger linkages with the parent companies in the home countries (Helleiner 1981), or it does not reveal significant differences from the corresponding figure of local enterprises (Newfarmer 1980; UNCTC 1984, sec. 3; Fajnzylber & Tarragó 1976). Tentative evaluations of the effects of these trade transactions for host countries' balance of payments are particularly difficult because

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of the broad range of possible alternative scenarios which can be taken into account, depending on the supposed degree of displacement of actual or potential indigenous production and on the import substitution gains in terms of increased internal production and abstracting moreover from possible changes in development strategies in the LDCs concerned (Biersteker 1978, chs. 1-2).

A few recent studies distinguish among different international trade patterns of MNEs according to various criteria, as mentioned above. A relevant issue is risen by those authors who examine the market orientation of MNEs in South East Asian new industrial countries (NICs) comparing it with that of MNEs in Latin America. The latter enterprises are found to be on the whole less outward-oriented on the export side, due to different structural features and different economic policies implemented in the two regions (Blair 1983; Fajnzylber 1981; Sourrouille et al. 1984, ch. 4). Within the Latin American region, in turn, a distinction is made between countries with a wide range of production and trading activities by MNEs and/or where a large number of MNEs appears involved in both imports and exports (large NICs and, to a lesser extent, the Caribbean region), and other countries where MNEs tend to concentrate their activities on few primary and industrial sectors and their trading efforts on internal and subregional markets (Andean Group and small Central American LDCs) (Wionczek 1982, ch 14; Sourrouille et al. 1984, ch. 4). In Latin America, therefore, a predominant « triangular » pattern of trade flows arising from MNEs can be outlined, with a first major flow constituted by imports of subsidiaries located mainly in the most industrialized areas of the continent from their home countries, more specifically from their parent companies, and a second flow represented by exports from the same subsidiaries to other subsidiaries in third countries in the region, which lie in a more peripheral position with respect to the home countries and often offer smaller domestic markets (UNCTAD 1982a, ch. 2; Jenkins 1984, ch. 5).

Another possible criterion for an interpretation of various patterns of international trade of MNEs is identified by some authors with sector and product characteristics. In sectors characterized by a stronger oligopolistic structure, where MNEs are traditionally present to a greater extent, local producers in LDCs, particularly in those with a scarcely developed and diversified industrial base, are likely to play only a minor role as suppliers of the MNEs. The latter in turn try to maintain barriers to entry into the market by « internalizing » their distribution channels for both backward and forward linkages, such as technology transfers from the parent company, control over raw material supply, product differentiation and trade-marks with the eventual support of trading com-

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panies. Among these sectors, a study on Argentina (Sourrouille et al. 1984) reveals relatively high import propensities for MNEs in the pharmaceutical sector, high export propensities in the automobile and the food sectors, and high levels of both import and export propensities in electrical and communication equipment. Other studies on MNEs in Colombia, Brazil and Mexico point out similar results, indicating particularly negative effects on the balance of trade of these host countries in the chemical-pharmaceutical and in the electronic industry (Baumer et al. 1982). Specific features of MNEs in individual sectors can be moreover connected with the country of origin and other characteristics of the firms.

Recently various authors have tried to explain different behaviours of MNEs in LDCs by taking into account also their countries of origin<sup>1</sup>. As for Latin America, distinctions are usually made between MNEs from traditional investor countries — typically the USA and, for certain countries, the United Kingdom —, and MNEs from countries which have seen a substantial increase of their direct investment in the region only in the last two decades, i.e. MNEs from various Western European countries and from Japan. Besides other aspects of distinction, US MNEs are found to be in the average more local market-oriented than European MNEs (Blair 1983; Lietaer 1979; UNCTC 1984, sec. 3). As for Japanese enterprises, they appear relatively more export-oriented in sectors in which proprietary know-how and quality production are relevant, more local demand-oriented in sectors with mature or more widely diffused technology (Yoshino 1980, ch. 5). Also in this case the results of some studies are in partial contradiction with those just mentioned, since they show a higher local market-orientation in European rather than US enterprises (Tharakan 1979). These controversial results can be partly explained by the different sectoral distributions of the samples used by these authors, according to whether European MNEs are found to be more concentrated on « modern » or on traditional industries, analogously to the distinction made for Japanese enterprises. However, some authors believe that, *ceteris paribus*, European and Japanese MNEs may still be less dependent than US ones on their parent companies as far as imports are concerned, due to the apparently greater efforts at production diversification and technology adaptation by their subsidiaries in host developing countries, their stronger linkages with local suppliers and the relatively lower capital-intensity in production processing (Fajnzylber & Tarragó 1976, ch. 3; Lietaer 1979).

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1 For a brief and general survey in this respect, which goes beyond the mere aspect of trade orientation here considered, see Mainardi (forthcoming).



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Again, other studies challenge these results, since non-US MNEs are found to be relatively more capital-intensive and more dependent on imports (UNCTC 1984, sec. 3).

The size of the firm is considered by various authors as another relevant element of distinction. Small and medium-sized MNEs are believed to accept or even to pursue a greater production and trade integration within the host country economy, in contrast with the frequently global integration strategies of large-sized MNEs (Baumer et al. 1982). Similarly, small and medium-sized MNEs seem to be in the average relatively more local demand-oriented, whereas larger foreign enterprises have developed more solid trade networks for both local demand and external supply (UNCTAD 1982). As above noticed, there appears to be a clear linkage between characteristics of industrial sectors and firm-specific characteristics, such as size and share of foreign equity capital: in relatively less R&D-intensive sectors, such as textiles and metallic products, MNEs seem more willing or less reluctant to establish joint ventures with local enterprises and, except in the mining sector, are smaller in the average (UNCTC 1983, p. 167-168).

Abstracting from the sector and the size of the MNEs, the data of an econometric analysis on exporting manufacturing firms located in Latin American countries in the late 1960s allow to confirm that the highest export propensities are prevailing in « foreign-owned » enterprises, whereas joint ventures appear relatively more involved in trading activities in the domestic markets (Müller & Morgenstern 1974)<sup>2</sup>. However, no clear indication emerges in relation with the argument whether, after taking off the influence of « sector » and « size » variables, the share of foreign ownership may still count in explaining different trade propensities, demonstrating therefore the existence, at least for Latin American countries during that period, of a trade-off between policies aimed at strengthening local control on the activities of MNEs (through increasing local capital participation) and export promoting policies. As for import propensities, they could be expected also to increase with the level of foreign control, being the latter often associated with weaker levels of domestic linkages and with concession of import privileges, due to advanced technology requirements (Newfarmer 1980, ch. 9).

Finally, considering those studies which distinguish between intra-firm trade transactions, i.e. trade flows occurring within the networks of MNE units located in different

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2 Own calculations on INTAL data (Müller & Morgenstern 1974, Table 1). Foreign-owned enterprises and joint ventures are defined as MNEs with more than 90% and with 10-90% of foreign equity capital, respectively.

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countries, and arm's length trade, i.e. international trade between independent producers, the presence of various regulations and restrictions on profit repatriation in the host countries and of international differences in corporate tax laws seems to affect trade strategies of MNEs. Firms located in LDCs with more open policies vis-à-vis foreign investment (Müller & Morgenstern 1974) or where no significant international disparities in fiscal and tariff treatments exist (UNCTAD 1978) seem to be in fact relatively less concerned with intra-firm trade and, in this connection, with transfer-pricing practices. Moreover, also sector and firm-specific differences appear to account for different prevailing patterns in this respect (Goldsbrough 1981; Arango Misas 1983, ch. 2).

In this section various hypotheses on trade strategies of MNEs in LDCs have been examined, giving particular attention to import and export propensities of MNEs in Latin American countries. The overall emerging image is a still rather controversial and insufficiently explored area of empirical research in economics. Possible explanatory factors, as sectors of activity of the MNEs, size and foreign ownership share of the subsidiaries, home and host country, appear somehow intertangled, so as to hinder a clearcut interpretation. At the same time, strong differences among samples used and among methods applied partly account for the presence of controversial results. As far as the Chilean case is concerned, the analysis in the following sections tackles most of the problems raised in the present one, with the exclusion of those for which no empirical information has been available.

### **3. Preliminary remarks on general framework, sample and methodology**

In Latin America relations between governments and MNEs have often been troublesome, with a series of nationalizations in the period 1960-70, especially in the mining sector, followed by more flexible and diversified strategies by host governments as well as MNEs. In the last years, in fact, with the appearance of new forms of international economic involvement (joint ventures, purchase agreements, service contracts) and the diversification of the activities of MNEs in the manufacturing and service sectors, concern has been concentrated on the « control » element, while accepting in some cases a re-privatization policy. MNEs in turn seem to have gradually shifted, on the whole, to more careful strategies aimed at diversifying or avoiding the risk of expropriation, such as those allowed by new foreign investment schemes.

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Within the Latin American context, Chile represents one of the most striking cases of these fluctuations in the economic policies adopted with regard to foreign investment and trade flows. From a situation of highly protected economy in the early 1970s, when *ad valorem* tariff rates on imports ranged from 0 to 750%, with 50% of the tariffs above 80% and import prohibition on almost 200 tariff positions, Chile passed in the mid-1970s to an extensive trade liberalization which led to rapid dismantling of the trade barriers, with the creation of a uniform tariff of nearly 10% (up to 15%) on imports and the elimination of other restrictions, besides providing incentives to exports (de Melo & Urata 1984). Also the treatment of foreign investment underwent a radical change: the present policy of the Chilean government vis-à-vis foreign investors is one of the most favourable and open in Latin America, since MNEs are supposed to be able to enlarge the domestic market, bring about technological improvements and stimulate the national investment rate. This policy officially aims at equality of treatment with national investors, free access to all markets and economic sectors for foreign investors and partial control by the State of activities pursued by MNEs. As a consequence of this new strategy, Chile withdrew in 1976 from the Andean Pact.

In spite of the just outlined remarkable changes in foreign economic policies, foreign investors do not seem to have substantially contributed to Chilean development during the last few years (Lahera 1981; Cepal 1983). In fact, firstly foreign investment appears still concentrated on few sectors, particularly on mining (which accounted to almost half of total foreign direct investment in the period 1974-79); secondly, with the exception of the mining sector, it remains strongly oriented towards the internal market; and, thirdly, new investments by MNEs are undertaken mainly to purchase local enterprises or to strengthen already existing foreign-owned plants. Furthermore, foreign investment flows show a lower growth rate in the late 1970s than in the period preceding the liberalization policy: this could be explained by the offsetting effects caused by the corresponding changes in trade policy, i.e. reduction of import barriers as above mentioned, since MNEs may tend now to see exports to Chile as an alternative to foreign investment, with the establishment of new plants more for comparative advantage reasons than for import substitution strategies as it continues to happen in other Latin American countries. Trade liberalization, being not accompanied by measures in support of local small producers, has also caused an increasing concentration of the manufacturing sector for the benefit of large national and foreign firms. However, on the export side some improvements can be noticed, in terms both of average levels of export manufacturing supply ratio — from 3% in 1967 to 10% in 1979 —, and of

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sectoral composition of the flows — in 1979 more diversified and less dependent on natural resource-based products — (de Melo & Urata 1984, p. 18).

The participation of MNEs at Chilean foreign trade shows the following features (information relative to 1979-80 - Cepal 1983):

- (i) most MNEs have trade deficits (88% in 1979);
- (ii) in most sectors MNEs present high import propensities and low export propensities (in the average, 90% of sales are for the internal market);
- (iii) most exports have low value added (e.g., in mining) and are not oriented towards the home countries of the MNEs;
- (iv) few firms are responsible for the major part of MNE-related trade (ten firms realize nearly 35% of total imports and five firms realize 50-60% of total exports).

A recent study of the ECLA supplies data of MNE-related foreign and internal trade in Chile and certainly contributes one of the few existing sources providing this information for a Latin American country at a sufficiently detailed level of sectoral disaggregation (3-digit of Chilean statistics) and at a thorough scale, i.e. not on a sample basis (Cepal 1983, Anexos C-D and Cuadros 1-11). From more than 200 MNEs reported in that study 60 have been chosen for the present econometric analysis. The selection has been based on the availability of complete quantitative or qualitative information relative to the possible explanatory factors examined in section 2. This information refers to 1979 and since values of foreign trade are originally given in US dollars while values of sales in Chilean pesos, the latter have been converted into US dollar values by using the period average of the exchange rates in 1979 (IMF 1981, p. 143). MNEs are defined according to Chilean official statistical criteria, i.e. as enterprises in which foreign investors own at least 10% of the equity capital.

The analysis is developed on import and export flows separately, on the whole sample and on 28 observations respectively. Similarly to the total group of MNEs in Chile involved in international trade, also in the sample the exporting firms represent a relatively minor share and are larger in the average, and for most of them imports exceed exports. Due to both the limited number of observations and the highly downward-straggling distribution of export propensities and exports, the results of the analysis are less significant for export flows. No distinction can be made as far as countries of origin-destination of the flows and channels of trade transaction (intra-firm versus arm's length trade, as mentioned in section 2) are concerned.

The economic variables which have been considered in order to explore and interpret trade performances are the following:

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- (a) size of the MNEs, for which total sales (S) or, alternatively, the number of employees (L) are used as a proxy<sup>3</sup>;
  - (b) sector of activity, for which five sectoral groups have been constructed by taking into account levels of R&D-intensity in the various branches (Dunning & Pearce 1981, p. 10) and further specific characteristics (production versus trade as the main activity of the MNEs, sectoral « clusters », residual branches)<sup>4</sup>;
  - (c) home country of the MNEs, with a distinction among three groups (USA, Europe, other);
  - (d) share of foreign equity capital, with a distinction among three groups (high, medium, low levels of foreign ownership participation).

Table 1 presents a list of the 25 branches of activity in which the MNEs of the sample are subdivided and the five sectoral groups which have been formed from them for the regression. While the highest average levels of import propensity and of imports is reached by the group of mechanical industries, in terms of employment and sales D1 comes out with the highest figures in both level and spread (besides D3 for sales).

Chile represents a clear example of the diminishing relative importance of US foreign investment in Latin America in the last two decades: principally because of nationaliza-

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3 According to a few authors, average annual value added and number of employees are more appropriate measures for market size of the MNEs than total sales, since the latter include purchased inputs which are to a certain extent independent from plant size (Chung Lee 1983; de Melo & Urata 1984: p. 20). However, for this study no information was available on value added, while data on employment appear less reliable than those regarding total sales and lead on the whole to less significant results. Furthermore, with the exception of one of the five sectoral groups in which the sample has been subdivided (D3), employment and sales show high correlation coefficients. If the two entire sets of importing and exporting MNEs are considered, the correlation between these two variables appears still higher than that between employment and trade flow values (in the case of imports also than that between sales and trade flow values). The simultaneous consideration of employment and sales at the individual enterprise level as possible explanatory variables does not seem to contribute therefore a deeper insight and it introduces problems of multicollinearity in most regressions.

Abbreviations are later on used in the text also for other variables: M = imports; X = exports; MS = import propensity; XS = export propensity. The latter two variables are measured as share of trade flows on total sales (trade flows are measured in thousands of dollars, sales in millions of dollars).

4 The criterion of R&D-intensity of sectors, besides being based on rather simplistic assumptions, does not suffice to cover all branches, due to the presence of ten sectors not considered in Dunning and Pearce's study. Regressions on equations in which dummies are used with regard to this criterion only, lead to insignificant results. As a matter of fact, for the case here examined this criterion appears useful basically to distinguish low R&D-intensive branches from others.

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tions of enterprises in the 1960s, the US presence decreases from more than 90% of the flows in 1967 to nearly 40% in 1979. The European countries in turn jump from 5% in 1967 to 47% in 1979, while the remaining share belongs to other « newcomers » (Canada, Japan, other Latin American countries), but it is not particularly relevant, even if increasing over the two decades. The sample somehow reflects these shares in terms of numbers of MNEs (1979) according to country of origin, being the corresponding percentages subdivided in the following way: 40%, 50% and 10% for importing MNEs; 28%, 57% and 14% for exporting MNEs. Also the higher average size and sales-turnover attributed by other studies to US MNEs operating in Latin America appears confirmed by the mean values of total sales of MNEs by country of origin (millions of dollars, at current prices): 39454, 25649 and 29017 for importing firms of US, European and other origin, respectively; 96016, 33008 and 27025 for exporting firms, subdivided in the same order.

In 1979 MNEs in Chile appear on the whole scantily controlled by local investors: in 75% of MNEs — 80% in the industrial sector — foreign investors own more than 50% of equity capital, and in 45% of MNEs foreign participation in equity capital is more than 90%. In the sample the corresponding figures show an even more accentuated performance, since in 88% and 68% of importing firms (89% and 64% of exporting firms) the share of foreign ownership exceeds 50% and 90%, respectively. These percentages reveal how the group of MNEs with high levels of foreign ownership participation is overrepresented in the sample if compared with the overall situation of MNEs in the country.

As it can be seen from these percentages, European MNEs and MNEs at medium levels of foreign ownership participation have a greater relative weight within the sample of exporting firms than in the whole sample (importing firms). As for interactions between pairs of economic variables other than « size » (sector, home country and share of foreign equity capital of the MNEs), US enterprises appear relatively more concentrated on chemical and mechanical industries and on the residual group, European enterprises in the trading sector (610-20) and, together with MNEs of other origin (from other Latin American countries or from Canada, or with a mixed participation), in the « traditional » sectors. While chemicals, mechanical products and the trading sector are characterized by prevailingly high levels of foreign ownership participation, in low R&D-intensive sectors and in the residual group the three sets of MNEs, subdivided according to criterion « d » above, are less unevenly represented.

#### 4. Exploratory and regression analyses

Before proceeding to the regression analysis, an exploratory data analysis is carried out in order to better assess structural features of the economic variables used and relationships between them. A first insight can be achieved by analysing the simple correlation coefficients between these variables. The following information can be deduced (for abbreviations, see note 3):

(i) The correlation of foreign trade propensities with « size » variables (L, S) appears low, with slight negative values for MS and even lower, but positive values for XS ( $R_{XS,S}$  is near to zero). If for import propensities the different sectoral groups are distinguished, correlation coefficients do not show high values as well, except for D5 (0.74 for both L and S), and appear negative for D1 and, even more, D3, positive for D4 and, as just indicated, D5. Therefore, as long as size and sales-turnover of MNEs increase, import propensity seems to decrease in the traditional industries and in the trading sector, to increase in mechanical and electromechanical industries and in the « residual » group. Chemical industries do not show any clear correlation and this result is confirmed by the V-shape of the distribution of D2 as revealed by the scattergram of MS on S. Having D1 plus D3 a stronger weight on the overall sample in terms of number of observations (Table 1), on the whole import propensity appears negatively correlated, even if only slightly, with « size » variables, as mentioned; this is an unexpected result in view of the corresponding hypothesis considered in section 2. However, by carefully analysing the scattergram (not reproduced here), few observations seem to influence to a remarkable extent this pattern, while lying far from their own batches (one MNE engaged in food production for D1, and two MNEs concerned with trade in consumption goods and petrochemical products, respectively, for D3). On the other hand, also the opposite pattern of D4 seems to be somehow biased by the presence of two observations represented by two large MNEs involved in automobile production, so that also in this case conclusions should be drawn with due caution.

(ii) Trade flows in absolute values obviously appear positively correlated with « size » variables, with M more strongly correlated with L, and X more strongly correlated with S. As for individual sectoral groups, whereas in D1 and D2 the correlation is higher for M versus L, in D4 and D5 it is higher for M versus S. Practically no correlation is present in D3: this is basically explained by the influence of the same two « hidden » outliers mentioned in (i). In general, correlation coefficients are much more significant

Table 1

SECTORAL BRANCHES OF ACTIVITY OF THE MNEs OF THE SAMPLE (ACCORDING TO CHILEAN OFFICIAL STATISTICS - CEPAL 1983)

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230	extraction of metallic minerals
311	food products, except beverages
314	tobacco industry
323	leather and skins, and succedaneous, except shoes
331	wood industry, wooden and cork products, except furniture
341	paper and paper products
342	printing, editorials and connected industries
351	industrial chemicals
352	other chemical products
354	petroleum and coal by-products
355	rubber products
356	plastic products
361	clay products, pottery and china-ware
369	other non-metallic mineral products
381	mineral products, except machinery and equipment
382	non electrical machinery
383	electrical machinery and appliances
384	vehicles and transport equipment
390	other manufactured items
610	wholesale trade
620	retail trade
712	waterway transport
720	communications
832	services to enterprises, except hiring and leasing of machinery and equipment
833	hiring and leasing of machinery and equipment

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sectoral groups for the regression analysis (number of observations is given between square brackets):

- D1 [13] = low R&D-intensive sectors  
 D2 [17] = chemical sector (35)  
 D3 [12] = trade sector (610-20)  
 D4 [11] = mechanical sector (38)  
 D5 [7] = other sectors (390, 712-20, 832-33)
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than in (i), a result which suggests to proceed to a linear regression of  $M$  (and  $X$ ) on  $S$ , with the subsequent application of a quadratic form if the curvilinear fit were found to improve significantly the results of the regression (Johnston 1972, ch. 3)<sup>5</sup>.

Results which confirm the pattern of foreign trade propensity considered in (i) and contribute a clearer picture are obtained by applying « resistant » measures of level, spread and shape (Erickson & Nosanchuk 1983; Mosteller & Tukey 1977). The sample has been subdivided in three batches ( $\alpha$  for  $S < 5000$ ,  $\beta$  for  $5000 < S < 30000$ ,  $\gamma$  for  $S > 30000$ ); for the subsample of exporting firms a distinction between two batches has been accomplished ( $\hat{\alpha}$  for  $S < 20000$ ,  $\hat{\beta}$  for  $S > 20000$ ). 'Stem-and-leaf' displays for  $MS$  and  $XS$  have been then built up for each batch, in order find out numerical summaries resistant to extreme cases. Their values are reported below and the corresponding box-plots are given in Figure 1.

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5 In fact, the alternative approach to estimate the elasticity of import propensity to « size » directly through a double-log transformation leads to insignificant results, without allowing moreover to detect different propensities among sectors. The equation used was:

$$MS = aL^be^u, \text{ i.e.:}$$

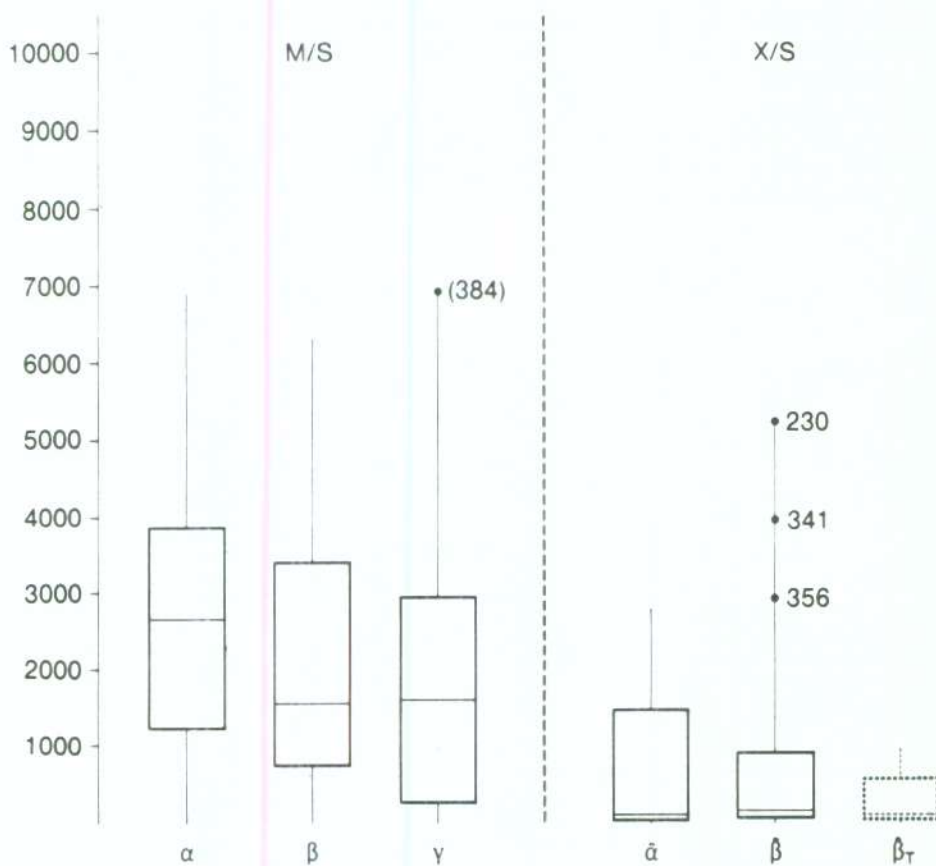
$$\ln MS = \alpha + \beta \ln L + u$$

(where:  $\alpha = \ln a$ ;  $\beta = b$ ).

The results are not improved in a significant way if dummy variables are introduced in order to take into account sectoral differences. Furthermore, using the same sectoral dummies as in the text, the results of the linear regression of  $M$  on  $L$  appear statistically less significant than those obtained by regressing  $M$  on  $S$ : among other indicators, the Durbin-Watson statistic suggests a potential misspecification of the model (Stewart 1984, p. 183). Therefore, for regressions with employment figures, the given sectoral disaggregation and classification may not be appropriate.

**Figure 1**

IMPORT AND EXPORT PROPENSITIES: BOX PLOTS COMPARISON OF GROUPS OF MNEs (for values and symbols, see text and Table 1)



	$\alpha[16]$	$\beta[27]$	$\gamma[17]$	$\hat{\alpha}[15]$	$\hat{\beta}[13]$	$\hat{\beta}_T[10]$
X(u)	6898.6	6298.9	6944.2	2795.2	5342.2	933.7
Q(u)	3893.2	3416.7	2981.2	1501.3	933.7	557.5
MD	2678.0	1564.5	1604.4	82.6	183.7	75.4
Q(l)	1243.1	730.0	241.6	17.0	50.8	20.8
X(l)	22.1	3.8	4.7	1.9	0.5	0.5
MSD	2560.1	2686.7	2739.6	1484.3	882.9	536.7
outliers	—	—	(1)	—	3	—

(number of observations is given between square brackets)

X(u) = upper extreme value; Q(u) = upper quartile; MD = median;

Q(l) = lower quartile; X(l) = lower extreme value; MSD = midsread

Looking at the reported figures and at the graphs, rather highly skewed distributions can be noticed, in terms of both the location of MSD within the overall range of the batch and, in some cases, the location of MD within MSD<sup>6</sup>: this pattern is particularly evident for exporting firms. The spread does not significantly increase with the size of the enterprises, but it does even decrease in the case of exporting MNEs; this amazing result is again found also for importing MNEs if the same operations are repeated using employment figures instead of sales (while keeping approximately the same proportions among numbers of observations in the batches).

In both sets there is no evidence of covariance of levels and spreads, as it might be found especially in microeconomic cross-section data. An eventual presence of covariance would give rise to problems of heteroscedasticity, unless data are not properly transformed (Thomas 1983, ch. 11).

Furthermore, the previous findings about the relation between import propensity and sales can be more clearly understood, since the negative correlation between the two variables is to be attributed to the average behaviour of small-sized enterprises.

Finally, among large-sized importing MNEs a quasi-outlier emerges, which is constituted by a firm involved in automobile production<sup>7</sup>; in the group of medium-large expor-

6 The midsread or « interquartile range » measures the distance between Q(u) and Q(l) and corresponds to the variance or to the standard deviation in confirmatory statistics (Erickson & Nosanchuk 1983, ch. 3).

7 The minimum for an upper outlier would be 7090.6 (following the method suggested by Tukey).

ting MNEs three outliers are detected, belonging to the branches indicated in Figure 1 ( $\hat{\beta}$  has been then transformed into  $\hat{\beta}_T$  by taking off these three observations).

Following the considerations in (ii), the regression analysis has been carried out using foreign trade as dependent variable, instead of foreign trade propensity. As far as imports are concerned, the equations to be estimated are the following:  
equation [1] - sectoral differences in MS:

$$M_i = \alpha_1 + \alpha_2 D2 + \alpha_3 D3 + \alpha_4 D4 + \alpha_5 D5 + \beta_1 S_i + \beta_2 (D2S)_i + \beta_3 (D3S)_i + \beta_4 (D4S)_i + \beta_5 (D5S)_i + u_i;$$

equation [2] - « home country » and « foreign ownership share » effect:

$$M_i = \alpha_1 + \alpha_2 C2 + \alpha_3 C3 + \gamma_2 E2 + \gamma_3 E3 + \beta_1 S_i + \beta_2 (C2S)_i + \beta_3 (C3S)_i + \delta_2 (E2S)_i + \delta_3 (E3S)_i + u_i;$$

equation [3] - sectoral differences in MS and « foreign ownership share » effect:

$$M_i = \alpha_1 + \alpha_2 D2 + \alpha_3 D3 + \alpha_4 D4 + \alpha_5 D5 + \gamma_2 E2 + \gamma_3 E3 + \beta_1 S_i + \beta_2 (D2S)_i + \beta_3 (D3S)_i + \beta_4 (D4S)_i + \beta_5 (D5S)_i + \delta_2 (E2S)_i + \delta_3 (E3S)_i + u_i;$$

equation [4] - sectoral differences in MS and « home country » effect:

$$M_i = \alpha_1 + \alpha_2 D2 + \alpha_3 D3 + \alpha_4 D4 + \alpha_5 D5 + \gamma_2 C2 + \gamma_3 C3 + \beta_1 S_i + \beta_2 (D2S)_i + \beta_3 (D3S)_i + \beta_4 (D4S)_i + \beta_5 (D5S)_i + \delta_2 (C2S)_i + \delta_3 (C3S)_i + u_i.$$

The three sets of dummy variables used refer to sectoral groups ( $D_k$ , for  $k = 1, \dots, 5$ , see Table 1), home countries ( $C1 = \text{USA}$ ;  $C2 = \text{Europe}$ ;  $C3 = \text{other}$ ) and share of foreign ownership ( $E1 = \text{sfo} > 90\%$ ;  $E2 = 90\% \geq \text{sfo} > 50\%$ ;  $E3 = \text{sfo} \leq 50\%$ ).

In general terms, the results of OLS appear quite significant for the overall goodness of fit of the estimated regression equations, but not particularly so for single parameter estimates. In fact, on the one hand, with the exception of [2], the F test indicates that the use of the dummies adds significance to the explanation of imports and the adjusted  $R^2$  ( $R_a^2$ ) are significant (0.65 for [1]; 0.72 for [3]; 0.62 for [4]). The lower  $R_a^2$  for [4] in comparison with that for [1] seems to suggest that the introduction of « home country » dummies does not contribute to an explanation of different import patterns. On the other hand, if t-statistics for slope parameter estimates are considered (intercept estimates have no real economic meaning in this case), the null hypothesis is rejected at 95% — in some cases at 99% — confidence interval only for the following



estimates:  $\hat{\beta}_2$  and  $\hat{\beta}_4$  in [1];  $\hat{\beta}_2$ ,  $\hat{\beta}_4$  and  $\hat{\delta}_2$  in [3]; and again  $\hat{\beta}_2$  and  $\hat{\beta}_4$  in [4]. While for [2] and [3] the Durbin-Watson test is inconclusive, for [1] and [4] the hypothesis of no serial correlation in the disturbances is satisfied at 95% confidence interval.

The lack of significance for a few estimated coefficients can be explained in view of the previous considerations about the features of the sample and also by analysing the scattergram presented in Figure 2. Only the mechanical and the chemical sectors have firms with imports exceeding 20 million dollars and, at the same time, as it has been above noticed, in D1 and D3 three firms lie far from their respective batches and show very low levels of imports in relation to their sales.

Another aspect arising from the results concerns the role of different shares of foreign ownership in MNEs for their import behaviour. An F test comparing the restricted estimators of [1] with the unrestricted ones of [3] gives a significant result at 95% confidence interval ( $F(4,46) = 2.88$ ). This pattern seems to be mainly due to the behaviour of MNEs at medium levels of foreign ownership participation:  $\hat{\delta}_2$  is equal to  $-0.21$  in [3], which reveals that, within a particular sector, this group of firms tends to have a lower import propensity than the average (the value of the intercept of the linear fit for E2 is not significantly different from that for E1).

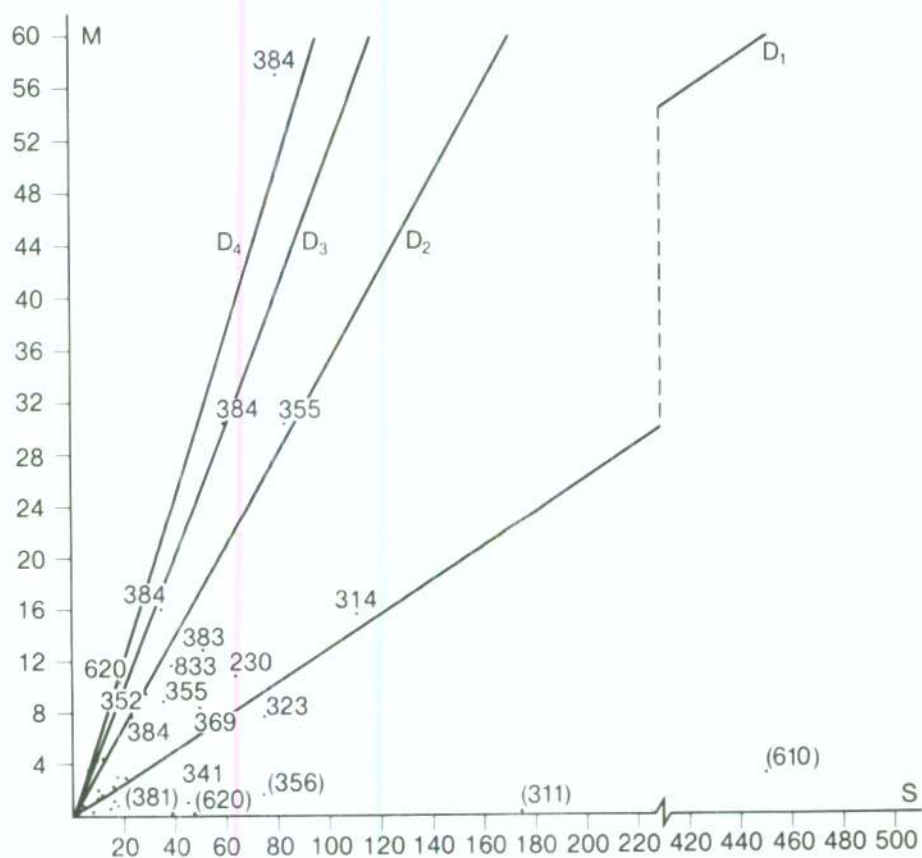
To better compare the estimates obtainable by using the whole sample with alternative more resistant estimates obtained after excluding « awkward » points from the batches, separate regression analyses for each sectoral group are carried out (except for D5, because of its limited number of observations and its residual nature). The drawback of this procedure is that, while gaining in resistance<sup>8</sup>, the sample loses in randomness, so that significance tests are statistically less valid, besides being applied to a relatively small number of observations. However, in this way some hypotheses regarding market orientation of MNEs in Chile, which have been already arising from the regressions above presented, acquire clearer outlines.

The simple linear regressions lead to much better results once the above mentioned lower « hidden » outliers have been taken off (those observations which are indicated between brackets in Figure 2 – 1 in D1, 1 in D2, 2 in D3 and 1 in D4 –). The estimated equations are the following (t-statistics and degrees of freedom are given between brackets):

8. For a definition of resistance and its relevance for exploratory econometrics, see Mosteller & Tukey 1977, ch. 10.

Figure 2

SALES AND IMPORTS: SCATTER DIAGRAM AND ESTIMATED REGRESSION LINES (SECTORAL GROUPS OF MNEs)(M in millions of dollars, S in billions of dollars)  
(for symbols, see text and Table 1)



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$M_i = -535.5 + 0.14 S_i$ (-0.64) (7.98)	$R^2 = 0.86$ $F(1,10) = 63.66$	$DW = 2.75$ $t_{r(Se)} = 1.87$	[D1]
$M_i = -1027.9 + 0.35 S_i$ (-1.7) (14.59)	$R^2 = 0.94$ $F(1,14) = 213.01$	$DW = 2.51$ $t_{r(Se)} = 1.69$	[D2]
$M_i = -979 + 0.51 S_i$ (-1.15) (5.58)	$R^2 = 0.79$ $F(1,8) = 31.09$	$DW = 1.14$ $t_{r(Se)} = -0.06$	[D3]
$M_i = -3062.6 + 0.58 S_i$ (-0.93) (6.86)	$R^2 = 0.85$ $F(1,8) = 47.07$	$DW = 1.77$ $t_{r(Se)} = 0.42$	[D4]

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The coefficients of  $S_i$  are all highly significant, and  $S_i$  accounts in all cases for a high percentage of the total variation in  $M_i$ . As expected, MNEs in the traditional sectors have a lower import propensity than those in chemical industries, and the latter appear in turn less dependent on imports per unit of sales than MNEs in the trading sector and in mechanical industries. The significance of these relations as distinct from one another has been tested with t-tests, for each estimated coefficient compared with the value(s) of the next in order of magnitude. The hypothesis of overlapping is rejected in three cases at 99% confidence interval ( $t_{1,2} = -12.47$ ;  $t_{2,1} = 8.83$ ;  $t_{2,3} = -6.83$ ), but it can not be rejected in the remaining three cases ( $t_{3,2} = 1.78$ ;  $t_{3,4} = -0.73$ ;  $t_{4,3} = 0.79$ ). However, it can be noticed that the only two cases showing particularly low t-statistics regard the last two sectoral groups, which actually present very similar performances.

In a sample of firms such as the present one, the range of random errors in imports may well vary with the size of the firm, which is to a certain extent reflected by total sales. A non-parametric test to check for heteroscedasticity has been conducted by using Spearman rank correlation coefficients between absolute values of residuals and sales values. The corresponding t-statistics lead to reject the hypothesis of heteroscedastic errors at 95% confidence interval (results are given above, for each group).

As already mentioned, the hypothesis of a changing import propensity within each sectoral group has been also considered. More precisely, the assumption that imports increase more than proportionally with sales, as some empirical studies seem to suggest, or vice versa, as the exploratory analysis on the sample reveals, has been tested by applying first a method geared to decide whether to leave the linear relation or to fit data with a curve, for each of the four sectoral groups indicated and keeping the same

exclusions as above<sup>9</sup>. Except for D4, which shows a modest upward concavity, there is no indication of the need to apply a curvilinear fit; moreover, if quadratic forms are used ( $M_i = \alpha + \beta S_i + \gamma S_i^2 + u_i$ ), the estimated coefficients are not significant. Therefore, it appears clear that the excluded « awkward » points are to a considerable extent responsible for the results in (i) or, analogously, for those implied by Figure 1: if these observations are ignored, import propensity within specific sectors does not substantially change at different levels of sales of the MNEs.

As the last step in the analysis of import flows, the residuals of the four simple linear regressions have been plotted against import values, so as to explore eventual further information emerging from the residuals<sup>10</sup>. For the sake of brevity plots are not reproduced here, but the following conclusions can be drawn:

- a) the stage of the production process and further features of production activities (e.g., capital-intensity) clearly account for intra-sectoral differences in import propensity, since positive values in the residuals mainly occur in branches such as 342, 230, 361-69, 314, 356, 384, and, among trading companies, in vehicle manufacturing, whereas negative values frequently appear connected with branches as 331, 341, 323, 351-52, 383, and, in D3, in non-durable consumption goods;
- b) if there is more than one subsidiary belonging to the same MNE, a pattern of specialization in export orientation seems to arise, in the sense that, being the only two cases present in the sample constituted by two firms each, one firm is mainly engaged in local sales and, eventually, exports, and another in imports (an MNE in 610, concerned with trade in mechanical products, and an MNE in 356, of which one subsidiary is indicated between brackets in Figure 2 since it is one of those excluded from the regression);
- c) no clear indication emerges with regard to size of MNEs, as already considered;
- d) no evidence of any « home country » effect appears, as it had been already suggested by the initial results: US and European MNEs are rather evenly distributed around the fit, with the former straggling relatively more towards the extremes in D1 and D2 and towards the linear fit in D3 and D4;

9 The method is proposed by Erickson and Nosanchuk (1983, ch. 12) and consists in unbending the batches, finding out summary points (e.g., the trimeans) and calculating the ratio of the slopes of the lines connecting these points.

10 It should be noticed in this respect that OLS estimates have been obtained after removing five observations from the original sample, so that, in terms of the overall model, residuals are not minimized, but they contain more useful information than they would do if OLS were mechanically applied to the whole sample.



e) the plots confirm the existence of a relatively lower average import-propensity for MNEs with medium-low shares of foreign equity capital, and this performance is even more evident if the five excluded observations are taken into account.

As anticipated in section 3, the regression analysis for exports leads to less significant results. In fact, the limited number of observations does not allow to obtain reliable results for a distinction among various sectoral groups. Moreover, as seen in Figure 1, the overall distribution is highly skewed, with only four observations straying from the others, which lie all below the level of 6 million dollars of exports. Nevertheless the results throw some light upon the subject. The equations to be estimated are the following:

equation [1] - simple linear regression:

$$X_i = \alpha + \beta S_i + u_i;$$

equation [2] - « foreign ownership share » effect:

$$X_i = \alpha_1 + \alpha_2 E4 + \beta_1 S_i + \beta_2 (E4S)_i + u_i \quad (\text{where } E4 = E2 + E3)$$

equation [3] - « home country » effect:

$$X_i = \alpha_1 + \alpha_2 C2 + \alpha_3 C3 + \beta_1 S_i + \beta_2 (C2S)_i + \beta_3 (C3S)_i + u_i.$$

As expected, given the sample distribution, all estimated coefficients are very low (not exceeding 0,06 in absolute value) and, according to t-tests at 95% confidence interval, only those relative to  $S_i$  ( $\hat{\beta}$ ,  $\hat{\beta}_1$ ) are significantly different from zero. The overall fit is improved when passing from [1] to [3]: F-statistics are in both cases higher than critical values, with  $F(1,26) = 8.91$  and  $F(5,22) = 5.61$  respectively, but the squared multiple correlation coefficients substantially increase from [1] to [3] (the  $R^2$  are 0.25 and 0.56, respectively; the  $R_a^2$  0.23 and 0.46, respectively) and the Durbin-Watson test shows positive autocorrelation in the errors in the former case, while it is inconclusive in the latter. Because of the presence of extremely low values in the slope parameters, the hypothesis  $H_0: R^2 = 0$  has been tested against the alternative that at least one slope parameter is different from zero, for both equations (Thomas 1983, p. 195). The F test leads to reject the null hypothesis, with the F-statistics equal to 8.89 and 9.33 respectively, so that it is possible to conclude that some real economic explanation has been achieved by the chosen model. In [2] the results are instead even less significant than in [1] and this suggests to reject the hypothesis of different shares of foreign equity capital as a possible explanation of export patterns.

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Considering the results in more detail, it is apparent that, in the plot of the residuals against export values in [1], US MNEs lie above the linear fit or assume slight negative values, except two cases; by contrast, European MNEs and MNEs of other origin lie all far below the fit, except two cases with high positive values in the residuals (the exception in the case of C3 is represented by a firm with mixed participation in which a US MNE owns a major part of the equity capital). This asymmetry is adjusted in [3], where « home country » dummies are introduced. However, due caution should be used before drawing conclusions in this respect, since the number of observations is limited and the « home country » variable is intertwined with the same apparent factors considered while analysing imports. In fact, particularly export-oriented MNEs are four large-sized firms involved in the following sectoral activities: 230, 341, 356 (see point « b » above) and 610 (it is an « awkward » point like the preceding observation, excluded from the simple linear regressions of imports and represented by an MNE concerned with trade of petrochemicals). The low content of value added attributed to exports of MNEs located in Chile seems to be a hypothesis supported by these results.

## 5. Conclusions

The present study has focused on patterns of international trade transactions by MNEs in Chile. Similarly to the general performance in other Latin American countries with the same main characteristics of the Chilean economy, MNEs generally appear oriented towards the local market, with scarce interest towards foreign outlets and frequent high dependency on imports. The policy of export promotion of the last few years seems to back up or at least to be effective almost only for large concerns involved in production activities for which Chile traditionally has comparative advantages.

The sample here utilized regards more than one fourth of MNEs located in Chile in 1979, as recorded by a recent survey of ECLA. Among the hypotheses searched in section 2 relative to various interpretations of this topic, the comparison between MNEs and local enterprises and the analysis of alternative channels of trade transactions (arm's length versus intra-firm) have been left out because of lack of empirical information. A specific survey on the second aspect would be certainly relevant for its policy implications, in order to check for instance whether a policy of trade liberalization such as that implemented in Chile in the last decade has discouraged firms from internalizing their international trade operations or, on the contrary, it has encouraged them as a consequence of the weakening of small-sized enterprises.

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The results of this analysis are on certain accounts similar to those of other recent studies on Latin American countries (Sourrouille et al. 1984, for Argentina; UNCTC 1984, sec. 3, for Brazil; Arango Misas 1983, for Colombia): sectors and industrial branches characterized by relatively stronger oligopolistic structures, by higher capital-intensity and by looser linkages with the local economy are more liable to have MNEs with a higher propensity to import, and this could be even more accentuated for Chile due to the particular tariff structure adopted by this country in the 1970s, as mentioned in section 3.

Another apparently not negligible factor is represented by the share of foreign equity capital: even after taking into account the influence of sectoral differences in import propensity, a higher foreign participation in the equity capital positively affects the propensity to import of MNEs in the average. The feared trade-off between export promoting policies and strategies of local control, mentioned in section 2, is not substantiated instead by the results of the analysis, whereas there appears moreover a relatively greater weight of firms at medium levels of foreign equity share among exporting MNEs.

In contrast with results of other studies, the « size » element does not assume a clear-cut influence. In this regard, possibly due to the relatively higher presence of low R&D-intensive sectors in the sample in comparison with samples used by other studies (or to further specific features of MNEs in Chile), sales surprisingly appear negatively correlated with import propensity, even if only slightly. Finally, the geographical origin of MNEs is not found to matter in the case of imports, while for exports it is apparently connected with some of the other factors above mentioned.

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## **L'ORIENTATION DE MARCHÉ DES ENTREPRISES MULTINATIONALES AU CHILI: UNE ANALYSE ECONOMETRIQUE**

### **RESUME**

*Dans les études sur les effets économiques et sociaux des entreprises multinationales pour les pays en voie de développement où elles opèrent il y a encore peu de tentatives de quantifier de façon précise quelques-unes de ces effets, même si une tendance dans cette direction paraît à la suite de la meilleure disponibilité de données dans quelques pays. Le comportement des entreprises multinationales dans le domaine des échanges commerciaux intérieurs et internationaux a été le sujet de différentes interprétations et jugements et mérite pourtant une considération particulière.*

*Avec les données fournies par une étude de la Commission Economique pour l'Amérique Latine, à laquelle d'autres suivront pour d'autres pays latino-américains, le Chili constitue un cas rare de disponibilité de données suffisamment détaillées selon le secteur productif et complètes quant à la couverture du problème. Ici ces données sont utilisées pour une analyse économétrique sur de possibles éléments explicatifs de différentes propensions à l'importation et à l'exportation des entreprises. L'analyse est précédée par une présentation des principales hypothèses à ce sujet selon les résultats de récentes études, comme les interprétations axées sur la localisation, le secteur productif et le type de produits, la dimension de la firme, sa origine géographique et la participation étrangère au capital. Après quelques considérations générales sur les*

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*politiques suivies au Chili dans le commerce et les investissements étrangers et sur le poids des entreprises multinationales dans l'économie du pays, on passe à présenter les caractéristiques de l'échantillon choisi pour l'analyse. Dans l'analyse on applique des techniques exploratives et confirmatives de l'économétrie, avec l'utilisation de variables « dummy » pour tester le rôle de différents facteurs explicatifs.*

*Les résultats indiquent une orientation générale des multinationales vers le marché intérieur du pays et un fort déséquilibre dans les flux commerciaux dû à la haute propension à l'importation qui contraste avec la faible propension à exporter. Si l'on entre dans le détail, les entreprises de secteurs avec une plus grande intensité capitalistique et technologique et les entreprises avec une plus haute participation étrangère au capital social montrent une plus accentuée propension à importer, à conditions égales. D'autres hypothèses ne sont pas confirmées par les résultats, mais il faut tenir compte aussi de quelques particularités de l'échantillon et du pays examiné.*

# Book reviews

## Revue bibliographique

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MARCUS FRANDA, **The Seychelles Unquiet Islands**, Westview Press, Boulder, Colorado and Gower, Hampshire, England pp. XIII + 140, Index. 1982.

This book belongs to the « Africa Profile Series » and does not deal solely with the economy of the Seychelles: historic, cultural and political aspects of the country represent about three fifths of the book while the remaining part is devoted to a description of the economy and its prospects.

The Seychelles, like other Indian Ocean countries such as Mauritius and Maldives, are well endowed with a healthy and pleasant climate favourable to agriculture but land is scarce (900 hectares suitable for agriculture) and population, whose health standard is high as it is proved by life expectancy almost of European level, is too large compared to the resources (only 150 square meters of arable land per capita).

The priority targets of such countries, of small dimensions and isolated, should therefore be food self-sufficiency (able to meet the needs of the local population fully and of the tourist population at least partially) and energy self-sufficiency. At Seychelles reality is far from these targets.

The importance of the primary sector has been constantly declining. Agriculture has remained stagnant while the fishing industry has not been properly developed despite the good prospects due to huge fishing resources that the Exclusive Economic Zone covering nearly a million square kilometres of the Indian Ocean guarantees to Seychelles. Self-sufficiency is likely to be reached in sawn timber, due to re-afforestation schemes now under way, although several forest species have been over exploited and have almost disappeared.

Over half of total tourist revenues are re-absorbed on imports for the sector and therefore local food production has been encouraged at the expense of cash crops for export. Agro-industries are being encouraged and a fruit canning factory, a coconut oil mill and an ice-making plant already exist while public utilities (water, electricity) are being expanded as well as housing construction.

The example of Singapore, with much less arable land per-capita, that has been able to reach self-sufficiency in several food items (except grains) and that has based its economy not only on light industry but also on housing and service industry, should provide a lesson for Indian Ocean countries like Seychelles.

As far as energy is concerned at least large consumers of energy like hotels should be able to use solar heaters for hot water thus contributing to relieve the burden of the oil bill on the trade balance. Seychelles could also be eligible candidates for wide scale experimentation in the field of renewable energy sources that international organizations like the International Bank for Reconstruction and Development or the United Nations Development Programme might be willing to finance in order to provide concrete examples to be followed by other developing countries located in the same climatic zone. This may include, in addition to solar and wind sources, also firewood and charcoal produced with timber grown in appropriate plantations.

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ALFREDO TESTI, *Sviluppo economico e bisogni essenziali*, Liguori Editore, Napoli, 1983, pp. 368.

A partir du début des années '50, dans la littérature économique des voix pessimistes et discordantes se font jour au sujet des résultats et de l'efficacité des politiques de développement adoptées dans (et pour) les pays du Tiers Monde. En particulier, déjà en 1953, un économiste tel que J. Viner mettait en doute la validité du parallélisme entre développement et croissance économique en montrant que le revenu par tête était un indicateur de développement bien discutable. Quand le revenu moyen augmente, le nombre des personnes en état « authentique » de misère peut ne pas se réduire et même dans certains cas peut augmenter.

De ces débuts désormais lointains et du résultat final d'un long débat tourmenté en ce qui concerne les expériences des politiques de développement des années '60 (on pense à l'époque des théories du « desarrollo ») et des années '70 (au nouvel ordre économique international) un nouveau courant de pensée est apparu: courant de pensée axé sur la théorie des besoins fondamentaux, mieux connu comme *basic needs approach*.

Par son livre récemment paru, Alfredo Testi non seulement s'est proposé d'exposer cet approche de façon claire et détaillée mais a aussi voulu l'insérer dans le contexte plus vaste du débat sur le développement de ces dernières 30 années. Cet effort a permis, entre autre, un réexamen assez complet de la littérature fondamentale du sujet.

Les modèles de développement basés sur la croissance économique considérée comme objectif acceptable en soi visent principalement à l'expansion du secteur moderne de l'économie, secteur dans lequel le rôle du capital est fondamental.

Tous ces modèles (modèles dualistes: Lewis, Eckaus, Myint, théorie des étapes: Rostow, *two-gap models*: Chenery, Strout) se réfèrent en effet à un dénominateur commun qui attribue une valeur stratégique pour le développement aux investissements dans le secteur moderne (modèle Harrod-Domar).

Ces conclusions ont été tirées de l'observation du développement historique des pays aujourd'hui évolués et des politiques keynésiennes de stabilisation des pays industrialisés et trouvent leur justification dans l'espoir — en général non confirmé par les faits — que les avantages de la croissance économique pourront s'éparpiller dans toutes les directions (*trickle-down*).

A la fin des années '60 les politiques inspirées par ces théories montraient un bilan nettement négatif. Au delà des différences entre les nombreux pays intéressés, on pouvait enregistrer partout des « structures de production largement déséquilibrées, une concentration remarquable des avantages de la croissance, une plus grande pénurie de produits alimentaires, un taux supérieur d'inflation, une dépendance économique et culturelle toujours plus accentuée.

Les chocs pétroliers et le débat suivant sur la nécessité d'un nouvel ordre économique international remettent en question les stratégies et les équilibres anciens. En général les organisations internationales visent à un rééquilibre axé sur des politiques de stabilisation des prix des matières premières, sur l'assistance technique aux P.V.D., sur la réduction des tarifs douaniers à l'exportation des biens manufacturés etc. sans toutefois remettre réellement en cause les stratégies de développement.

En même temps des experts des pays industrialisés et en voie de développement liés aux Nations Unies formulent, spécialement avec la déclaration de Cocoyoc (1974) une nouvelle définition des buts du processus du développement « il ne faut pas développer les choses mais les conditions de l'homme. Les êtres humains ont des besoins fondamentaux: la nourriture, le logement, l'habillement, la santé, l'éducation. Chaque proces-

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sus de croissance qui n'aboutit pas à leur satisfaction — ou encore pire qui l'handicape — est une falsification de la notion de développement ».

A partir de ce moment l'élaboration de la théorie des besoins fondamentaux commence: on constate d'abord l'existence de zones permanentes et croissantes de pauvreté qui sont indépendantes du taux de croissance du revenu par tête, on en déduit enfin la nécessité de politiques nationales qui affrontent directement le problème des besoins fondamentaux. Testi synthétise clairement les lignes fondamentales d'intervention qui peuvent ainsi être résumées: « élargir les possibilités de formation du revenu dans les couches les plus démunies de la population; accroître la production et la distribution des services publics de façon que les couches les plus nécessiteuses de ces services soient effectivement favorisées, améliorer la production des biens et des services capables de satisfaire directement les besoins de tous les membres des « familles » ou de secteur traditionnel, stimuler la plus grande participation populaire aux décisions quant à la nature des besoins à satisfaire et aux méthodes pour y parvenir.

Il faut reconnaître qu'en partant de ces considérations on n'a pas encore découvert des stratégies complexes et articulées de validité universelle.

Testi examine de nombreuses expériences de politiques visant à atteindre, soit directement soit indirectement, la satisfaction des différents besoins fondamentaux. Il distingue entre politique de l'offre (stimulations et technologie « appropriées »), politique de la demande (emploi et redistribution des revenus) et politique d'intervention publique.

De l'analyse de Testi, il semble apparaître clairement que le succès des politiques visant à satisfaire les besoins fondamentaux dépend surtout, pour ne pas parler des facteurs objectifs (situation géographique, structure de la propriété, etc.) du contexte institutionnel et administratif caractérisant l'adoption de ces politiques.

Il faut qu'une forte volonté politique centrale s'allie à une organisation administrative périphérique sûre et « intelligente » de façon à assurer, en outre, le flux et la qualité des informations.

De tout cela il en découle de façon implicite le rôle fondamental dans les P.V.D. des investissements en capital humain. Ces investissements sont nécessaires pour permettre la création de structure politiques capables d'une part d'utiliser des techniques sophistiquées (*social accounting matrix*, modèles à plusieurs secteurs, etc.) et d'autre part de stimuler et de garantir la participation populaire indispensable pour n'importe quelle politique basée sur les besoins fondamentaux.

En tirant la conclusion de son analyse, Testi se demande jusqu'à quel point l'approche des besoins fondamentaux constitue une nouveauté en comparaison des approches plus traditionnelles. En particulier l'Auteur se pose la question si la satisfaction des besoins fondamentaux constitue un objectif de politique économique distinct de celui de la croissance.

Il est vrai en effet que 1) l'objectif d'une distribution plus équitable du revenu — but implicite dans la théorie des besoins fondamentaux — semble compromettre le niveau de l'épargne et donc des investissements et que 2) les investissements dans le secteur « traditionnel », dans le secteur santé et éducation réduisent les ressources destinées au secteur moderne. Toutefois l'expérience ne semble pas confirmer que des taux plus élevés d'épargne dus à une distribution plus inégale se traduisent en investissements productifs dans les pays d'origine mais au contraire donnent lieu à des investissements spéculatifs, à des fuites de capitaux, etc.

Testi fait remarquer clairement que « beaucoup de dépenses prioritaires caractéristiques d'une stratégie de satisfaction des besoins fondamentaux représentent un effort d'investissement plutôt qu'un incitation à la consommation.

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Une proportion remarquable des dépenses courantes pour la santé, l'éducation et l'accroissement de la diète « nécessaire » déterminent un élargissement et une amélioration des ressources disponibles car les forces de travail sont mieux formées et plus efficaces. De la même façon, les dépenses pour améliorer et accroître le degré d'instruction et pour réaliser de meilleures conditions hygiéno-sanitaires constituent un accroissement du capital physique qui dans le futur pourra produire des services correspondants.

**Jardena Tedeschi**  
Università di Milano

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**RASSEGNA TRIMESTRALE**

REGISTRATA PRESSO IL TRIBUNALE DI MILANO AL N. 102 DEL 27.3.1974

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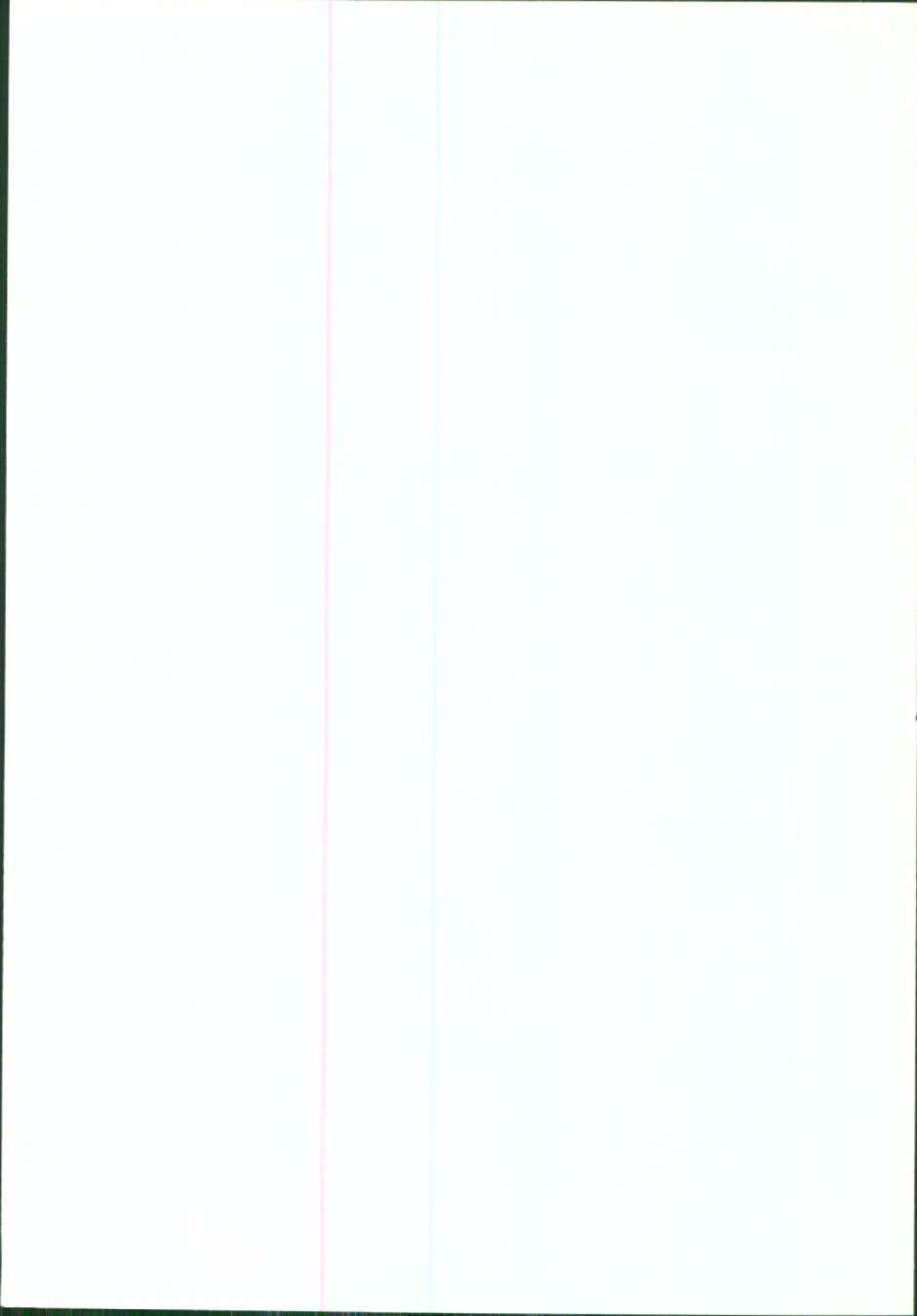
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Tipografia MORI - Via Guicciardini, 66 - 21100 Varese

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ISSN 0393 - 4551