**Globalisation or regionalisation?
The strategies of the world's largest food and beverage MNEs**

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Abstract

Using a database comprising around 7,000 affiliates, this article analyses the geographic pattern of the world's largest food and beverage multinational enterprises (F&B MNEs) over 1996-2000. Most of the 81 sampled F&B MNEs follow regional strategies. We find nine global firms, with affiliates in the home-region accounting for at least 50% of their affiliates; 22 companies following a bi-regional strategy, with 20% of their affiliates in each of the two regions, but less than 50% in any region; and 50 firms following a home-region strategy, with 20% or more of their affiliates in three regions each but less than 50% in any of these regions. While some MNEs could be considered as global according to their total affiliates distribution, their core business line could be regionally focused. According to ANOVA tests, global firms do not outperform other F&B MNEs; however, they tend to be larger and spread to more countries. A Pearson Chi square test and a Fisher test suggest that F&B MNEs based in different home-regions tend to follow different geographic strategies.

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Introduction

Do multinational enterprises (MNEs) pursue a truly global strategy or, in fact, operate in their respective home-regions (e.g. the European Union)? Global expansion could indicate a company's success in adapting its products to different markets; according to some authors, many MNEs have firm specific assets (FSAs) that are region bound and cannot be deployed worldwide (Rugman and Verbeke 2004).

This issue is of particular importance to food and beverage multinationals (F&B MNEs). Their potential market is very large, as people around the world allocate around 23% of their income to food, 3.2% to alcoholic beverages and 1.2% to soft drinks (Selvanathan and Selvanathan 2006). These companies, however, have met considerable constraints and challenges in their most important home-regions, i.e. Western F&B markets: stagnant demographics; an aging population; declining income elasticities with growing income levels; the new preferences of some consumers for fresh, organic and artisan products; the entry of large tobacco and pharmaceutical firms in F&B markets; and finally competition from retailers' cheap own brands (Goodman 2003; Schmidhuber and Traill 2006; Senauer 1990; Tozanli 2005; Wilkinson 2002).

Tozanli (2005) argues that the world's largest F&B MNEs, in response to the above described situation, are now turning to emerging economies with dynamic demographic trends and increasing consumer power. Ayadi et al. (2004) study the restructuring operations of the world's 100 largest F&B MNEs (thereafter, the top group) over 1998-2003, and note that the companies that tended to invest in emerging markets at the same time showed a tendency to divest in the Triad.

Beyond their home-region, nevertheless, F&B MNEs have faced other sorts of difficulties. According to some studies, local adaptation, both in production as well as in consumption terms, is a key issue. Large Western F&B MNEs have often found it hard to

adapt their foodstuffs to local tastes (for instance, in Asia), use inputs available in tropical countries effectively or produce cheap, nutritious food for millions of low-income consumers (Prahalad 2005; Thompson and Tadlock Cowan 2000). For a long period of time, Nestlé and Unilever food businesses were well represented in developing countries whilst competitors such as General Foods and CPC operated only in segmented areas, i.e. Latin America (Jones, 2006). According to some authors, most top F&B MNEs have dropped products difficult to sell beyond national or regional markets to concentrate in a few worldwide well known brands (Tozanli 2005). It is, thus, still unclear if obstacles in their respective home-regions have induced F&B MNEs to pursue a global strategy.

Recent research supports the idea that “ *the majority of even the most ‘global’ MNEs in reality operate on a regional/Triad basis*” (Rugman 2005; Rugman and Verbeke 2002). For brevity, here we will call this theory the “regionalisation theory”.

The main objective of this paper is to test Rugman and Verbeke’s regionalisation hypothesis using a scope metric (the number of affiliates) for the world's largest food and beverage companies. In other words, we contribute to the still scarce empirical literature testing the regionalisation theory at the *sectoral* level (see, for instance, Oh and Rugman 2006; Rugman and Girod 2003; Schlie and Yip 2000). Sectoral studies are a necessity as location patterns of international production differ by industry (Ietto-Gillies 2005; UNCTAD 2001). The investigation of F&B international industry can, thus, contribute to this discussion as it displays some interesting traits. F&B MNEs have internationalized earlier and to a greater extent than most other MNEs; they have a wide country spread (-----, 2005) (Stopford and Dunning 1983), and would be more driven than other MNEs by market-seeking strategies since they operate in a consumer industry. A priori, F&B MNEs show all the characteristics that make them candidates to become global firms.

In this paper, we analyse the geographic patterns of the world's largest F&B MNEs over 1996-2000 with a database providing information on around 7,000 affiliates that pertain to some of the world's 100 largest F&B MNEs. Our sample covers companies based in North America (US and Canada), Europe, Japan, Africa and Latin America. Our main argument is that in spite of the great country spread of these companies, only a few F&B MNEs pursue a truly global strategy.

Our paper contributes to the current literature and debate in the following ways: For the first time, the regionalisation theory is tested with a large database of F&B MNEs, and provides evidence at the sectoral level on an under-researched international industry. Second, our analysis extends existing work by analysing strategies not only at the company level but also at the line of business level, an approach permitting fine grained observation of the MNE's geographic patterns. Third, while most prior research focuses on the Triad and Triad-based companies, our analysis extends beyond the Triad and covers MNEs based in developing countries. Finally, this article is one of the first that tests statistically if global MNEs outperform other MNEs, or if they display some characteristic features that contribute towards their performance.

The main reasons for most F&B MNEs' regional strategies need to be examined but that goes beyond the main scope and objective of this paper (for a debate on the reasons for MNE's regional strategies, see Dunning, Fujita and Yakova 2007; Rugman and Verbeke 2007); we will, however, provide a few preliminary explanations.

The rest of the paper is organised as follows: First, we set out the theoretical background which informs our research; second, we present our data, the methodology followed and some background statistics; next section provides the results and discussion, and finally we conclude.

Theoretical background and lines of inquiry

This section's aim is to provide the theoretical background for the issues investigated in this paper.

As previously stated, recent research supports the idea that most MNEs actually operate on a regional basis within the Triad (Rugman 2005; Rugman and Verbeke 2002). Analysing 320 very large companies, Rugman and Verbeke (2004) note that 80.3% of these firms' sales are in their home-region.

Based on UNCTAD's data, another cross-sectional study concludes that in spite of the availability of new location choices, MNEs tend to invest in a regional rather than in a global framework (Kozul-Wright and Rowthorn 1998). By 2003, the relative importance of the sales, employment and assets abroad of the top MNEs was declining as activities in the home-countries expanded faster (UNCTAD 2005).

In a paper that investigates the affiliate distribution of 1,229 Japanese MNEs, the authors also find substantial evidence for the prevalence of home-region oriented strategies (Delios and Beamish 2005).

Previous sectoral analyses of the automobile, cosmetics, pharmaceutical and retail industries find no evidence that MNEs follow global strategies (Oh and Rugman 2006; Rugman 2005; Rugman and Girod 2003; Schlie and Yip 2000). In addition, some authors note the emergence of bi-regional MNEs' structures (Rugman 2005; Ruigrok and van Tulder 1995).

Analyses based on pooled data (as opposed to micro data at the company level used in this study) suggest that the world's largest F&B MNEs tend to settle most of their affiliates in the Triad; moreover, within the Triad, home-regions were still very important locations in 1990-1996 and in 2002 (Ayadi, Rastoin and Tozanli 2004) (Anastassopoulos and Rama, 2005). These authors attribute the F&B MNEs' location choices to the advantages of geographical and cultural proximity stemming from their respective home-

regions. Analysing data for the top group in 1988-1999/2000, Tozanli (2005) notices, however, that most F&B MNEs intensified their geographical expansion beyond their home-region.

In some emerging markets, nevertheless, the growth of F&B Foreign Direct Investment (FDI) is often associated with active regional F&B MNEs based in developing countries; such indigenous MNEs can sometimes challenge the dominant position of Triad-based F&B MNEs at the local level (Burch and Goss 2005; Farina and Viegas 2005).

This situation should not mislead us to believe that F&B MNEs cannot follow a global strategy. Rugman (2005), notes that food, drug and tobacco is the second manufacturing industry with the lowest intra-regional sales and identifies several global and nearly global F&B MNEs, such as Coca-Cola and Nestlé. Given, however, the fact that his study draws from a database (the Fortune 500 top firms) which contains fewer than 20 very large F&B companies and includes domestic firms, the analysis of a large sample of genuine F&B MNEs of all sizes, as the one used in this paper, could significantly contribute to broadening our knowledge of within-industry patterns. Therefore, we investigate whether F&B MNEs pursue global strategies and examine differences within this international industry.

Within a MNE, different economic activities often display different levels of globalisation (Rugman and Verbeke 2004). Tozanli (2005) notices, for instance, that Japanese F&B MNEs expand beyond their national boundaries in only one or two business activities, while keeping a multi-product/multidivisional organisation structure in the home market. In this paper we focus on the geographic strategies of F&B MNEs concerning, respectively, their food and their non-food lines of business. This is a key contribution to the current literature and debate since previous tests of the regionalisation theory have not yet looked at lines of business within the MNE.

There is no consensus in the literature with respect to the path followed by MNEs that eventually become global (for a definition of geographic strategies, see below) (Schlie and Yip 2000; Rugman and Girod 2003; van Tulder, van den Berghe and Muller 2001). As an approximation to the evolution of such firms, in this paper, we test if F&B MNEs follow a specific sequence of strategies as they expand to a greater number of countries or increase their sales.

Finally, we address the need noted by Rugman (2005, p. 227), by testing if MNEs that follow different strategies show different levels of performance; in other words, if global F&B MNEs outperform other F&B MNEs.

Methodology, data and background statistics

Methodology

Some of the criticism to the regionalisation theory addresses methodological aspects. Some authors have raised their objections to Rugman and Verbeke's results on the grounds that such analyses are based on information for the 500 top Fortune companies. This database contains data for both very large domestic firms and multinationals and thus imposes a bias on the sample under investigation; on this ground the need to test the regionalisation theory with data on genuine MNEs has been pointed out (Westney 2006). As previously stated, this paper addresses this key criticism as we base our study on multinational firms rather than domestic ones.

The selection of a measure that identifies and differentiates between the different types of MNEs' strategies also gives rise to some methodological problems. The use of information on the sale values in analyses of MNEs' level of globalisation has been criticised, as intra-firm trade could allegedly blur the picture of companies' location

(Feinberg 2003). This is definitely an important consideration because intra-firm trade is substantial among F&B MNEs (Chevassus-Lozza et al, 2005).

In this paper, we use an alternative metric, i.e. the MNEs' number of respective affiliates, to test the regionalisation theory. This measure is also proposed by the OECD (2004) as one of the proxies to construct globalisation indicators related to MNEs. Though most tests of the regionalisation theory are based on the foreign to total sales metric (hereafter F/T), both Rugman and Girod (2003) and Delios and Beamish (2005) use the scope approach to analyse the geographic strategies of, respectively, large retailers and Japanese MNEs. Both studies find substantial support to the thesis that most MNEs prefer a regional strategy.

On the other hand, the scope metric displays some interesting features. First, it enables the researcher to analyse in depth the multinational network and trace the geographic organisation of hub MNEs, independently of the international partners to which these firms transfer intermediate products. As will be seen below, a company could be global according to the F/T ratio, while it is regionally based on the analysis of vertical network integration and on the scope metric. Second, the scope metric facilitates the analysis of the geographic strategies of MNEs at the line of business level. It is difficult to use the F/T metric to investigate the question because these companies rarely publish, for each host-country, the sales information disaggregated by line of business. By contrast, identifying the main sector of activity for each of their affiliates and these establishment locations, here we can distinguish between food and non food strategies within the F&B MNE.

Finally, the scope metric is likely to provide a conservative view of regionalisation processes since every FDI in extra-regional locations counts towards globalisation of the company. This approach can over-emphasize the volume and value sales of extra-

regional affiliates and understate that of Triad affiliates. In emerging markets, Triad based F&B MNEs frequently start by launching a small FDI; their volumes of local sales are frequently quite modest in initial phases and they sell less sophisticated products than in Triad markets (Rama, 1992) (Meyer and Tran 2006). In some cases, the aim of the FDI is mainly to pre-empt potential rivals. By contrast, in the top group, for instance, the number of Triad located affiliates has fallen since the end of the 1980s due to divestitures, closures and strategic concentration of production attributable to the search for scale economies (Ayadi, Rastoin and Tozanli 2004). In sum, these circumstances point to the interest of testing the regionalisation theory with an alternative metric that provides a rather cautious approach to regionalisation processes¹.

Concerning the size of companies, we use the firms' total sales value in US\$, not the scope metric, because the sales value provide a more accurate approach to the resources available to the MNE for international expansion. Most studies on multinationality consider this specification of the variable (A detailed table of the firms included ranked by their total sales is presented in Appendix 1).

The data

The target population of our study is the top group. These are influential firms that controlled 27% of the world's F&B industry turnover and 14% of the industry's employment by 2002. Furthermore, these firms account for, 41% of turnover and 26% of employment respectively, in the world's 10 most important producer countries, which are also the home-countries of most of the top F&B MNEs (Ayadi, Rastoin and Tozanli 2004). Finally, innovation is an important factor related to the top group as these companies accounted by the mid 1990s for around 50% of the world's patented innovations in the F&B technological field (Alfranca et al., 2002).

We selected for analysis the 81 continuous F&B MNEs that were in the top group both in 1996 and 2000 (See Appendix 1). The sampled firms are active in a variety of F&B processing industries and a substantial number of them also engages in agribusiness and non-food concerns. The sample includes some conglomerates with agro-food sales accounting for at least 1 US\$ bn. a year; in spite of their presence, the average firm in our sample, displays little unrelated diversification as its agro-food sales amount to 87% of its total sales revenue (Table 1). Around 35% of the sampled firms (accounted for 3,271 affiliates in 2000) have their headquarters in North America; 32% (2,094) in the EU-15; and 27 % (844), in Asia (all are Japanese companies). In addition, our sample includes a small number of F&B MNEs based in the Rest of Europe (759 affiliates), Africa (64 affiliates) and Latin America (136 affiliates).

The data were collected by AGRODATA, a database produced by the Institut Agronomique Méditerranéen de Montpellier (France). This is the most comprehensive information available on the activities and location of the affiliates of the world's largest F&B MNEs (a detailed description of the database is provided in Appendix 2), though it has yet been seldom exploited in studies published in English. F&B MNEs included in the database have worldwide agro-food sales amounting to a minimum of US\$ 1 bn. per year and at least one food-processing plant outside the home-country (Rastoin et al. 1998). This means that all the companies in our sample are MNEs. In our sample, the subsidiaries located in the home-country accounted for only 36.4% of the total number of affiliates in 1996 and for 28.3 % in 2000.

In our database, company level information includes: country spread, i.e. the number of foreign countries where the company operates through an affiliate, size as measured by the total sales and net income in US\$.

For 2000, we analysed unpublished information on 7,168 affiliatesⁱⁱ provided by AGRODATA; for 1996, we processed and analyzed data on 6,330 affiliates published by

the same source (Rastoin et al. 1998). Affiliate level information includes: name of the affiliate; name of the parent; home-country of the company; host-country, host-region and economic activity as defined by the UN-International Standard Industrial Classification (ISIC) code. We use the latter to analyse the strategies pursued by F&B MNEs in their foodⁱⁱⁱ and non-food^{iv} lines of business, two lines accounting for 86.9% of the total number of affiliates in our sample (the rest of the affiliates specialize in retailing, R&D, etc.). We complement this information with the analysis of the web pages of the companies.

The home-regions considered in our research are: Africa, Asia, EU-15, North America (Canada and the US), Latin America and Rest of Europe. The host-regions include, in addition, Oceania and Rest of the World (as no sampled companies are based in these two regions, they were not included among the home-regions). As stated, other authors have considered only home-regions of the Triad (see, for instance, Rugman 2003), which they define in a broad sense including NAFTA, the expanded EU and Asia. In this paper we split Europe into two home-regions (and host-regions): the EU-15 and Rest of Europe. As previously stated North America includes only Canada and the US whilst Latin America (including Mexico) was considered a separate region. Adopting smaller and more homogeneous regions, we address previous criticisms on the broad regional definitions adopted by prior researchers (Stevens and Bird 2004). We also take into consideration Westney's (2006) criticism to Rugman's (2005) approach in that we also include developing areas of the world. Rugman and Verbeke (2007) argue that the neglect of non-Triad regions does not alter their main results though the consideration of such regions, they admit, could be relevant for firms active in resource-based sectors. Given the strategic importance of natural resources for agro-food firms, we consider both Triad and non-Triad regions in our study. On the other hand, as will be seen below, the analysis of the strategies of non-Triad based F&B MNEs could supply new qualitative insights to the theory.

To characterize the strategies of the F&B MNEs, we follow criteria similar to those used by Rugman and Verbeke (2004). The definitions of strategies are on Table 3.

Background statistics and internationalisation indicators

Table 1 shows some general characteristics of the top group; as it is evident by the descriptive statistics, the firms display substantial diversity regarding their size in terms of global employment, ROS performance (as measured by net income on total sales or Return on Sales), level of diversification, etc.

Insert Table 1 here

Their country spread increased, on average, from 13 foreign countries in 1990-1996 (Anastassopoulos and Rama, 2005) to 20 and to 22, respectively, in our 1996 and 2000 samples. F&B MNEs spread to more countries than the average MNE, which had expanded to only 13.6 countries in 2000 (Ietto-Gillies 2002). This represents a strategy consistent with the F&B MNEs' need to remain close to their consumer markets, as they rarely serve foreign markets through exports (Pearce 1993). Our findings are also in line with previous econometric research that reveals the strategic importance of country spread in the growth path of F&B MNEs (Anastassopoulos and Rama, 2005; Filippaios et al., 2006).

According to our data, the percentage of F&B affiliates located abroad increased, on average, from 63% to 72% of the total number of affiliates in 1996- 2000. In 1985, the foreign affiliates of the top group accounted for only 36% of their total number of affiliates (Ayadi, Rastoin and Tozanli 2004); this evolution suggest that despite the mature characteristics of the sector, substantial centrifugal forces are at work in this international industry.

Table 2 presents aggregated data of affiliate distribution by home-region of the F&B MNE. As shown by the Chi-Square statistical test at the bottom of the Table, we could not reject the null hypothesis that the geographic distribution of the affiliates is independent of the home-region of the company; instead, both are associated. Home-region affiliates account for 50% or more of the total number of affiliates, both in 1996 and 2000, in F&B MNEs based in Africa, Japan and the EU-15. In most cases, the share of home-region affiliates remained stable or fell over the period, though it rose in the cases of F&B MNEs based in Japan and Rest of Europe.

Insert Table 2 here

The strategies of F&B MNEs

We now turn to micro-data in order to analyse the strategies of the individual F&B MNEs; data for 1996 and 2000 were pooled to avoid variability in a specific year (Table 3).

Insert Table 3 here

Global strategy

We find nine *global* F&B MNEs (of which two conglomerates) in terms of their affiliates' distribution, with around 20% of their affiliates in three regions but less than 50% in any region (see Box 1 and Table 3).

Box 1. The global F&B MNEs

Based in North-America, H.J.Heinz markets pre-prepared dishes, sauces, tinned products, etc, and has 35.0% of its affiliates in the EU, 21.1% in the home-region (North-America) and 18.7% in Africa; the MNE has located the rest in Asia (9.8), the Rest of Europe (6.5), Oceania, (4.9) and Latin America (4.1). Kellogg Co, a manufacturer of breakfast cereals based in North America, has settled most of its affiliates in the EU (32.8), the home-region (35.0) and Latin America (19.0); and has spread the rest to Asia (8.6), Oceania (6.9), Rest of Europe (4.3) and Africa (3.4). Nichirei Corp, a Japanese meat and fish processor, has 38.6% of its affiliates in the home-region, 24.6% in the EU and 22.8 % in North America; the rest are located in Latin America (10.5) and Oceania (3.5). Nippon Suissan, another Japanese fish processor, has located 50.0 % of its affiliates in the home-region, 22.7% in Latin America, 22.7% in North America and 4.5% in Oceania. Pepsico, a North American producer of non-alcoholic drinks, concentrates 36.4% of its affiliates in the home-region, 23.7 % in Latin America and 19.6% in the EU; the rest is scattered in Asia (12.0), Rest of Europe (4.1), Oceania (2.4) and Africa (1.7). Also based in North America, Ralston Purina, produces mainly animal feed and has spread its affiliates chiefly in the EU (31.4), the home-region (22.9) and Latin America (18.6); the rest have been established in Asia (15.7), Rest of Europe (6.4), Africa (2.5), Oceania (2.1) and Rest of the World (0.4).

Nestlé, a highly diversified Swiss company, also concentrates its affiliates in three regions, the EU (31.1%), Asia (21.3%) and Latin America (16.0%), while the home region, Rest of Europe, accounts for a smaller share of the company's affiliates (12.1%). A study based on the geographic distribution of sales (Rugman 2005) confirms our results based on the distribution of affiliates.

As stated, the strategies of two conglomerates operating in the F&B industry also approach the global scheme. Novartis is a Swiss pharmaceutical firm that also markets agri-food products (seeds, baby food, nutraceuticals, diet drinks, etc.); its affiliates are located in the EU (40.9%), the home-region (Rest of Europe) (15.4%), Asia (14.8%), North America (13.5%), etc. Based in North America, Procter & Gamble is a toiletry and detergent producer that also manufactures fruit juices and food products; its affiliates are located mainly in the EU (30.8%), the home region (North-America) (17.6%) and Asia (16.9%). Because 55% of its sales revenue comes from the home-region, however, Rugman (2005) defines this company as home region oriented.

Regional strategies

We also found 22 F&B MNEs with a bi-regional strategy (Table 3), with 20% of their affiliates in each of the two regions, but less than 50% in any region. As we propose below, such strategy could encompass Triad and non-Triad regions.

Within this group, 14 companies are based in the EU, five in North America, two in Asia and one in Latin America.

Finally, we found 50 F&B MNEs that display a home-region strategy with more than 50% of their affiliates in the home region (Table 3)^v. Moreover, in the EU-15 several

examples of companies with above 80% of their affiliates in the home-region can be mentioned: Campina Melkunie, a Dutch cooperative (dairy products, ingredients for the pharmaceutical industry); Scottish & Newcastle, a British drink company; and Sudzucker (sugar), one of the few German F&B MNEs; Northern Foods (bakery, frozen pizzas) has located all its affiliates in the home-region.

Some large North American F&B MNEs are also home-region oriented: for instance, Archer Daniels Midland (vegetable oil, grains), Hershey Foods (confectionary) and Quaker Oats (breakfast cereals, drinks). That Coca-Cola, a paradigm of globalisation, is classified here as home-region oriented could be even more surprising; a US producer of soft drinks with activities in 200 countries, the company obtains around 72% of its unit case volume from outside North America ^{vi}. There is no doubt that Coca-Cola is a global firm based on the F/T metric. Yet, the analysis based on the scope metric depicts a different panorama by taking into consideration the internal organisation of the company and its networked nature. 70% of its own affiliates are in the home-region, i.e. North America. An explanation is that Coca-Cola sells concentrates and syrups to bottling partners, i.e. local companies around the world, who prepare the finished products and sell them to consumers and distributors. Given these characteristics, Shanley and Peteraf (2004) describe Coca-Cola as a “vertical group” of non-integrated firms. While a large part of its sales revenue comes from outside North America, the syrup and other high-value added products are chiefly produced in the home-region. These characteristics would explain why Rugman (2005), based on the geographic distribution of the sales revenue, defines the company as global. In our view, however, the vertical group is global, while the hub-company has a home-region structure.

Within company analysis

Only three firms (Kellogg, Procter & Gamble and Nestlé) have global strategies with respect to both their food and their non-food lines of business. Analysing within-company patterns of location, we notice that some firms previously classified as bi-regional have a distinct home-region strategy for their food business. For instance, Tate & Lyle, a British company, combines a home-region strategy for its food affiliates (cereal sweeteners, sugar, molasses, starches), with a bi-regional strategy (EU and North America) for its non-food affiliates (liquid storage, financial services)^{vii}. Unilever, the world's largest producer of packaged consumer goods in the food and soap industries, also combines a home-region strategy for its food affiliates^{viii} (edible oil, tea, margarine, ice creams, with brand names such as Lipton and Birds Eyes) with a bi-regional strategy (EU and Asia) for its non-food businesses (detergents and toiletry, with brand names such as Dove, Pepsodent, etc.). Turnover data confirms the importance of the home region (41% of total in 2005) for this company^{ix}.

One of the world's most important producers of fresh dairy products and mineral water, Danone, a French F&B MNE, has also a home-region strategy for its food affiliates, with brands such as Danonino, Evian and LU, and a bi-regional strategy (EU-15 and North America) for its non-food affiliates. LVMH, a French retailer and producer of luxury goods has set 71.4% of its wine and spirit affiliates with brands names such as Moët et Chandon or Dom Perignon in the EU-15, while the non F&B business with brands names such as Christian Dior (perfumes, cosmetics, etc.), has a bi-regional geographic scope (home-region and Asia). A study based on non-disaggregated sales data characterizes, nevertheless, this company as global (Rugman 2005). Though our results confirm Rugman's view that "luxury travels well" (p. 89), they also show that the drink business of LVMH is home region oriented; one important reason is that there is only a Champagne region in the world and this name is protected under EU legislation.

Our results are coherent with other studies (Mansfield 2003) in that “the geography of quality” could limit the globalisation of F&B MNEs because consumers could perceive the quality of some foodstuffs and wines as related to specific production sites in the world, usually related to the home-country of the MNE. While some drinks can be more easily standardized (beer), other (wines) depend to a large extent on specific climate and land conditions – a need that limits the international expansion of firms through FDI (da Silva Lopes 2005).

Other circumstances could also limit the expansion of the food business (as opposed to the non-food line of business) in extra-regional locations. Given cultural differences in food consumption patterns, the food business is probably the type of activity requiring more adaptation of FSAs within the F&B MNEs, much more so than its other lines of business (e.g. toiletry, detergents and packaging materials). This interpretation is coherent with the fact that the percentage of R&D performed abroad over the total R&D is much higher among F&B MNEs than among other MNEs (Cantwell and Janne 2000). This captures F&B MNEs’ need to make special efforts to adapt their products to local markets.

In other words, MNEs have difficulties to deploy their FSAs across regions as a result, among other reasons, of consumers’ diets remaining largely national or culturally bound, in spite of the recent trends towards homogenisation of food consumption within Western Europe on the one hand and between the latter and North America on the other (Connor 1994; Schmidhuber and Traill 2006). Sometimes, the expertise acquired by a F&B MNE in a specific geographic market is virtually not transferable elsewhere because food and drink tastes differ so much around the world, as shown by a study case on Unilever, a giant Anglo-Dutch MNE (Jones and Miskell 2007). Second, some extra-regional locations often lack the facilities needed by Triad-based F&B MNEs to market their foodstuffs (e.g. reliable refrigerated transportation or good distribution networks). For processors selling highly perishable products, such as dairy products or pre-prepared food, this issue is crucial.

A study published in the 1980s argued that one of the explanations for the slow penetration of F&B affiliates in Argentina was the insufficient development of modern retailing in that country (CEPAL 1983). Though both domestic and multinational retailers have now heavily invested in the affluent neighbourhoods and the metropolises of developing countries (Coe and Hess 2005), this situation could still prevail in poorer countries and even in smaller cities and rural areas of emerging economies. Finally, another argument supports that F&B MNEs could be currently strengthening their home-region strategies since, in the last years, they have mostly absorbed home-based companies with limited geographic scope (Tozanli 2005).

Our findings suggest that the F&B MNE can accommodate quicker to more unfamiliar environments concerning the non food line of business.

The best way to combine product diversification and geographic diversification at the company level is an ongoing concern in the literature. Our results suggest that top F&B MNEs are likely to pair their investments in core business with a limited international expansion and their investments in non core business with a broader international expansion. MNEs operating in other industries, however, could display a different rationale.

In conclusion, our evidence shows that very few F&B MNEs pursue a truly global strategy as defined by the distribution of their affiliates.

Strategy and some characteristics of the F&B MNE

In order to provide a further insight of the industry, we test statistically if the three groups of F&B MNEs (home-region oriented, bi-regional and global) display similar characteristics. This will allow us to clarify whether specific strategies drive or are driven by firms' characteristics.

Strategies and origin of capital

As a first research question we investigate whether F&B MNEs based in different home regions tend to pursue different geographic strategies. Both a Pearson Chi-square test ($\chi^2 = 27.721$, $p = 0.002$, $df = 10$, $N = 81$) and the more conservative exact Fisher test (Fisher = 24.439, $p = 0.001$) yield statistically significant results.

We find a significant higher proportion of global firms among the F&B MNEs based in the Rest of Europe (66%) than in the total sample (11%), a result influenced by the presence of Nestlé and Novartis in this group, two very large companies based in a small European country (Switzerland).

We also find a significantly higher proportion of bi-regional firms among F&B MNEs based in the EU-15 (48%) than in the total sample (27%). EU-15 based F&B MNEs follow either a home-region or a bi-regional strategy (no global firms were found among them) with bi-regional companies targeting either North America or Latin America as a second region, in addition to the EU-15. As already mentioned, home region strategy is of key importance for F&B MNEs based in the EU-15, accounting for 52% of these companies.

Finally, we find a significantly higher proportion of home-region oriented firms among F&B MNEs based in Japan (81%) than in the total sample (62%). Our results are also confirmed by Tozanli (2005), who notes a “counter-trend” among F&B Japanese MNEs, i.e. an atypical *increase* of the numbers of their domestic affiliates over the last period. Our results are coherent with Delios and Beamish (2005), who also note the prevalence of home-region oriented firms in their sample of Japanese MNEs.

Among F&B MNEs based in North America, 60% follow a home region oriented strategy, 20% a bi-regional strategy and 20% a global strategy. F&B MNEs based in developing countries also follow regional rather than global strategies.

These results confirm the preliminary insight presented on Table 2 for the aggregated data.

In short, our results suggest that the potential of the regional market, competition at the regional level and other related factors could contribute to determine whether a F&B MNE will located its affiliates beyond the home-region.

Strategy and country spread

In order to better understand the country spread strategy, a one-way-analysis of variance (ANOVA) was conducted to investigate if F&B MNEs with different geographic strategies display different levels of country spread; the null hypothesis was that country spread was the same across the three groups of companies. We found significant differences in country spread for the three groups, $\{F(2,77) = 25.312, p = 0.00\}$; F&B MNEs pursuing a global strategy disperse their activities on average to 49 countries ($\sigma = 30$), those with a bi-regional strategy to 33 countries ($\sigma = 20$) and those with a home-region strategy to only 13 countries ($\sigma=10$). Because unequal group sizes may affect homogeneity of variance in ANOVA, tests using robust measures were also performed. The Welch and Brown-Forsythe tests confirmed the ANOVA results (respectively, $F=14.672; p = 0.00$; $F = 11.873. p= 0.00$).

We also performed a Tamhane post-hoc test, which is not sensitive to differences in group variance and detects the point where statistically significant differences occur. Multiple comparisons tests revealed significant differences between the country spread of home-region oriented and global companies, $F(2,77) = 36.333, p= 0.01$; and between home-region oriented and bi-regional companies , $F(2, 77) = 19.762, p = 0.001$. By contrast, mean differences between global and bi-regional firms were not statistically significant, $F(2, 77) = 16.671, p = 0.392$.

Our results suggest that the “point of departure” of a F&B MNE in its international expansion is likely to be a home-region strategy; then as the MNE expands gradually to

different countries, it could choose either a bi-regional or a global strategy. No evidence was found of a linear sequence in international expansion -- home-region focused strategy, bi-regional strategy and finally global strategy.

Our results are similar to those of Rugman and Girod (2003) for the retailing international industry since they find no evidence of a previous global strategy among MNEs that currently follow a regional strategy. By contrast, our data suggest that the evolution of F&B MNEs differs from that of MNEs in the automobile industry, which seem to have followed, historically, a global strategy and turned later to a regional strategy (Schlie and Yip 2000).

Strategy and size of the company

To evaluate whether the geographic strategy of an F&B MNE is associated to its size, we conducted a one-way-ANOVA. The null hypothesis was that the average size of companies was equal across the three groups of F&B MNEs – global, bi-regional and home-region focused. As stated, in this paper we do not use the scope metric but total sales in current 2000 US\$ to measure the company's size. Results indicated that there were significant differences in size across the three groups, $F(2, 75) = 6.456$; $df = 2$; $p = 0.003$, $N = 77$, a result confirmed by the more conservative Welch and Brown-Forsythe tests (respectively, 4.204, $p = 0.034$ and 3.470, $p = 0.49$). In 2000, the average size was 6.3 US\$ bn. ($\sigma = 5.0$) for home-region oriented F&B MNEs, 14.1 US\$ bn. ($\sigma = 16.2$) for bi-regional F&B MNEs and 17.6 US\$ bn. ($\sigma = 16.5$) for global F&B MNEs.

In our sample, no firm with sales below average ($X = 4.5$ US\$ bn ; $\sigma = 22.7$) had a global structure; 80% of these smaller F&B MNE had a home-region structure and the rest, a bi-regional one.

This significant group effect suggests that F&B MNEs adopting a global strategy are likely to be very large, a finding in line with the fact that many of the F&B companies in the Fortune 500 sample, which includes only giant firms, can be defined as global (Rugman 2005). Our results suggest that F&B firms may need a large managerial critical mass in order to successfully undertake a truly global strategy. Moreover, in this industry, size is highly correlated to important intangible assets such as proprietary market information, food patents and brand names (Goldsmith and Sporleder 1998); the possession of such assets is probably indispensable when the F&B MNE penetrates extra-regional markets.

Our results also imply that, conversely, the hundreds of smaller F&B MNEs for which we have still no data are unlikely to be global firms. AGRODATA estimates that, as early as 1995, around 600 F&B MNEs with sales above 50 million US\$ per year amounted to around 50% of world's food industry turnover (Rastoin et al. 1998); we can infer that these companies are mostly regionally oriented. Also, our findings confirm the view that smaller MNEs should try first to capitalise on the opportunities in the home-region (Rugman 2005, p. 231).

Contrary to the previous analysis of country spread, the analysis of sales does suggest a sequence in F&B MNEs' strategies. As F&B MNE's sales expand, the company would tend to pursue first a home-region strategy, then a bi-regional and finally a global strategy. Unlike the analysis on the automobile industry (Schlie and Yip 2000), we could report no evidence that F&B MNEs implement first global strategies and turn later to regional strategies. Our results, by contrast, confirm the view of authors who see regional strategies as a first step towards the MNE's globalisation (van Tulder, van den Berghe and Muller 2001), although not yet offering systematic evidence.

The next section concludes our analysis on firms' characteristics and strategies. In the last section we investigate the existence of a possible relationship between the three strategies and different net margins, defined as Return on Sales (ROS).

Strategy and net margins

A one-way- ANOVA was conducted to determine if there is some advantage in global strategies as defined by net margin analysis. The null hypothesis was that ROS was equal across the three groups of companies. The ANOVA result was borderline significant, $F(2, 62) = 2.842$, $p = 0.66$, $N = 64$). The results of the Welch and Brown-Forsythe tests, however, were not statistically significant (respectively, $F = 2.326$, $p = 0.131$ and $F = 2.424$, $p = 0.119$). In sum, the null hypothesis, that different strategies are related with similar net margins, could not be rejected. Moreover, multiple comparison tests (Tamhane) gave no statistically significant results (not displayed).

Our results suggest that the global F&B MNEs do not outperform other F&B MNEs. This provides further support to the fact that most of the companies in our sample prefer a regional strategy. Our net margin analysis, however, should be seen as a preliminary approach to performance; other indicators would be needed to reach more conclusive results. Another limitation of our analysis is that, among F&B MNEs, the ROS displays a great variability by sub-sector (Christensen et al., 1996).

Our results differ from Delios and Beamish's (2005) study on Japanese MNEs, which found that ROS performance tended to be highest in global firms.

Conclusions

Based on a database comprising around 7,000 affiliates analysed over 1996-2000, we have provided an understanding of the geographic strategies of the world's largest F&B MNEs. Though F&B MNEs seem at first sight good candidates to become global companies, only a few of them pursue a truly global strategy. In our sample of 81 F&B MNEs, we found nine (9) global firms, 22 following a bi-regional strategy and 50 with

home-region strategies. Our results confirm, therefore, those of sectoral studies on MNEs operating in the automobile, cosmetics and retailing industries, and other research based on cross-sectional evidence (Oh and Rugman 2006; Rugman 2005; Rugman and Girod 2003; Schlie and Yip 2000): MNEs tend to pursue a regional rather than a global strategy.

Our findings extend prior research in the following ways. First, they prove that the regionalisation theory is not invalidated when tested with a sample that includes only genuine MNEs, or when the studied regions are narrowly defined or comprise non-Triad regions. Moreover, a broad coverage, as that in this study, is likely to strengthen the positive results of the tests. Second, by investigating different lines of business we provide evidence that while some MNEs could be considered as global according to their total affiliates' distribution, their core business line could be regionally focused.

Third, though based on limited evidence, our results suggest that the theory may apply not only to Triad-based MNEs but also to MNEs based in developing countries as the latter also pursue regional strategies, a result coherent with recent research on F&B MNEs based in Latin America and South East Asia (Burch and Goss 2005; Wilkinson and Rocha 2006).

It has also been argued that MNEs primarily expand within their home-region as the Triad region is the most affluent in the world. Though our results for MNEs from developing countries should be interpreted with some caution, they provide preliminary evidence that MNEs expand within specific regions *also* because they are able to deploy their FSAs in these locations (and maybe not in others), even if these regions are not particularly affluent. A regional MNE can often turn to its advantage some regional “disadvantages” that could put-off extra-regional competitors; it often knows how to deal with corruption, serve low-income clients or distribute its products in areas lacking normal stores (Stoian and Filippaios, 2008) ^x. As proposed by Burch and Goss (2005), F&B MNEs

based in some developing countries may possess FSAs different from those of F&B MNEs based in the Triad.

In our analysis we presented evidence that home-region focused, bi-regional and global F&B MNE display differently traits in terms of origin of capital, country spread and size. The “point of departure” in the route to growth and international expansion of the F&B MNE is a home-region strategy, in contrast with the automobile industry where historically MNEs developed first a global strategy (Schlie and Yip 2000) to turn later towards a regional strategy. By contrast, our results seem to support van Tulder and colleagues’ (2001) results, based on study cases, in that regional strategies seem to be a first step before the MNE undertakes globalisation. The question, however, should be statistically tested with longitudinal data, an attempt not made here because our data encompass only a short period of time. We found that global F&B MNEs do not outperform other F&B MNEs, a result that would confirm Rugman’s (2005) point of view on the good performance of regional MNEs. Though it is necessary to find other measures of success, at least in terms of the ROS, our results show that globalisation would not add further advantages to the F&B MNE.

Our results suggest, as claimed by prior research, that managers should devote especial attention to regional strategies, a particularly pressing task now that expansion into new extra-regional markets could become institutionally less easy than before (Abdelal and Segal 2007). For managers of F&B companies based in emerging markets, a regional strategy would imply facing the challenge of penetrating low-income markets, with all the difficulties of lack of infrastructure, the need to provide cheaper products and so on, but also the rewards of massive business opportunities at the bottom of the economic pyramid (Silverthorne 2007).

Finally, while global strategy at the company level is likely to be “a myth”, globalisation at the industry level is not – at least in F&B sector. Most of the regionally

focused F&B MNEs of our sample locate a share, however small, of their affiliates in extra-regional locations. Aggregated data show that the total number of F&B affiliates currently located in such sites is substantial.

Table 1. Basic sample statistics

	1996						2000				
	Obs	Mean	St. Dev.	Min	Max		Obs	Mean	St. Dev.	Min	Max
SIZE (1)	81	41570	72074	1815	486000		81	37730	50876	1064	295000
Food sales/Total sales	81	89.9 %	20.5 %	11.5 %	100.00%		81	86.7 %	22.4 %	11.6%	100.0 %
ROS (2)	81	3.9 %	3.8 %	-1.8 %	18.8 %		81	5.6 %	9.9 %	-4.2 %	19.1 %
FCOU (3)	81	20	18	2	99		81	22	20	2	93

Source: Authors' calculations based on AGRODATA information

(1) Number of Employees

(2) Net Income / Total Sales (Return on Sales, ROS)

(3) Number of foreign countries in which the firm is present

**Table 2. Distribution of the total no. of affiliates (domestic and foreign) by home-region (1) and host-region (2)
(Running total % of row)**

1996	Africa	Asia	European Union	Latin America	North America	Rest of Europe	ROW	
Africa	90.6%	1.56%	3.1%	0.0%	0.0%	4.7%	0.0%	100.0%
Asia	1.2%	68.1%	10.4%	4.3%	12.00%	0.4%	3.7%	100.0%
European Union	2. 7%	8.8%	60.4%	6.9%	8.9%	10.3%	2.8%	100.0%
Latin America	5.9%	3.7%	36.0%	33.1%	10.3%	1.5%	9. 6%	100.0%
North America	2.0%	7.6%	27.8%	11.1%	43.9%	4.8%	2.7%	100.0%
Rest of Europe	6.2%	17.4%	35.3%	13.9%	10.5%	13.7%	3.0%	100.0%
Grand Total	3.4%	16. 8%	37.7%	9.2%	23.2%	6.7%	3.0%	100.0%
	X² = 573.62 ***							

2000	Africa	Asia	European Union	Latin America	North America	Rest of Europe	ROW	
Africa	90.6%	1. 6%	3.1%	0.0%	0.0%	4.7%	0.0%	100.0%
Asia	0.7%	71. 6%	9.8%	3. 7%	10.0%	0.6%	3. 7%	100.0%
European Union	4.3%	11. 6%	51.9%	9.2%	10.3%	8.6%	4.3%	100.0%
Latin America	5.9%	3.7%	36.0%	33.1%	10.3%	1.5%	9. 6%	100.0%
North America	2. 5%	10.8%	30.7%	14.4%	33.0%	5.8%	2.9%	100.0%
Rest of Europe	3. 6%	15.0%	31.0%	10.2%	6.9%	31.1%	2.4%	100.0%
Grand Total	3.8%	18.4%	34.3%	11.4%	20.1%	8.6%	3.5%	100.0%
	X² = 507.52 ***							

Source: Authors' calculations on AGRODATA information.

Notes:

(1): Columns

(2): Rows

ROW: Rest of the World

*** p>0.01. For statistical accuracy, the Chi square was calculated on the number of affiliates not on the percentages.

Table 3. F&B MNEs ‘ geographic strategies (1996-2000)

Type of strategy	Definition	F&B MNEs
<i>Home-region strategy</i>	The MNE has at least 50% of its affiliates in the home-region	Ajinomoto, Anheuser, Archer Daniels M., Asahi Breweries, Associated B.Foods, Barilla, Bongrain, Campina Melkunie, Dean Foods, Coca-Cola, Chiquita B., ConAgra, Danisco, Dole, Eridania, Ezaki Glico, Ferrero, Hershey, Hormel, IBP Inc, Int.Multifoods, Ito Ham, Koninklijke B., Kirin B., Land O’Lakes, Maple Leaf, Maruha, McCain, Meiji Dairies, Meiji S., Morinaga, Nichiro G.,Nippon Meat, Nissin Flour M., Nissin Food P., Northern Food, Orkla, Pernod R., Q.P.Corp, Quaker Oats, Sapporo, Scottish & N., Snow B.M., South A.Brew, Sudzucker, Tomkins, Toyo S., Tyson, Whitbread, Yamazaki
<i>Bi-regional strategy</i>	The MNE has at least 20% of its affiliates in each of the two regions, but less than 50% in any one region	Allied Domeq, B&B, Cadbury Schweppes, Campbell S., Cargill, Carlsberg, Danone, Friesland,General Mills, Heineken, Interbrew, Kikkoman, LVMH, Parmalat, Philip Morris, Mars, Sara Lee, Seagram, Sodial, Suntory, Tate & Lyle, Unilever
<i>Host-region strategy</i>	The MNE has more than 50% of its affiliates in a market other than its home-region	-----
<i>Global strategy</i>	The MNE has more than 20% or more of its affiliates in each region but less than 50% in any region	H.J.Heinz, Kellogg, Nestlé, Nichirei Corp., Nippon Suissan, Novartis, Pepsico, Procter & Gamble, Ralston Purina

Appendix 1. The sample of Food & Beverage MNEs, ranked by their total 2000 sales

Rank	MNE name	Home country	Sector of main business activity	Total sales \$US millions
1	Philip Morris (Altria)	USA	Multi-products	63,276
2	Nestlé	Switzerland	Multi-products	48,210
3	Cargill Inc.	USA	Grain milling	48,000
4	Unilever	Netherlands	Multi-products	44,254
5	Procter & Gamble	USA	Multi-products	39,951
6	ConAgra	USA	Multi-products	25,386
7	Novartis	Switzerland	Functional foods, babyfood	21,200
8	Coca-Cola Co.	USA	Soft drinks	20,458
9	PepsiCo Inc.	USA	Soft drinks, snackfoods	20,438
10	Archer Daniels Midland	USA	Edible fats and oils	18,612
11	Sara Lee Corporation	USA	Multi-products	17,511
12	IBP Inc.	USA	Meat processing	16,950
13	The Seagram Co. Inc.	Canada	Wine & spirits	15,686
14	Mars Inc.	USA	Confectionary, chocolates	15,300
15	Groupe Danone	France	Multi-products	13,201
16	Anheuser Busch Inc.	USA	Beer	12,262
17	Suntory	Japan	Wine & spirits	12,018
18	Snow Brand Milk Products	Japan	Dairy products	11,976
19	Bunge & Born	Argentina	Grain milling	11,000
20	LVMH	France	Wine & spirits	10,701
21	Eridania Bhégin Say (Tereos) (*)	France	Sugar, bio-ethanol	10,200
22	H.J. Heinz Co.	USA	Multi-products	9,408
23	Kirin Brewery Co.	Japan	Beer	8,862
24	Maruha Corp.	Japan	Fishing, fish processing	8,754
25	Tomkins Plc	U.K.	Grain milling, baking	8,517
26	Nippon Meat Packers	Japan	Meat processing	8,175
27	Asahi Breweries	Japan	Beer	7,722
28	Ajinomoto	Japan	Multi-products	7,714
29	Tyson Foods	USA	Poultry	7,410
30	Kellogg Company	USA	Breakfast cereals	6,955
31	Cadbury Schweppes	U.K.	Soft drinks, confectionary	6,936
32	Yamazaki Baking	Japan	Baking products, biscuits	6,822
33	Parmalat Finanziaria SpA	Italy	Dairy products	6,790
34	General Mills Inc.	USA	Multi-products	6,700
35	Associated British Foods Plc	U.K.	Multi-products	6,680
36	Heineken NV	Netherlands	Beer	6,481
37	Campbell Soup	USA	Multi-products	6,466
38	Meiji Dairies	Japan	Dairy products	6,408
39	Land O'Lakes Inc.	USA	Dairy products	5,756
40	Tate & Lyle Plc	U.K.	Sugar, sweeteners	5,428
41	Nichirei Corp.	Japan	Fishing, fish processing	5,296
42	Interbrew	Belgium	Beer	5,227
43	Quaker Oats Co.	USA	Multi-products	5,041
44	Morinaga Milk Industry	Japan	Dairy products	4,776
45	Sapporo Breweries	Japan	Beer	4,942
46	Dole Foods Co. Inc.	USA	Fruits & vegetables processing	4,763
47	South African Breweries	South Africa	Beer	4,715
48	Whitbread & Co. Plc	U.K.	Beer	4,475
49	Nippon Suisan Kaisha	Japan	Fishing, fish processing	4,392
50	Ito Ham Foods Inc.	Japan	Meat processing	4,375

51	Scottish & Newcastle Breweries	U.K.	Beer	4,270
52	Hershey Foods Inc.	USA	Confectionary, chocolates	4,221
53	Sudzucker	Germany	Sugar, sweeteners	4,173
54	Dean Foods	USA	Dairy products	4,103
55	Mc Cain Foods	Canada	Fruits & vegetables processing	4,100
56	Pernod Ricard	France	Wine & spirits	4,049
57	Friesland Dairies	Netherlands	Dairy products	4,068
58	Ferrero SpA	Italy	Confectionary, chocolates	4,000
59	Orkla	Netherlands	Multi-products	3,943
60	Nisshin Flour Milling	Japan	Grain milling	3,747
61	Hormel Foods	USA	Meat processing	3,675
62	Wessanen	Netherlands	Dairy products	3,635
63	Campina Melkuni	Netherlands	Dairy products	3,598
64	Bongrain	France	Dairy products	3,580
65	Q.P. Corporation	Japan	Highly processed food	3,574
66	Danisco A/S	Denmark	Sugar, sweeteners, nutroceutics	3,470
67	Meiji Seika Kaisha	Japan	Confectionary	3,379
68	Carlsberg A/S	Denmark	Beer	3,206
69	Allied Domecq Plc	U.K.	Wine & spirits	3,119
70	Kikkoman	Japan	Highly processed food	3,038
71	Toyo Suisan Kaisha	Japan	Highly processed food	2,881
72	Ralston Purina	USA	Baking products, biscuits	2,763
73	Nissin Food Products	Japan	Highly processed food	2,721
74	Maple Leaf Foods Inc.	Canada	Animal feed	2,628
75	Sodiaal	France	Dairy products	2,549
76	Ezaki Glico	Japan	Confectionary	2,426
77	International Multifoods	USA	Multi-products	2,385
78	Chiquita Brands International	USA	Fruits & vegetables processing	2,253
79	Nichiro Gyogyo Kaisha	Japan	Fishing, fish processing	2,252
80	Barilla SpA	Italy	Baking, and pasta products, biscuits	2,173
81	Northern Foods	U.K.	Dairy products	2,030

Source : Agrodata database, CIHEAM-IAM, Montpellier

(*) Estimated

Appendix 2. AGRODATA Description and Further Information

The sources of AGRODATA are Moody's Industrial Manual, the Fortune Directory of the 500 largest corporations, the "Dossier 5.000" of the largest European companies, Dun & Bradstreet, the annual reports of the enterprises, etc. In addition to the variables used here, AGRODATA also gives information on the total workforce and the agro-food sales (as opposed to total sales) of the companies and, for selected years, on their cash flow, leverage and other financial information, and M&A operations. In English, (Tozanli 1998) and Tozanli (2005) provide tables containing some of these data. Information on the IAMM and AGRODATA (in French) is available in the following web page: <http://www.iamm.fr/default.htm>.

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ⁱ Admittedly, the count of affiliates to study strategies could have also some drawbacks since the control of the parent over the affiliates could vary within an international industry. In our sample, however, the nature of the affiliates is relatively homogeneous as the parent controls, on average, 70% or more of the share capital in 90% of the affiliates.

ⁱⁱ Affiliates are establishments where the parent holds at least 5% of the equity share capital.

ⁱⁱⁱ Affiliates involved in food manufacturing; excludes facilities involved in agriculture, aquaculture and other primary sector activities.

^{iv} Affiliates included in non-food manufacturing; excludes retailing, technological and international trade facilities.

^v Of these 50 companies, six have at least 20% of their affiliates in a second region (Archer Daniels Midlands, Chiquita Brands, McCain, Quaker Oats, Toyo Suissan and Thysson).

^{vi} www.thecocacolacompany.com 2005 Report

^{vii} The company has also a home-region strategy for its technological affiliates specializing in technology transfers.

^{viii} And its technological affiliates.

^{ix} www.unilever.com

^x Q&A with Eric Werker, “How South Africa challenges our thinking on FDI”, Harvard Business School, Working Knowledge for Business Leaders, November 6, 2006 <http://hbswk.edu/cgi-bin/>