Geographic patterns and cultural distance.
The affiliates of the world’s largest food and beverage MNEs

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Abstract

Using a database comprising more than 8,000 affiliates, this article describes, maps and analyses the geographic pattern of the world’s largest food and beverage multinational enterprises (F&B MNEs) over 1996-2000. F&B MNEs are attracted by affluent and/or large markets for foodstuffs. F&B MNEs are also highly internationalised. However, this proposition should be nuanced. 1) These companies keep a stable foreign to total affiliates rate (no substantial evidence of de-localisation of facilities situated in the home-country could be found over 1985-2000); 2) EU-15 and Asian companies are regionally focussed, and North-American and Rest of Europe enterprises tend to a bi-national structure; 3) they combine great country spread with limited cultural diversity; 4) within the company, the configuration of some specific economic activities is geographically concentrated. Results provide substantial verification of the hypothesised positive relationship between the nationality of the parent and affiliates’ location. The home-region and the location of affiliates according to a cultural pattern are statistically associated. Finally, the location of affiliates and the types of activity they develop are also statistically associated.

Introduction

Understanding the geographic patterns of multinational enterprises (MNEs) has important practical and theoretical implications (Cantwell and Sanna-Randaccio 1993b; Dunning 1996; Goerzen and Beamish 2003; Ietto-Gillies 2002b; Mucchielli and Mayer 2004; Siddarthan and Lall 1982; Wheeler and Mody 1992).

Empirical research, however, on the location of MNEs has progressed quickly on some fronts but quite slowly on others. Some authors in the field of the economics of technological change and international business (IB) studies have been able to comprehensively analyse the spatial distribution of MNEs’ innovative activities thanks to the availability of large patent databases with information on the location of such activities in the world (Alfranca, Rama and von Tunzelmann 2005; Cantwell 1989; Cantwell and
Barrera 1998; Cantwell and Iammarino 2000; Cantwell and Janne 2000; Cantwell and Santangelo 1999; Patel 1995; Patel and Pavitt 1991; Patel and Vega 1999). By contrast, the location of other operations of the MNE (e.g. production, retailing), not necessarily positioned in the same sites than its R&D activities, is less investigated. The paucity of data at the affiliate level (as opposed to the company level) may be to blame.

In our view, cross-sectional analyses of MNEs should be complemented by sector analyses on the geographic patterns of homogenous populations of companies, often statistically more reliable; these analyses are also needed because MNEs from different industries display different propensities to internationalise (Ietto-Gillies 2002a). MNEs in consumer industries, as it has been claimed, would be more driven than other MNEs by market-seeking strategies and would be, therefore, more prone than them to locate their affiliates abroad. Sectoral dynamics could be especially important in oligopolistic sectors, where companies copy each others’ location behaviour (Van Tulder 2006). Cross-sectional samples are usually unreliable sources for studying sectoral groups of MNEs because they contain only small sets, insufficiently representative, of companies pertaining to each industry. Gable and Bruner’s (2003) *Atlas of the multinational corporation* is a valuable recent effort to fill this lacunae on the deployment of multinational assets by industry. Their samples still remain though relatively small.

Actually, the debate on MNEs’ geographic strategies in specific industries, such as the F&B industry, is illustrated by the use of case-studies; though such studies contribute valuable insights, their results cannot be generalised. As a consequence, some authors have remarked “*agro-food transnational corporations are conceptually and empirically under-theorised*” (Pritchard 2000a, p. 259); others criticise that these companies, in spite of their specificities, are studied with conceptual tools obtained from empirical analyses of the average MNE (Goodman 1997). In sum, insufficient empirical research in this field may limit theory formulation based on facts.
An example is the informed debate of a capital issue in IB studies and economic geography. Do MNEs pursue a truly global strategy or, in fact, operate in their respective home-regions (e.g. the European Union) (Archibugi and Michie 1995; Ietto-Gillies 2002b; Rugman and Verbeke 2002)? Recent research supports the idea that “the majority of even the most ‘global’ MNEs in reality operate on a regional/Triad basis” (Rugman and Verbeke 2002). Other authors point to the upsurge in regional competitive pressure that comes, among other causes, from the formalization of trading blocks (Morrison, Ricks and Roth 1991); even in the so called “global” industries, they claim, MNEs need to become regionally focused or face competitive disadvantage. Moreover, some scholars note the emergence of bi-national MNEs’ structures (US and Europe), mainly among US MNEs (Ruigrok and van Tulder 1995). These issues have been illustrated with cross-sectional samples and case-studies and rarely with large samples of homogeneous MNEs as the one we use in this article.

Our aim is to contribute to this empirical literature. We target at determining whether F&B MNEs tend to operate on a regional basis. We describe, map, investigate and analyse the geographic patterns of the world’s largest F&B MNEs over 1996-2000 with a database providing detailed information on more than 8,000 affiliates. Our contribution mainly resides, first, in updating with 2000 data previous studies for the F&B MNE, an exercise facilitating a dynamic approach to its location choices. Assessing whether MNEs’ geographic patterns are stable is relevant at least for two reasons. First, it has often been claimed that such firms are increasingly mobile in space; other scholars argue that they tend to converge in their strategies (Duysters and Hagedoorn 2001). Second, for the first time we introduce a crucial aspect, namely cultural distance, into the statistical analysis of these firms’ geographic pattern, and explore whether the physical dispersion of their assets implies also dispersion across different cultural clusters of countries. Third, by introducing
for the first time the F&B MNEs’ different lines of economic activity in the analysis, we investigate geographic dispersion within the multinational network.

The article does not attempt to formulate a theory predicting the prominence of some countries as sources for foreign direct investment (thereafter, FDI), or the distribution of foreign affiliates among countries in this industry; as stated earlier, our contribution is primarily empirical. Nevertheless, we do make a few preliminary arguments and corroborate whether our findings support explanations provided by previous studies. The rest of the paper is organised as follows: Section 2 sets out the theoretical background which informs our research; section 3 presents the data and methodology and section 4 the descriptive statistics, maps and main indicators of the companies’ geographical patterns. Section 5 provides the results and discussion, and finally section 6 concludes.

**Theoretical background**

This section provides background for some issues investigated below. F&B MNEs are influential firms. About 100 top MNEs (thereafter, the top group) are the major components of an oligopoly in international F&B markets, where they controlled 27% of the world’s F&B industry turnover and 14% of employment by 2002 (Ayadi, Rastoin and Tozanli 2004); such companies accounted by the mid 1990s for around 50% of the world’s patented innovations in the F&B technological field (Alfranca, Rama and von Tunzelmann 2002).

These companies have met constraints and challenges in Western F&B markets, such as: a slowdown in the volume of the demand, changes in lifestyles; the new preferences of some consumers for fresh, organic and artisan products (Goodman 2003; Tozanli 2005); the entry of large tobacco and pharmaceutical firms in F&B markets (Wilkinson 2002); and competition from retailers’ cheap own brands.
The response of F&B MNEs has been to spread to a large number of foreign markets (Anastassopoulos and Rama 2005). What remains under investigation is whether their broad geographic scope implies a truly global strategy.

A review of the literature on the geographic patterns of MNEs suggests the need to consider several important aspects and variables; first, account should be taken of the home-country of the company. According to both the IB literature and the economic geography literature, MNEs based in different countries display different spatial strategies (Dunning 1993; Friedman, Gerlowski and Silberman 1992; O’hUallacháin and Reid 1992). After reviewing the literature on the location of MNEs, Blackbourne (1982) notes that such firms “retain national identities and attitudes that influence their locational behaviour”. According to previous research, F&B MNEs were no exception in this respect over the period 1985-1996 (Anastassopoulos and Rama 2005; Tozanli 2005), although it is unclear if these companies’ spatial strategies could be currently converging.

Therefore, we hypothesize that the nationality of an F&B MNEs influences the location of its foreign facilities.

Second, according to some scholars, the picture of MNEs’ geographic patterns should include the different types of activities carried out within the multinational network. Porter (1986) develops the concept of “configuration” of the company, i.e. the location in the world where each of its activities is performed, and argues that downstream business, closer to the market, are likely to be situated near consumers, while upstream and support activities could be decoupled in most industries from the buyer’s location. An MNE will disperse some activities in order to better reach specific national markets, while it will concentrate others in a few international sites (not necessarily in the home-country) in order to reduce its costs and benefit from economies of scale (Kutscheker and Bäurle 1997);
for each of its activities, the MNE faces a range of possible configuration options, from a concentrated to a dispersed one.

MNEs situate most of their R&D laboratories in world centres for technological and scientific excellence where they are able to tap on knowledge externalities and benefit from agreements with Universities which are at the forefront of research (Cantwell and Iammarino 2000; Cantwell and Janne 1999; Cantwell and Kosmopoulou 2001; Patel and Vega 1999); these firms’ location criteria, however, for other segments of the value-chain are likely to differ. Pritchard (2000a) notes that F&B MNEs in East-Asia “possess multiple geographies of production, trade and finance”.

Therefore, we test if the type of activity developed by an affiliate is related to its location.

Cho and Padmanabhan (2005) argue that “no international business study can be considered complete unless there is an explicit variable controlling for cultural distance”. The more dissimilar the home and the host-country are in terms of tastes, values, ethics, etc., the more difficult will the MNE find to operate and respond to local demand (Goerzen and Beamish 2003).

Given the cultural connotations of food consumption and conviviality, cultural distance is a particularly important issue for F&B MNEs, much more so than for MNEs pertaining to other industries. A study including 138 food related questions and 20,000 respondents in 79 European regions found that there is a large degree of overlap between regions of food culture and language (Askegaard and Madsen, 1995). Owing to cultural differences, similar food-related lifestyles and levels of income in different countries could still lead to very different food-consumption patterns (Fischer 2002; Traill 1997).

These characteristics of food consumption could affect the F&B MNE’s geographic patterns. Within Europe, more than half the affiliates’ sales of US F&B MNEs take place in the UK, and to a lesser extent in Germany and The Netherlands, i.e. in countries culturally
close to the US (Pick and Worth 2005). Ning and Reed (1995), who investigated location
determinants of US FDI in food and kindred products from 1983 to 1989 found that the US
firms tended to invest in either English speaking or other European countries because these
countries have similar cultural linkages. Conversely, in 1999 the UK had the most foreign
affiliate sales in the US F&B industry of the European countries, which could reflect the
effects of its cultural similarity with the US (Pick and Worth, 2005). Previous research has
not investigated, however, effects of cultural distance within the multinational network.

*Therefore, we will investigate, at the affiliate level, whether the cultural distance between
the home-country and the host-country affects the location preferences of F&B MNEs.*

**Data and methodology**

Data indicating value details of MNEs’ operations (e.g. sales) in foreign countries are
scarce and available, if any, for limited numbers of companies, activities and host-countries
(Ietto-Gillies 2002a). For these reasons, rather than on value details of the companies our
analysis is based on the numbers of their respective affiliates, one of the proxies proposed
by the OECD (2004) to construct globalisation indicators related to MNEs.

The target population is the top group. The top group does not include exactly the same
companies in 1996 and 2000 because, during this period, some firms dropped out and
“new” firms entered it; therefore, we selected for analysis the 81 continuous F&B MNEs
that were in the top group for both years. The selected firms are active in a variety of
industries, such as meat processing, dairy products, canned specialties, spirits, etc.; whilst
all are food or beverage processors, a number of them also engages in agribusiness and non-
food concerns.

The data were collected by AGRODATA, a database produced by the Institut
Agronomique Méditerranéen de Montpellier (France)\(^5\). This database is the most
comprehensive information available on the activities and location of the affiliates of the world’s largest F&B MNEs. F&B MNEs included in the database should have at least one food-processing plant outside the home-country and agro-food sales amounting to a minimum of US$ 1 bn. per year (Rastoin et al. 1998).

As stated, our statistical unit is the affiliate rather than the enterprise. For 2000, we analysed unpublished information on 8,218 affiliates provided by AGRODATA. The database includes information on: name of the affiliate; name of the parent; home-country of the company; and host-country, host-region (e.g. the European Union) and sub sector of activity (e.g. dairy products) of the affiliate. For 1996, we processed and analyzed data published by AGRODATA (Rastoin et al. 1998).

AGRODATA classifies the affiliates by their main economic activities and, hence, by their UN-International Standard Industrial Classification (ISIC) code. Following a previous study (Rama 1998), we also group such economic activities into six main categories: within-core activities (WHITHINCORE), agriculture (AGRIC), retailing (RETAIL), technology (TECHN), global trade (GLOBAL) and other activities (OTHER). Table 1 displays the description of the categories. In our sample, affiliates specializing in technology are laboratories enjoying the status of independent establishments (as opposed to laboratories attached to production plants); this sort of laboratories often manage and direct all the R&D activities of a company (G.E.S.T. 1986).

Insert Table 1 here

To measure cultural distance between the home and the host-country of the company we followed closely the analyses by Ronen and Shenkar (1985) and Triandis (1994). They cluster countries based on their relative similarities along four different dimensions, i.e.
language, geography, wealth and religion \(^8\). This method enabled us to measure, at the affiliate level, the cultural distance between the home-country and the host country.

We clustered the countries according to Figure 1, which should be interpreted as follows. Countries belonging to the Anglo cluster of countries take value 1, countries belonging to the Germanic or Latin European clusters take value 2 and so on so forth. Between the Anglo cluster, on the one hand, and the Germanic or the Latin European clusters, on the other, cultural distance is only 1. This indicator of cultural distance takes value 0, the minimum value, when the mother and the affiliate belong to the same country cluster; conversely, it takes the maximum value 5, when the mother belongs to a cluster within the core circle and the affiliate in the “independent” category of countries, i.e. the countries not located in any of the other clusters.

*Insert Figure 1 here*

Then, we analysed the average cultural distance for foreign affiliates in different activities and we calculated AGRICCULT, GLOBALCULT, OTHERCULT, RETAILCULT, TECHNCULT and WITHINCULT, a set of variables which measure average cultural distance for foreign affiliates operating in the above mentioned six categories, and TCULT, a variable measuring it for all the foreign affiliates (See Table 2 for definitions of the variables).

*Insert Table 2 here*

**Descriptive statistics, maps and main indicators**
In this section we describe our sample, map the geographic distribution of the affiliates, analyse the main indicators of their internationalization and country spread and measure the general level of cultural distance between F&B MNEs and their host-countries in 1996 and 2000.

Descriptive statistics of the variables

Table 3 displays some general characteristics of the sampled companies; as shown by the descriptive statistics, the firms display substantial diversity regarding their size (although all are very large), performance, degree of diversification, etc. (for definitions of these variables, see Table 2)

Table 3 also provides some descriptive statistics on the structure of the companies, by economic activity. For instance, AGRIC (T) indicates the share of affiliates (domestic and foreign) that specialize in agricultural activities over the total number of affiliates (domestic and foreign) in 1996 or 2000 (see definitions of variables on Table 2).

The functional structure of the companies remained quite similar over 1996-2000. The data do not support the idea of a generalized shift of F&B MNEs to “producing agroindustrial inputs, components of food-chains, or specialty crops “ (Raynolds et al. 1993, p. 1105); nor the thesis that these companies have rushed to sell-off their agricultural activities to pharmaceutical or chemical companies (Tozanli 2005). On Table 3, the share of the affiliates engaged in agricultural activities, AGRIC (T) rose during the period, while that of the affiliates engaged in technological activities, TECHN (T), remained stable. Although some individual F&B MNEs could have shifted from production to business in merely technology or management (Oman et al. 1989; Pritchard 2000b), the share of affiliates active in core activities, WHITHINCORE (T), also remained quite stable. The share of affiliates engaged in non-core activities, OTHER (T), grew slightly during the
period, a result that provides partial support to the thesis that the world’s most important food companies are “increasingly intersectoral” (Constance and Heffernan 1993, p. 20).

Insert Table 3 here

**Horizontal and vertical FDI**

According to the theory, the types of FDI involved in the foreign activities of F&B MNEs could influence location patterns (below, we come back to this question). The theory distinguishes between FDI of a horizontal type, i.e. FDI designed to serve local markets, and FDI of a vertical type, i.e. FDI meant to obtaining inputs and raw materials (Ietto-Gillies 2002b; Shatz and Venables 2000). Among F&B MNEs, foreign agricultural affiliates, which probably aim at obtaining inputs and raw materials, accounted for only 3.48% (sdv 7.31%) of the total number of affiliates, while foreign affiliates involved in manufacturing of F&B amounted to 58.05% (sdv 25.22%) in 2000. These percentages suggest FDI in this industry is predominantly of a horizontal type, although a reduced part of it could be of a vertical type.

**Mapping foreign affiliates**

We start by mapping the distribution of F&B foreign affiliates around the world in 1996 (not displayed) and 2000 (Figure 2). Over the period, the most important recipient areas and countries were the U.S., the European Union (EU-15), Australia, Brazil, Canada, China, Japan and South Africa; the rest of the areas, notably most African countries, received only small shares of the total numbers of foreign F&B affiliates. In short, the most relevant recipients of foreign affiliates were industrialized countries, especially the U.S., and large
emerging economies. The overall picture was almost unchanged between 1996 and 2000. The exceptions were Eastern Europe – by then on the verge of joining the EU -- and Latin America (Argentina and Brazil), as both regions increased their respective shares of the total numbers of foreign F&B affiliates. During the period, the continued importance of Southern European countries and Canada as recipient areas is noteworthy. It had been predicted that, with the implementation of, respectively, the European Single Market and NAFTA, F&B MNEs based in such trading blocks would reduce FDI in these recipient countries and serve them through exports (Feinberg and Keane 2001; Rama and Calatrava 2002).

Summarising, we can argue that F&B MNEs are attracted by affluent and/or large markets for foodstuffs rather than by countries providing cheap labour.

We also mapped the companies’ foreign affiliates by activity for 1996 and 2000. Although such maps have been excluded due to insufficient space, we do briefly comment some of them below.

*Insert Figure 2 here*

*Main indicators of geographical patterns*

Next, we calculate two indicators of the geographic patterns of F&B MNEs (Table 3). Table 2 contains the variable descriptions.

FDIV measures the level of internationalisation of the firm, i.e. its foreign affiliates as a percentage of its total number of affiliates (domestic and foreign); this variable signals the relative weight of foreign *versus* domestic facilities within the multinational network and measures the geographic diversification of the company. The foreign affiliates of the sampled F&B companies, which had amounted to 53% of the total number of affiliates
(domestic and foreign) in 1990-96 (Anastassopoulos and Rama 2005), grew to more than 55% in our 1996-2000 sample. The average level of internationalisation in manufacturing and mining was 58.4% in 1997 (Ietto-Gillies 2002b). Therefore, our results contest the traditional view that F&B MNEs are more internationalised than other MNEs.

We also calculate FCOU, a variable measuring the country spread of the F&B multinational, i.e. the number of foreign countries where the company operates; it indicates the geographic dispersion of the MNE’s network. F&B MNEs, which had operated, on average, in only 13 foreign countries in 1990-1996 (Anastassopoulos and Rama 2005), spread to 20 foreign countries in 1996 and to 22 in 2000. To put these figures into a relevant perspective, other studies observe that the average MNE spread to only 13.6 countries in 2000 (Ietto-Gillies 2002b). In F&B MNEs, country spread was an effective means to promote the quick growth of sales over 1985-1996 (Anastassopoulos and Rama 2005); this fact could also explain the upward trend of the variable in the current sample.

The results seem to support previous views that F&B MNEs use a multidomestic strategy to serve many different national markets (Cantwell and Sanna-Randaccio 1993b; Porter 1986; Rama 1992; Traill 1997).

In short, F&B MNEs are highly internationalised although they maintain a relatively stable foreign to total affiliates rate. A comparison with 1985-1996 results (Anastassopoulos and Rama 2005) shows no evidence of de-localisation of facilities situated in the home-country – a concern in other industries.

Cultural distance and foreign affiliates

The next set of variables on Table 3 measures, at the affiliate level, the cultural distance between the home-country and the host country. Again, definitions of variables are on Table 2.
The most important conclusion of the analysis is that F&B MNEs tend to operate in foreign countries culturally close to their respective own home-countries (see TCULT on Table 3). When investing abroad, the average cultural distance met by an F&B MNE is approximately 1, with a large variation among companies.

The F&B MNE is likely to spread its foreign manufacturing and international trade facilities (see WHITINCULT, OTHERCULT and GLOBALCULT on Table 3) across cultural clusters, while concentrating other business in the clusters more similar to its own home-country. As noted earlier, F&B MNEs pay the least importance to cultural distance when they invest in food manufacturing facilities (see WITHINCULT on Table 3) because, in such cases, they aim at serving the greatest number of markets and at pre-empting competitors all over the world. By contrast, for its foreign R&D activities these companies choose countries culturally close to the home-country (see TECHCULT on Table 3).

The results suggest not only a multidomestic strategy, as traditionally held, but also a multi-cultural dimension to the F&B MNE’ strategy in core business.

**Contingency analyses of affiliates characteristics**

To further explore the top group’s characteristics, in this section we use contingency analysis to classify the affiliates’ features along different dimensions.

**Home and host-countries**

Table 4 displays the distribution of the affiliates by home-region and host-region as a percentage of the total number of affiliates (domestic and foreign)\(^\text{10}\).

*Insert Table 4 here.*
On Table 4, rows indicate the origin of capital and columns the location of the affiliates in 1996 and 2000. Most of them belong to F&B MNEs based in North America (USA and Canada) and, especially, in the EU-15, but the shares of both regions have tended to fall during the period (see rows). Regarding US F&B firms, one explanation could be the centralization of capital among very large companies; while now there are fewer US companies in the top group, their average size, as measured by their global sales, has increased substantially (Tozanli 2005). The aggregated shares of affiliates pertaining to F&B MNEs based in Asia (all Japanese in our sample), Latin America and, especially, Rest of Europe increased over the period.

The “Grand total” in the last columns on Table 4, displays the geographic location of affiliates. EU-15 and, especially, North America are the main recipients of such investments.

As shown by Table 4, F&B MNEs based in different home-regions display different geographic patterns. In 1996, EU-15 investors tended to adopt a region-based strategy as 22% of their subsidiaries were located within the EU-15; high levels of intra-EU involvement were also characteristic of European investors in other industries (Ietto-Gillies 2002a). Asian F&B MNEs (as stated, Japanese companies in our sample), followed a centralized strategy. Among Japanese F&B MNEs, Tozanli (2005) notes what she terms a “counter-trend”, i.e. the atypical increase of the numbers of their domestic affiliates. The picture was different for North American investors who pursued a much more decentralized strategy by establishing a significant amount of affiliates outside their home region. The panorama changed for 2000. North American F&B MNEs pursued a binational geographic strategy, with almost an equal dispersion of most of their foreign affiliates between the home-region and EU-15, their European rivals’ most important geographic market. But the reverse was not true.
Among North American F&B MNEs, the share of affiliates located in the EU-15 increased relatively, to the detriment of the share of affiliates situated in Latin America and elsewhere in the Western Hemisphere. This circumstance could be interpreted as some degree of retreat from globalisation. Other sources also confirm the importance of EU-15 as a recipient area for North American investors in this industry. By the end of the 1990s, for instance, the EU-15 accounted for 53% of total gross product of majority owned foreign US affiliates in the food and kindred products industry (Mataloni Jr 2000).

F&B MNEs based in the Rest of Europe follow a strategy quite similar to North American F&B MNEs; most of their affiliates are equally distributed between the home-region and the EU-15.

In spite of the broad geographic spread F&B MNEs, some are regionally focussed and other tend to adopt a bi-national structure.

For both years, the Chi-Square statistic confirms the existence of a strong statistical relationship between the home-region and the host-region variables (Table 4); the null hypothesis that the geographic location of an affiliate is independent from the home-region of the parent was rejected.

Economic activities and geographic patterns

Next, we check whether the different economic activities of the F&B MNE are equally dispersed. We study the location of different types of foreign affiliates (Table 5) and complement this information by analysing the maps of their distribution (not displayed).

The companies locate most of their foreign agricultural concerns (AGRIC) in North America; the shares of foreign agricultural affiliates located in developing countries, such as African or Latin American countries, were small and falling over the period 1996-2000.
(Table 5). The maps of the distribution of foreign agricultural affiliates show that, over the period, Argentina, Brazil, China and the Democratic Republic of Congo were somewhat substituted, as recipients of these multinational activities, by Ireland and Spain, i.e. in low-cost locations within EU-15. The US remained the most important recipient of foreign agricultural affiliates in both years.

Some authors claim that F&B MNEs could be promoting global sourcing arrangements, among other means, through direct investment (Raynolds et al. 1993). Our findings on the location of foreign agricultural affiliates provide some support to such proposition, although it should be stressed that the share of such affiliates was quite insignificant during the period. Also, the results seem to confirm with statistics of previous case-studies pointing to the partial withdrawal of F&B MNEs from direct control of plantations in Latin America (Oman et al. 1989).

North America and the EU-15 still attract the majority of foreign affiliates in international trade (GLOBAL) but the configuration of this activity is becoming more dispersed, probably owing to the recent easing of trade barriers. Core (WITHINCORE), non-core (OTHER) and retailing activities (RETAIL) are also becoming increasingly dispersed. Finally, foreign technological affiliates (TECHN) concentrate in North America, the EU-15 and Asia. Both in 1996 and 2000, the maps of foreign technological affiliates show they flock especially to the US and Japan and, to a lesser extent, to France and the UK.

Insert Table 5 here

Cultural distance between home and host-country
Here, we investigate the nature of the foreign locations chosen by F&B MNE; the results of the analysis are displayed, at the affiliate level, on Table 6.

*Insert Table 6 here.*

In 1996, the majority of F&B foreign affiliates were established in countries belonging in the same cultural group with the home-country, though this broad picture concealed some differences.

By the end of the period, the F&B MNE was less prone than earlier to concentrate in countries culturally similar to its own home-base and already divided almost equally its affiliates between the same cultural cluster than the home-country and other clusters.

In doing so, the F&B MNEs showed a gradual approach. By 2000, the percentage of foreign affiliates located in countries displaying medium-cultural distance (1, 2 or 3) increased, but that of those placed in foreign countries displaying high cultural distance (4 or 5) remained almost unchanged.

As stated, faced to the challenge of expanding to cultural environments new to them, F&B MNEs based in different home-regions follow different strategies. The null hypothesis of no association between the variables could be rejected; the home-country of a company and the cultural-based patterns of location followed by its foreign affiliates are statistically associated both in 1996 and 2000 (see Chi-square statistics on Table 6).

EU-15 and North American F&B MNEs tended to keep most of their respective foreign affiliates still concentrated in countries culturally similar to their respective home-countries, while Asian F&B MNEs trailed a more dispersed strategy investing significantly in countries with either average or high cultural distance. Given their product-mix, Japanese F&B MNEs depend probably less than their Western counterparts on specific local tastes and do not need to adapt their foodstuffs to foreign gastronomic cultures. Some of their
most important products are fish or sea food, which they export from their foreign affiliates back to Japan (Tozanli 2005); high-tech inputs for the F&B industry (e.g. biotech products), and Japanese specialties (e.g. sauces) (Alfranca, Rama and von Tunzelmann 2004; G.E.S.T. 1986). This condition could make them less rooted than Western firms in specific cultural environments.

To explore further whether the activities developed by the affiliates could influence location choices based on cultural patterns, we prepared another contingency table (not reported here) reporting the relationship between cultural distance and sector of activity. The Chi-square statistic indicates that the null hypothesis of no relationship between cultural distance and sector of activity can be rejected (Chi-square 1996 = 132.47, statistically significant at 1%; Chi-square 2000 = 156.53, statistically significant at 1%). This outcome suggests that the culture-based distribution of foreign affiliates in the world, depends on the different types of activities in which such establishments engage. Notably, some differences can be observed among affiliates operating in core and non-core activities. The former tend to disseminate to culturally distant countries, while the latter are more likely to flock to culturally close countries. In other words, these enterprises prefer to perform activities new to them in relatively familiar environments.

Given that the functional structure of companies differs, this circumstance helps to understand the previous statistical association between home-country and cultural distance. For instance, North American F&B MNEs, highly represented among non-core activities, tend to flock to more familiar environments.

Conclusions

We have attempted to understand the geographic patterns of the world’s largest F&B MNEs and, especially, whether these firms are regionally focused. We have mapped their
geographic distribution and analysed data of 81 major F&B MNEs in 1996 and 2000. The research has been based on a database comprising more than 8,000 affiliates, which develop six different kinds of economic activities from agriculture to retailing.

Although now there are many new players in the international scene, North America and the EU-15 remain both the main sources and recipient areas for MNEs in this industry, a result confirming previous research on this industry based on FDI flows (Fischer, 2002).

F&B MNEs are chiefly attracted by affluent and/or large markets. Since the most important host-countries display high wages, a systematic search for low labour costs on the part of these MNEs is not apparent. Our results seem to contradict the traditional view that FDI would flow from high-labour cost to low-cost countries in the pursuit of cost minimization (Barkley 2005; Calvet 1981; Teece 1985). By contrast, they support the new theories of trade and location, which predict that horizontal FDI, characteristic in this industry, would rather locate in developed countries (Ietto-Gillies 2005; Shatz and Venables 2000).

The research provides abundant empirical support to the view that F&B MNEs operate at a worldwide scale; their share of foreign to total affiliates is lower than in the average MNE but they have spread to more countries. The latter proposition seems to reinforce the thesis that F&B MNEs deploy a multi-domestic strategy (Cantwell and Sanna-Randaccio 1993b; Porter 1986; Rama 1992; Traill 1997), probably due to the need to cater to very different types of national food tastes. Comparing our results with those of a previous study (Anastassopoulos and Rama 2005), we note that F&B MNEs have kept a similar proportion of domestic to total affiliates from 1985 to 2000. The fear that MNEs would become foot-loose, commonly held regarding other types of MNEs, seems unjustified in this industry.

Our results provide substantial verification of the hypothesised positive relationship between the nationality of the parent and affiliate location. As these results are similar to
those of a previous statistical analysis for a sample of F&B MNEs (Anastassopoulos and Rama 2005), we conclude that, over 1985-2000, the nationality of the parent was consistently associated with a specific pattern of location; companies did not converge in this respect. That means F&B MNEs would not tend to isomorphism, as it occurs among other types of MNEs (Duysters and Hagedoorn 2001).

Our results provide support to the thesis that MNEs are currently region focused, however with an important nuance (Morrison, Ricks and Roth 1991; Rugman and Verbeke 2002). In spite of the worldwide spread of their affiliates, Asian (Japanese) and EU-15 F&B MNEs are actually region focused. By contrast, North America and Rest of Europe F&B MNEs tend towards a dual home-base structure as that depicted by Rugman and Verbeke (2002); although both types of companies have also spread worldwide, most of their affiliates are equally distributed between the respective home-region and the EU-15. Our results provide mixed support to Ruigrok and van Tulder’s proposition (1995) that, among MNEs, bi-nationality constitutes a retreat from globalisation.

These results are compatible with those of some recent studies implying intense intra-firm trade of foodstuffs within some regions (Chevassus-Lozza, Gallezot and Galliano 2005; Feinberg and Keane 2001). Since intra-firm trade is often viewed as the hallmark of a “global” strategy implying specialization of affiliates (Cantwell and Sanna-Randaccio 1993a), the available evidence suggests F&B MNEs could currently combine a worldwide multidomestic strategy with a qualitatively “global” (in the Porterian sense) strategy in some regions and trading blocks. Nevertheless, this proposition is merely speculative at this stage.

As stated earlier, North American F&B MNEs pursued a binational geographic strategy, with almost an equal dispersion of most of their foreign affiliates between the home-region and EU-15, their European rivals’ most important geographic market. But the reverse was not true. The data do not support, therefore, the explanatory models of FDI
where oligopolists imitate each other by establishing affiliates in each other’s geographic markets (Calvet 1981; Teece 1985).

Our research also gives information on the location of specific activities of the companies. F&B MNEs tend to a dispersed configuration regarding manufacturing and, to a lesser extent, retailing and international trade facilities; however, they tend to follow a concentrated configuration of their foreign R&D activities.

F&B MNEs concentrate most of their foreign agricultural facilities in North America and the EU-15. Therefore, our conclusions provide a counterpoint to the theoretical view that F&B MNEs would source their raw materials and agricultural products in developing countries, as held by some scholars in the political economy tradition. The results neither support the new trade and location theories, which predict MNEs would relocate part of the value-chain, i.e. production of inputs and raw materials, in low-cost locations of developing countries (Ietto-Gillies 2002b; Shatz and Venables 2000). If F&B MNEs source large quantities of raw materials and inputs in developing countries, a proposition that cannot be tested with our data, their methods would consist of contract-farming arrangements or purchases in arm’s length markets, not of FDI.

Our findings reveal that the great physical dispersion of the F&B MNEs’ assets does not necessarily imply cultural dispersion. These MNEs tend to combine substantial country spread with limited cultural diversity. This finding is in line with Gowtzen and Beamish’s (2003) research, which established that MNEs of all sectors performed better when combining dispersed assets and relatively familiar environments. Western F&B MNEs seem more culturally rooted than Asian F&B MNEs, probably owing to differences in the product-mix and the activities developed by the companies.

Our result that F&B MNEs propend to disseminate in the world according to cultural patterns, corroborates and extends to F&B MNEs of other nationalities, as previous research
based on the analysis of US outward FDI flows in food and kindred products has showed (Ning and Reed 1995; Pick and Worth 2005).

When choosing new foreign locations, F&B MNEs take a gradual approach, starting by countries culturally close to their own home-country. This finding supports the thesis of the Scandinavian School of IB studies that MNEs seem to follow a sequence from their home-base to countries with greater “psychic distance” (Johansson and Vahlne 1977; Shenkar 2001); it also points to the importance of learning processes in the internationalisation of firms, as claimed by other authors in the IB studies tradition (Casson 1994). Also, the F&B MNEs expansion to previously unfamiliar environments could have been facilitated by recent trends towards the homogenization of food consumption patterns (see, for instance, Connor 1994; Gil, Gracia and Pérez y Pérez 1995; Traill 1997).

The location choices made by the F&B MNEs concerning clusters of countries exhibiting different degrees of cultural distance with its own home-country are statistically associated with the types of activities performed by specific affiliates. In other words, F&B MNEs do not offer the same mix of products and services across cultural clusters of countries. Conglomeration and R&D activities tend to occur in culturally familiar environments. The latter outcome may seem to contradict patent analyses, which show the R&D activities of F&B MNEs are highly internationalised (Alfranca, Rama and von Tunzelmann 2005; Cantwell and Janne 2000). The contradiction, however, is only apparent. The patent data refer to all types of innovation, including those performed in the shop floor or in laboratories attached to production centres world-wide. Our data, by contrast, refer only to specialized laboratories not attached to production centres. While adaptive innovation could be developed worldwide, the activities of specialized laboratories -- i.e. technical services to other food processors and farmers, and probably the management of R&D in the whole multinational network -- take place in countries culturally close to the home-country.
This result is in line with studies pointing to common language and culture as capital vehicles for learning and technological diffusion in the industry (Mansfield 1991).

Given the exploratory nature of this article, a discussion of future research topics is appropriate. Statistical analyses need to be supplemented by other types of work to assess whether the key strategic decisions of bi-national F&B MNEs are made only in their respective headquarters or, alternatively, in both regions. Only the latter option would confirm the existence of a real “dual home-base” structure. Additional research is also needed to understand if EU-15 F&B MNEs couple their intra-European location choices with a truly pan-European strategy. Testing hypotheses of the eventual dual strategy (both multi-domestic and “global”) of some F&B MNEs would require of new evidence, notably information on intra-firm trade.

BIBLIOGRAPHY


Table 1. Description of categories

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
<th>UN-SIC Codes</th>
</tr>
</thead>
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<tr>
<td>AGRIC</td>
<td>Indicates involvement of the affiliate in: agriculture, horticulture, animal husbandry, viticulture, pisciculture, aviculture, silviculture, fisheries and production of seeds.</td>
<td>1110, 1210, 1300, 1301, 1302</td>
</tr>
<tr>
<td>GLOBAL</td>
<td>Indicates involvement of the affiliate in international commercial activities</td>
<td>611080</td>
</tr>
<tr>
<td>OTHER</td>
<td>Indicates involvement of the affiliate in non-food industries and services (excluding those classified into RETAIL and GLOBAL)</td>
<td></td>
</tr>
<tr>
<td>RETAIL</td>
<td>Indicates involvement of the affiliate in: retailing, supermarkets, hypermarkets, restaurants and pubs.</td>
<td>6210, 6220, 6300, 6310</td>
</tr>
<tr>
<td>TECHN</td>
<td>Indicates involvement of the affiliate in: technological services to other companies, biotechnology, veterinarian services to farms, production of microbiological products and research centres with the status of independent affiliates.</td>
<td>311280, 832020, 832021, 832030, 9320, 9330</td>
</tr>
<tr>
<td>WITHINCORE</td>
<td>Indicates involvement of the affiliate in food and beverages manufacturing</td>
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</tr>
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Table 2  Variable description

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<tr>
<th>Variable Name</th>
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<tr>
<td>SIZE_{it}</td>
<td>Number of Employees</td>
</tr>
<tr>
<td>PERF_{it}</td>
<td>Net Income / Total Sales (Return on Sales, ROS)</td>
</tr>
<tr>
<td>FOODSA_{it}</td>
<td>Food Sales / Total Sales</td>
</tr>
<tr>
<td>FDIV_{it}</td>
<td>Foreign Affiliates / Total Number of Affiliates</td>
</tr>
<tr>
<td>FCOU_{it}</td>
<td>Number of foreign countries in which the firm is present</td>
</tr>
<tr>
<td>AGRIC (T)_{it}</td>
<td>Percentage of total affiliates operating in agricultural activities/Total no. of affiliates</td>
</tr>
<tr>
<td>GLOBAL (T)_{it}</td>
<td>Percentage of total affiliates operating in global activities/Total no. of affiliates</td>
</tr>
<tr>
<td>OTHER (T)_{it}</td>
<td>Percentage of total affiliates operating in non-food related activities/Total no. of affiliates</td>
</tr>
<tr>
<td>RETAIL (T)_{it}</td>
<td>Percentage of total affiliates operating in retail activities/Total no. of affiliates</td>
</tr>
<tr>
<td>TECHN(T)_{it}</td>
<td>Percentage of total affiliates operating in Research &amp; Development related activities/Total no. of affiliates</td>
</tr>
<tr>
<td>WITHINCORE (T)_{it}</td>
<td>Percentage of total affiliates operating in food &amp; drink related activities/Total no. of affiliates</td>
</tr>
<tr>
<td>AGRICCULT_{it}</td>
<td>Average Cultural Distance for foreign affiliates in agricultural activities</td>
</tr>
<tr>
<td>GLOBALCULT_{it}</td>
<td>Average Cultural Distance for foreign affiliates in global activities</td>
</tr>
<tr>
<td>OTHERCULT_{it}</td>
<td>Average Cultural Distance for foreign affiliates in non-food related activities</td>
</tr>
<tr>
<td>RETAILCULT_{it}</td>
<td>Average Cultural Distance for foreign affiliates in retail activities</td>
</tr>
<tr>
<td>TECHCULT_{it}</td>
<td>Average Cultural Distance for foreign affiliates in Research &amp; Development related activities</td>
</tr>
<tr>
<td>WITHINCULT_{it}</td>
<td>Average Cultural Distance for foreign affiliates in food &amp; drink related activities</td>
</tr>
<tr>
<td>TCULT_{it}</td>
<td>Average Cultural Distance for all foreign affiliates</td>
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### Table 3. Basic sample statistics

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<td>St. Dev.</td>
<td>Min</td>
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<td>72074</td>
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<td>0.00%</td>
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<td>0.00%</td>
</tr>
<tr>
<td><strong>WITHIN(T)</strong></td>
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<td>64.90%</td>
<td>26.04%</td>
<td>1.96%</td>
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<td><strong>AGRICCULT</strong></td>
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<td>0.37</td>
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</tr>
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<td><strong>TCULT</strong></td>
<td>81</td>
<td>0.98</td>
<td>0.72</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Source: Authors’ calculations based on AGRODATA information
Table 4. Distribution of the total no. of affiliates (domestic and foreign) by home and host-region

<table>
<thead>
<tr>
<th>Home 1996</th>
<th>Africa</th>
<th>Asia</th>
<th>European Union</th>
<th>Latin America</th>
<th>North America</th>
<th>Rest of Europe</th>
<th>ROW</th>
<th>Grand Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Africa</td>
<td>0.92%</td>
<td>0.02%</td>
<td>0.03%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.05%</td>
<td>0.00%</td>
<td>1.01%</td>
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<tr>
<td>Asia</td>
<td>0.16%</td>
<td>9.27%</td>
<td>1.42%</td>
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<td>1.63%</td>
<td>0.05%</td>
<td>0.51%</td>
<td>13.62%</td>
</tr>
<tr>
<td>European Union</td>
<td>0.98%</td>
<td>3.22%</td>
<td>22.02%</td>
<td>2.53%</td>
<td>2.99%</td>
<td>3.74%</td>
<td>1.01%</td>
<td>36.49%</td>
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<tr>
<td>Latin America</td>
<td>0.13%</td>
<td>0.08%</td>
<td>0.77%</td>
<td>0.71%</td>
<td>0.22%</td>
<td>0.03%</td>
<td>0.21%</td>
<td>2.15%</td>
</tr>
<tr>
<td>North America</td>
<td>0.79%</td>
<td>3.08%</td>
<td>11.23%</td>
<td>4.49%</td>
<td>17.74%</td>
<td>1.94%</td>
<td>1.11%</td>
<td>40.38%</td>
</tr>
<tr>
<td>Rest of Europe</td>
<td>0.39%</td>
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<td>2.24%</td>
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<tr>
<td>Grand Total</td>
<td>3.36%</td>
<td>16.78%</td>
<td>37.73%</td>
<td>9.19%</td>
<td>23.24%</td>
<td>6.68%</td>
<td>3.02%</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

Source: Authors’ calculations on AGRODATA information.

Note

ROW: Rest of the World

*** p < 0.01. For statistical accuracy, the Chi-square was calculated on the numbers of affiliates, not on the percentages.
### Table 5. Distribution of foreign affiliates by host region and economic activity

<table>
<thead>
<tr>
<th>Activity</th>
<th>Host 1996</th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th>Grand Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Host 1996</td>
<td>AGRIC</td>
<td>GLOBAL</td>
<td>OTHER</td>
<td>RETAIL</td>
<td>TECH</td>
<td>WITHIN CORE</td>
<td></td>
</tr>
<tr>
<td>Africa</td>
<td>0.17%</td>
<td>0.05%</td>
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<td>0.03%</td>
<td>1.66%</td>
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<tr>
<td>Asia</td>
<td>0.46%</td>
<td>0.58%</td>
<td>4.72%</td>
<td>2.59%</td>
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<td>7.93%</td>
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<tr>
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<td>0.81%</td>
<td>12.16%</td>
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<td>0.57%</td>
<td>20.05%</td>
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<tr>
<td>North America</td>
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<td>10.03%</td>
<td>2.07%</td>
<td>0.28%</td>
<td>9.13%</td>
<td>23.24%</td>
</tr>
<tr>
<td>Rest of Europe</td>
<td>0.02%</td>
<td>0.27%</td>
<td>2.53%</td>
<td>0.79%</td>
<td>0.03%</td>
<td>3.05%</td>
<td>6.68%</td>
</tr>
<tr>
<td>Rest of World</td>
<td>0.13%</td>
<td>0.03%</td>
<td>0.81%</td>
<td>0.46%</td>
<td>0.02%</td>
<td>1.58%</td>
<td>3.02%</td>
</tr>
<tr>
<td>Grand Total</td>
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<td>2.62%</td>
<td>34.77%</td>
<td>10.36%</td>
<td>1.52%</td>
<td>48.21%</td>
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</table>

<table>
<thead>
<tr>
<th>Activity</th>
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<th></th>
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<tr>
<td>Host 2000</td>
<td>AGRIC</td>
<td>GLOBAL</td>
<td>OTHER</td>
<td>RETAIL</td>
<td>TECH</td>
<td>WITHIN CORE</td>
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</tr>
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<td>0.04%</td>
<td>1.38%</td>
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<tr>
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<td>0.49%</td>
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<td>5.12%</td>
<td>0.56%</td>
<td>0.04%</td>
<td>5.22%</td>
<td>11.38%</td>
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<td>8.71%</td>
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<tr>
<td>Rest of Europe</td>
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<td>3.70%</td>
<td>0.78%</td>
<td>0.08%</td>
<td>3.89%</td>
<td>8.62%</td>
</tr>
<tr>
<td>Rest of World</td>
<td>0.11%</td>
<td>0.04%</td>
<td>1.06%</td>
<td>0.29%</td>
<td>0.01%</td>
<td>1.94%</td>
<td>3.46%</td>
</tr>
<tr>
<td>Grand Total</td>
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<td>2.04%</td>
<td>39.91%</td>
<td>7.63%</td>
<td>1.44%</td>
<td>47.03%</td>
<td>100.00%</td>
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\[ X^2 = 493.29 \quad *** \]

\[ X^2 = 1090.89 \quad *** \]

Source: Authors’ calculations on AGRODATA information.

Note

*** p < 0.01. For statistical accuracy, the Chi-square was calculated on the numbers of affiliates, not on the percentages.
### Table 6. Distribution of foreign affiliates by home region and cultural distance

<table>
<thead>
<tr>
<th>Cultural Distance</th>
<th>Home-region 1996</th>
<th>0(Low Cultural Distance)</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5(High Cultural Distance)</th>
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<td>0.00%</td>
<td>0.21%</td>
<td>0.00%</td>
<td>0.00%</td>
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<td>9.05%</td>
<td>3.48%</td>
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<td>0.76%</td>
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<tr>
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<td>22.88%</td>
<td>8.04%</td>
<td>4.38%</td>
<td>3.79%</td>
<td>0.13%</td>
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<tr>
<td>Rest of Europe</td>
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<td>1.26%</td>
<td>0.14%</td>
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<tr>
<td>Grand Total</td>
<td>54.38%</td>
<td>20.06%</td>
<td>12.35%</td>
<td>6.76%</td>
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<td>4.11%</td>
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<th>Cultural Distance</th>
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<th>2</th>
<th>3</th>
<th>4</th>
<th>5(High Cultural Distance)</th>
<th>Grand Total</th>
</tr>
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<tbody>
<tr>
<td>Africa</td>
<td>0.66%</td>
<td>0.06%</td>
<td>0.00%</td>
<td>0.18%</td>
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<tr>
<td>Asia</td>
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<td>0.00%</td>
<td>1.87%</td>
<td>0.27%</td>
<td>0.68%</td>
<td>2.06%</td>
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<tr>
<td>European Union</td>
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<td>9.04%</td>
<td>3.42%</td>
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<td>1.10%</td>
<td>0.24%</td>
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</tr>
<tr>
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<td>8.71%</td>
<td>6.52%</td>
<td>5.45%</td>
<td>0.31%</td>
<td>1.70%</td>
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<tr>
<td>Rest of Europe</td>
<td>5.09%</td>
<td>3.25%</td>
<td>1.70%</td>
<td>0.20%</td>
<td>0.35%</td>
<td>0.00%</td>
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<td>10.59%</td>
</tr>
<tr>
<td>Grand Total</td>
<td>49.68%</td>
<td>21.64%</td>
<td>14.17%</td>
<td>8.06%</td>
<td>2.44%</td>
<td>4.00%</td>
<td></td>
<td>100.00%</td>
</tr>
</tbody>
</table>

X² = 1216.57 ***

Source: Authors’ calculations on AGRODATA information.

Note

*** p < 0.01. For statistical accuracy, the Chi-square was calculated on the numbers of affiliates, not on the percentages.
Figure 1. Country clusters according to cultural similarities

Source: Adapted from Ronen and Shenkar (1985).
Figure 2. Location of Foreign Affiliates, 2000


It goes beyond the scope of this article to extensively discuss this question, which we cannot put to test with our data. However, a brief discussion can illustrate it. “Global” industries are those in which affiliates are able to establish an efficient division of labour within the MNE; affiliates are specialized in a small range of products or in parts of final products destined to further processing or marketing in affiliates of the same parent located in other countries Porter, M.E. 1986. "Competition in global industries. A conceptual framework." in Competition in global industries, edited by M.E. Porter. Boston: Harvard Business Press. Semi-conductors or automobiles are examples of global industries. In multidomestic industries, by contrast, MNEs would be unable to organise such internal networks for a variety of reasons, such as the specificity of domestic markets or the perishability of intermediary inputs. The food industry has been often reported in this category.

Here, we use the term global in a merely quantitative meaning, indicating the spread of the company to a large number of countries and the internationalization of its operations. As explained on note 3, in the literature this term is also used in a qualitative sense referring to the internal organization of the company. To distinguish both meanings, here we use inverted commas (“global”) when we refer to the qualitative, Porterian meaning of the term.

The sources for AGRODATA are, in turn, Moody’s Industrial Manual, the Fortune Directory of the 500 largest US and the 500 largest non-US corporations, the “Dossier 5.000” of the largest European companies published by Le Nouvel Economiste, Dun & Bradstreet, and the annual reports of the enterprises, among others.

Here, the affiliate responds to the first level of production identified by the OECD (2004, p. 21) in MNEs; it is a part of an enterprise “situated in a simple location and has the most homogeneous production, or whose principal productive activity accounts for most of the value-added”.

Affiliates are establishments where the parent holds at least 5% of the equity share capital. In our sample, the parent controls, on average, 70% or more of share capital in 90% of the affiliates.


See definition on note 3.

Here, we separated for analysis the EU-15 from the rest of Europe.

Nevertheless, EU-15 investors were relatively very important. For instance, they accounted for 74% of the foreign direct position in the US food and kindred product industry in 1999 Bargas, S.E. 2000. "Direct investment positions for 1999. Country and industry detail." Survey of Current Business July.