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***The Globalization of Food Systems:
A Conceptual Framework and Empirical Patterns***

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Abstract

This paper discusses a number of stylized facts and empirical patterns regarding agri-food trade flows as well as foreign direct investments in food processing and retailing. This evidence supports the hypothesis of an increasingly global food system. We identify the main factors at work such as push/supply side, pull/demand-side, and enabling/external factors. We show how the shift from national to global retailing is a recent phenomenon whose relevance for the globalization of upstream sectors of the food system are not yet appropriately addressed. Broadly, we argue that while the process of food globalization has long been regarded as a process largely dominated by the internationalization of food manufacturing, the emergence of global retailers is a further powerful engine of globalization which will exert a powerful impact with far reaching implications for the competitive environment and the rules of the game in food systems.

KEYWORDS: globalization, global food system, food manufacturers, global food retailing

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1. Introduction

An increasing internationalization of firms and integration of markets are the most relevant trends in international economy. Several forces combine to drive these trends, including the decline in barriers to international trade and investment flows and the increasing freedom to move goods, services and knowledge among countries and different locations. Advances in transport and communication technologies have created new opportunities for the development and growth of multinational firms. Advances in information processing and telecommunications enhance multinationals' abilities to coordinate complex functions over great distances resulting in lower costs of cross-border coordination (Baldwin and Winters, 2004). These forces have structural, organizational and strategic consequences in a growing range of industries and a strong impact on trade patterns, specialization, foreign direct investments (FDI), and global capital flows. They have also enhanced the globalization of food systems. If you visit a local supermarket, while travelling abroad, and look closely at the U.S. or E.U. brands being sold that are familiar, you would find that most were not manufactured in the United States or European Union. In most cases, they would come from a plant either in that country or in that region. Similarly, Americans and Europeans have gotten accustomed to virtually any fruit or vegetable being available year around at their local supermarket, which is made possible by international sourcing. As a consequence agricultural producers, food manufacturers and retailers operate in a changing competitive environment. New views of the food system and new strategic implications are emerging.

The objective of this paper is to examine the development of economic integration and global configuration in food systems. The issue of globalization of the food system has been addressed previously, both theoretically and empirically, by focusing on agricultural trade and FDI in food manufacturing. In this paper, we pay particular attention to the role played

by the process of internationalization of the food retail industry. There are two reasons for this. The first one is the increasing strategic role that retailers play in the evolution of food systems in advanced countries. The second reason is that retailing internationalization, although lagging behind that of manufacturing, is now catching up. Retailers are increasingly involved in processes of international expansion.

The paper is structured as follows. Section 2 gives an overview of a number of empirical patterns regarding agri-food trade flows. The objective of this section is to describe the recent evolution of agricultural trade patterns. Section 3 analyzes foreign FDI in food manufacturing, while Section 4 presents the international activities of retailers. Section 5 develops a conceptual framework to identify the specific nature of the globalization of food systems. Finally, Section 6 highlights the main findings and offers a few concluding remarks, as well as some suggestions for future research.

2. International Trade Patterns

In this section, we present a description of a number of empirical patterns regarding agri-food trade flows. The past two to three decades have seen important changes in the international trade of agri-food products. One relevant aspect is the increasing importance of processed agricultural products, as opposed to agricultural raw products. Table 1 shows that over the period 1970-1999, the share of manufacturing in total exports increased for both developed and developing countries, with a dramatic increase in developing countries exports. The table also shows that the share of processed foods in total world agri-food trade increased from 27.4 per cent in 1970 to 58.2 per cent by the end of the 1990s. The increase is similar for both developing countries (from 24 per cent in 1970 to 52 per cent in 1999) and developed countries (from 29 per cent to 61 per cent).

Several studies have noted that the relative importance of traditional export commodities (cocoa, coffee, sugar, tea) has declined while the trade in products such as fruits and vegetables, poultry, and dairy products increased. A large part of these products are exported in processed form (Athukorala and Sen, 1998; Athukorala and Jayasuriya, 2003; Rae and Josling, 2003). The shift away from commodities towards processed products in international agricultural trade is also confirmed by a recent WTO report examining trade patterns over the period 1985-2003 (WTO, 2004). The report shows that while the total share of agricultural products in world trade has declined, the trend towards more trade in processed goods can be observed across regions, countries and agricultural products throughout the 1990-2002 period.

Table 1. World Export Composition, 1970-1999 (selected years; percent)

| | | Developed Countries | Developing Countries | Total |
|--|------|------------------------|-------------------------|-------|
| Share of manufacturing in total exports | 1970 | 73.5 | 27.2 | 66.5 |
| | 1980 | 74.2 | 45.9 | 69.5 |
| | 1990 | 80.6 | 70.6 | 78.8 |
| | 1999 | 83.2 | 81.6 | 82.8 |
| Share of processed food in total exports | 1970 | 7.6 | 11.9 | 8.5 |
| | 1980 | 7.1 | 5.9 | 6.6 |
| | 1990 | 6.4 | 7 | 6.5 |
| | 1999 | 5.8 | 5.6 | 5.8 |
| Share of processed food in agri-food products (including processed food) | 1970 | 29.1 | 23.8 | 27.4 |
| | 1980 | 47.1 | 39.4 | 44.6 |
| | 1990 | 54.3 | 47.3 | 52.4 |
| | 1999 | 60.9 | 52.3 | 58.2 |

Source: Athukorala and Jayasuriya, 2003, pp. 24-25.

Obviously, the decline in the share of agricultural products in total trade is the result of the relevant increase of exports of several manufactured and service industries. Similarly, the decline in the share of agricultural commodities is due to the existence of differences in export value growth between such commodities and processed products. While processed foods' share of the value of total global agricultural trade has tended to increase steadily, the changes in the structure of agricultural trade has been particularly significant in recent years.

The data presented in Table 2 show that between 1975 and 1985 the value of global processed food trade increased by 5 percent per year, but grew at almost double that rate from 1985 to 1995.

It is also important to note that developing countries are taking advantage of this growth. Over the past decade, the growth of processed food exports from these countries has exceeded that from the developed regions. While the growth in the value of processed food exports during the former decade was fuelled mainly by exports from developed countries, processed food exports from developing countries played a more important role over the latter decade. In 1985 processed foods accounted for 55 percent of the total value of agricultural exports of developed countries, but only 40 percent of those of developing countries. Ten years later, processed foods' contribution had grown to almost 56 percent of the developing world's agricultural exports, and 66 percent of those of developed countries (Rae and Josling, 2003). Although one-half of global processed food trade takes place between developed countries, trade between the developing regions is increasing in response to rapid growth in demand for these foods in the developing world (Rae and Josling, 2003, p. 164).

In a recent paper, Mayer et al. (2003) have identified a set of dynamic products in world exports, namely those products characterized by the highest trend growth rates for the period 1980-2000. Their findings show that export values of all product started to grow rapidly in the mid-1980s. They also show that export value growth of high-technology intensive products was strongest, with the growth difference compared to the other product categories strongly increasing after 1993. Export values of medium technology-intensive products, as well as of labour- and resource-intensive products have also grown faster than that of total

non-fuel exports but the difference has remained fairly small. By contrast, export values of low technology-intensive products and, in particular, of non-fuel primary commodities have grown much slower than total non-fuel exports.

Interestingly, Mayer et al. (2003) found the existence of a set of unprocessed and processed agricultural products that can be classified as dynamic products in the sense that they have experienced strong export value growth over the period 1980-2000. These products include (i) meat and meat products, (ii) dairy products, (iii) fish and fishery products, (iv) vegetables, (v) fruits and nuts, (vi) spices, and (vii) vegetable oils, as shown in Table 2.

Table 2. Processed foods export growth rates (percent per year)

| Processed food | Global | | Developed Regions | | Developing Regions | |
|-----------------------|---------|---------|-------------------|---------|--------------------|---------|
| | 1975-85 | 1985-95 | 1975-85 | 1985-95 | 1975-85 | 1985-95 |
| Meats | 6.7 | 10.0 | 6.1 | 10.0 | 9.4 | 10.1 |
| Vegetable oils&fats | 7.4 | 4.7 | 5.7 | 4.0 | 9.1 | 5.2 |
| Dairy products | 6.4 | 9.5 | 6.5 | 9.2 | 3.1 | 19.5 |
| Processed rice | 1.9 | 7.5 | 2.4 | 2.3 | 1.6 | 10.3 |
| Sugar | -9.4 | 9.1 | -4.1 | 13.6 | -11.1 | 6.1 |
| Beverages&tobacco | 8.3 | 11.2 | 8.7 | 10.2 | 5.1 | 19.3 |
| Other foods | 8.4 | 9.7 | 7.8 | 9.0 | 9.7 | 11.0 |
| Total processed foods | 5.3 | 9.4 | 6.6 | 9.2 | 2.8 | 9.9 |

Source: Rae and Josling (2003).

Despite the persistence of restrictions and distortions in world agricultural markets, some developing countries have been successful in shifting to agricultural and food exports with high value-added and/or faster growth. The ability to enter a market, however, is still limited. As pointed out by Athukorala and Jayasuriya (2003), some countries have performed far better than others in terms of processed food export performance. For example, Bangladesh, Bolivia, Chile, Indonesia, Korea, Malaysia and Thailand had annual growth rates close to or exceeding 15 per cent in 1970–1999. In contrast, Cameroon, the Dominican Republic, Ghana, Nicaragua, Nigeria, Sudan, Senegal, Tanzania and Zambia exhibited very low annual

growth rates. There is also evidence that generally countries belonging to the high- and middle-income groups have performed better compared to the low-income countries.

3. Foreign Direct Investments and the Globalization of the Food Industry

The last two decades have seen very strong growth of multinational activity. Foreign direct investment (FDI) has grown much faster than either trade or income fuelled by cross-border mergers and acquisitions.

The Globalization of the Food Industry

Table 3 shows that food transnational companies (TNCs) are well represented in the list of the largest 100 TNCs. Notwithstanding the reduction of their number in 1999, food manufacturing (including beverages and tobacco) is one of the industries with a very high number of entries. Only three industries (petroleum and mining, electronics/electrical equipment/computers, and motor vehicles and parts) have a number of entries greater than food manufacturing. The same picture is provided by the analysis of the “transnationality index” (TNI) This index is calculated by UNCTAD World Investment Reports as the average of three ratios: foreign assets to total assets, foreign sales to total sales, and foreign employment to total employment. The table shows that food manufacturing is characterized by a very high TNI (78.9 percent in 1999), second only to the media industry which topped the list with 87 percent. Moreover, food manufacturing became more transnationalized over the period 1990-1999. The transnationality index of food TNCs increased substantially, from 59 to 79 percent. It is interesting to note that this increase of around 20 percentage points is the greatest. Multinational activity is, therefore, a relevant and increasing phenomenon in food manufacturing. By contrast, the retail industry has been among the least transnationalized, being characterized by a very low value of the index (37.4 in 1999).

Table 3. Industry Composition of the largest 100 TNCs, 1990, 1995, and 1999

| Industry | Number of entries | | | Average TNI* (per cent) | | |
|--|-------------------|------|------|-------------------------|------|------|
| | 1990 | 1995 | 1999 | 1990 | 1995 | 1999 |
| Media | 2 | 2 | 2 | 82.6 | 83.4 | 86.9 |
| Food/beverages/tobacco | 9 | 12 | 10 | 59.0 | 61.0 | 78.9 |
| Construction | 4 | 3 | 2 | 58.8 | 67.8 | 73.2 |
| Pharmaceuticals | 6 | 6 | 7 | 66.1 | 63.1 | 62.4 |
| Chemicals | 12 | 11 | 7 | 60.1 | 63.3 | 58.4 |
| Petroleum and mining | 13 | 14 | 13 | 47.3 | 50.3 | 53.3 |
| Electronics/electrical equipment/computers | 14 | 18 | 18 | 47.4 | 49.3 | 50.7 |
| Motor vehicle and parts | 13 | 14 | 14 | 35.8 | 42.3 | 48.4 |
| Metals | 6 | 2 | 1 | 55.1 | 27.9 | 43.5 |
| Diversified | 2 | 2 | 6 | 29.7 | 43.6 | 38.7 |
| Retailing | - | - | 4 | - | - | 37.4 |
| Utilities | - | - | 5 | - | - | 32.5 |
| Telecommunications | 2 | 5 | 3 | 46.2 | 46.3 | 33.3 |
| Trading | 7 | 5 | 4 | 32.4 | 30.5 | 17.9 |
| Machinery/engineering | 3 | 1 | - | 54.5 | 37.9 | - |
| Other | 7 | 5 | 4 | 57.6 | 59.4 | 65.7 |
| Total/average | 100 | 100 | 100 | 51.1 | 51.5 | 52.6 |

* The “transnationality index” (TNI) is calculated as the average of three ratios: foreign assets to total assets, foreign sales to total sales, and foreign employment to total employment.

Source: UNCTAD, World Investment Report (2001, p. 101).

Table 4 again gives the average transnationality index per industry as well as the average transnationality index of the largest 5 TNCs that have at least five entries on the lists for both 1990 and 1999. The table indicates that, in general, the TNI of the largest TNCs is greater than the average TNI per industry suggesting a positive relationship between firm’s size and transnationality. The table also shows that the transnational index of the top five firms increased substantially over the period 1990-1999. The increase was particularly strong for the food and beverage firms, which exhibited the largest gains (28 percentage points). In summary, the trend towards globalization in food manufacturing during the 1990s has been very strong; food manufacturing is now characterized by one of the greatest degree of transnationality. A key role in this process has been played by the major food TNCs that have pursued such strategies much more intensively than TNCs in other industries.

Table 4. Average transnationality index per industry and of the largest 5 TNCs in each industry, 1990, 1995 and 1999 (percent)

| Industry | Year | Average industry TNI | per Average largest 5 TNCs TNI of the |
|-------------------------------------|------|----------------------------|---|
| Petroleum | 1990 | 47.3 | 57.7 |
| | 1995 | 50.3 | 64.8 |
| | 1999 | 53.3 | 70.1 |
| Motor vehicols | 1990 | 35.8 | 34.7 |
| | 1995 | 42.3 | 38.6 |
| | 1999 | 48.4 | 41.4 |
| Electronics/electrical equipment | 1990 | 47.4 | 36.1 |
| | 1995 | 49.3 | 61.1 |
| | 1999 | 50.7 | 59.6 |
| Pharmaceuticals | 1990 | 66.1 | 47.1 |
| | 1995 | 63.1 | 68.0 |
| | 1999 | 62.4 | 67.3 |
| Chemicals | 1990 | 60.1 | 51.6 |
| | 1995 | 63.3 | 61.1 |
| | 1999 | 58.4 | 53.9 |
| Food/beverages | 1990 | 59.0 | 60.8 |
| | 1995 | 61.0 | 76.9 |
| | 1999 | 78.9 | 88.7 |

Source: UNCTAD, World Investment Report (2001, p. 101-102).

Table 5 presents the geographical patterns of multinational activities. The table shows that there is an uneven geographical distribution of FDI by industry. In other words, the level of geographic concentration varies by industry. It is interesting to note that the food and beverage industries present the lowest levels of geographical concentration. Foreign affiliates in food and beverages operate in 101 countries while those in semiconductors are located in only 31 countries. According to the World Investment Report (Unctad, 2001), this evidence suggests that the more advanced the technology, the higher the level of concentration. This assessment is based on the two following assumptions. First, the location of foreign affiliates tends to agglomerate in a small number of selected locations in the case of high-technology industries, because only locations with appropriate technological capabilities can receive high technology FDI. Second, in terms of technological intensity, food manufacturing is a low technology industry. However, this conclusion may be misleading to the extent that it is based on a partial view of the nature of the food industry and, consequently, may suggest an inappropriate analysis of food industry globalization.

Table 5. Geographical concentration of foreign affiliates in selected manufacturing industries, by technological intensity^a, 1999 (share of total number of affiliates)

| Share of industry total | High technology | | Medium Technology | | Low Technology | |
|------------------------------------|-----------------|---------------|-------------------|------------------------|--------------------|---------|
| | Semi-conductors | Biotechnology | Automobile | TV and radio receivers | Food and beverages | Textile |
| Top 3 host countries | 0.496 | 0.627 | 0.294 | 0.356 | 0.237 | 0.287 |
| Top 5 host countries | 0.629 | 0.710 | 0.440 | 0.502 | 0.353 | 0.401 |
| Top 10 host countries | 0.787 | 0.852 | 0.710 | 0.696 | 0.561 | 0.601 |
| Top 20 host countries | 0.945 | 0.953 | 0.884 | 0.893 | 0.747 | 0.795 |
| Memorandum | | | | | | |
| Total number of foreign affiliates | 272 | 169 | 1296 | 253 | 2250 | 1445 |
| Total number of host countries | 31 | 28 | 55 | 36 | 101 | 77 |

^a Calculated as the share of the number of foreign affiliates compared to total foreign affiliates in the world in each specific industry.

Source: UNCTAD, World Investment Report (2001, p. 68).

For this reason, it is important to complete the analysis with the data presented in Table 6. This table allows a richer picture based on the analysis of the Network Spread Index (NSI) of the world's largest TNCs. While the transnationality index assesses the degree to which companies expand their activities outside of their home countries, the NSI represents a complementary concept of measuring the transnationalization of companies focused on the extent to which firms follow strategies of cross-border geographical diversification by locating their activities in foreign countries. The index is calculated by UNCTAD World Development Reports as a ratio of the number of foreign countries in which a TNC locates its activities (N) as a percentage of the number of foreign countries in which it could, potentially, have located (N*). The latter is taken as the number of countries that have inward stocks of FDI (minus 1, excluding the home country of the TNC) in the particular year to which the calculations refer.

Table 6. Network Spread Index of the world's largest 94 TNCs in 1999, by industry (percent)

| Industry | Mean NSI | Industry | Mean NSI |
|-------------------------|----------|---------------------------|----------|
| Chemical/Pharmaceutical | 21.80 | Other | 12.83 |
| Food/Beverages/Tobacco | 19.31 | Automotive | 12.83 |
| Electronics/Electrical | 18.90 | Retailing/Trade/Services | 10.46 |
| Engineering | | | |
| Oil/Petroleum | 16.52 | Construction/Construction | 8.02 |
| | | Materials | |
| Diversified | 16.44 | Media/Printing/Paper | 6.77 |
| Telecommunication | 13.77 | Utility | 4.01 |
| Metals/Mining | 13.37 | Mean NSI | 15.63 |

Source: UNCTAD, World Investment Report (2001, p. 104).

It is easy to see that these data are consistent with the results based on the transnationality index. They confirm that food TNCs are typically spread over a large number of countries. It is interesting to note that while food manufacturing is among the industries with the highest NSI, retailing is characterized by one of the lowest values of NSI, confirming that retailing is among the least transnationalized industries. However, the most interesting aspect suggested by the table is that, in addition to technological intensity, a further variable affects the geographical spread of TNCs. In fact, industries which have a higher NSI (like chemical/pharmaceuticals, electronics, and food and beverages) are to a large extent consumer-oriented industries. TNCs operating in such industries follow primarily market-seeking strategies with regard to their transnationalization. By contrast, TNCs from industries such as utilities, media, construction, and retailing have a lower than average NSI, as they are typically more domestic market oriented industries.

Finally, Table 7 allows us to examine the relative importance of multinational firms in selected OECD countries. It presents data on the share of industrial activity controlled by foreign multinationals in each country for both food industry and total manufacturing

provided by a recent report of OECD. Unfortunately, the number of countries for which data are available is limited to 12. The table shows that cross-country differences are very relevant. By the end of the 1990s the percentage of turnover (sales) generated by food firms under foreign control varied from 57.0 per cent in Hungary to less than 1.0 per cent in Japan. In most other countries, this percentage was 15-30 per cent. The table also shows that in food manufacturing the percentage of production controlled by foreign multinationals is lower than that in most other manufacturing industries. The unweighed average share for food industries in 1998-99 is 23.1 percent, lower than the average share for total manufacturing, which is 30.5 percent. This is consistent with the well-known importance of local/national production in food processing. Over time, however, the patterns are similar. The presence of foreign affiliates increased for both food industry and total manufacturing. In the case of food industry, between 1994-95 and 1998-99, the share of production controlled by foreign multinationals increased in most countries. There are, however, notable exceptions such as Germany, the UK and Turkey where the share tends to decrease. Although these data reveal that the role of food TNCs activity appears to be weaker than in other industries, they confirm the increasing presence of TNCs in several countries and the contribution of these firms to the strengthening of the process of food globalization.

Table 7. Share of turnover (sales) or production controlled by foreign affiliates in food , beverages and tobacco industries (ISIC 15/16 and in total manufacturing).

| | | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|-------------|----|-------|-------|------|------|------|------|
| Czech Rep. | F | | | | 11.4 | 13.6 | 18.7 |
| | TM | | | | 17.8 | 21.7 | 27.1 |
| Finland | F | | 6.7 | 6.0 | 7.7 | 5.3 | 14.5 |
| | TM | | 10.1 | 12.7 | 13.7 | 14.3 | 16.2 |
| Germany | F | | 13.3 | 12.6 | 11.9 | 11.8 | .. |
| | TM | | 13.1 | 12.8 | 12.5 | 10.8 | .. |
| Hungary | F | | 52.9 | 51.4 | 51.5 | 57.0 | 59.7 |
| | TM | | 56.6 | 62.4 | 66.1 | 70.1 | 73.3 |
| Ireland | F | 35.8 | 36.1 | 38.1 | 39.0 | 36.6 | |
| | TM | 61.6 | 65.2 | 66.4 | 69.2 | 72.3 | |
| Japan | F | 0.7 | 0.7 | 0.9 | 0.9 | 1.0 | |
| | TM | 1.4 | 1.3 | 1.2 | 1.6 | 1.8 | |
| Netherlands | F | | 28.8 | 29.4 | 30.1 | 32.5 | |
| | TM | | 30.3 | 29.7 | 30.4 | 32.1 | |
| Norway | F | 3.8p | 13.2p | 11.5 | 10.6 | 15.6 | |
| | TM | 13.0p | 19.5p | 18.9 | 19.9 | 23.9 | |
| Poland | F | | | | 19.8 | | 31.5 |
| | TM | | | | 19.4 | | 33.8 |
| Sweden | F | 17.4 | 19.9 | 26.9 | 26.4 | | 25.8 |
| | TM | 17.4 | 21.6 | 20.8 | 19.6 | | 21.9 |
| Turkey | F | 14.0 | 15.4 | 16.4 | 13.4 | 11.0 | |
| | TM | 11.1 | 12.4 | 12.8 | 12.3 | 11.5 | |
| U.K. | F | | | 23.7 | 21.8 | 19.1 | |
| | TM | | | 33.2 | 31.4 | 40.9 | |

F = food industry, TM = total manufacturing, p = production.

Source: OECD Statistics, 'Measuring Globalization: the role of multinationals in OECD Economies', 2001 edition.

The Strategies of Leading Food Manufacturers

Nestlé, headquartered in Vevey, Switzerland, has become the world's largest food processor with such brands as Perrier bottled water, Nescafé coffee and a product mix that includes pastas, dairy products, and chocolates. Kraft Foods, the largest U. S.-based food manufacturer, was divested by Philip Morris the giant tobacco company, which has changed its name to Altria. Although an independent company with brands such as Kraft cheeses, Nabisco crackers and cookies, and Oscar Mayer processed meats, Kraft is still 84 percent owned by Altria. ConAgra has over 30 lines of branded packaged and frozen food products, which include Banquet, Chef Boyardee, Healthy Choice and Van Camp's. It is also a large supplier to the food service industry. Unilever Group combines the Dutch Unilever N V. and the British Unilever PLC. In addition to well known food brands, such as Birds Eye and

Lipton, Unilever also markets a broad mix of non-food products.ⁱ PepsiCo is thought as a soft drink company, but its fastest growing business segment has been Frito-Lay, which sells snack products in over 120 countries through company-owned businesses and affiliated companies. Archer Daniels Midland is a large oilseed and corn processor. Tyson, which was already the largest chicken processor, purchased the beef and pork giant IBP, to become the world's largest meat processor serving both food retailers and food service. Cargill, the largest U.S. private corporation, is still 85 percent owned by the descendants of the founding families. Cargill has increasingly become a value-added, first-stage processor supplying second-stage food manufacturers who make and sell consumer food products. Good examples would be the high fructose corn syrup used in soft drinks as a sweetener or the cooking oil for fast food operators. Cargill has also moved into branded products such as Excel beef and Honeysuckle White poultry. Coca-Cola has a truly global brand and sells soft drinks and other beverages in almost 200 countries. In fact, only 32 percent of its 2002 sales revenue came from the North American market, 27 percent from Europe, Eurasia and the Middle East, 11 percent from Latin America, 26 percent from Asia, and 3 percent from Africa.

This evidence also confirms that food manufacturing is characterized by a small number of very large firms and a large number of small local companies. Primarily only the former have entered global markets. Consolidation and international expansion are strictly associated. The 1990's were an active period of consolidation in food manufacturing through mergers and acquisitions. Consolidation allows a company to improve production efficiency through scale economies and the closing of less efficient plants. It is also a quick way for a firm to expand its product offerings and gain market share. Some mergers and acquisitions are also undertaken defensively to block another company from becoming a greater

competitive threat. According to the U. S. Department of Agriculture, U. S. food processing firms made an average of 187 acquisitions per year during the period 1993-1999.

Increasingly, foreign companies are being acquired. Processed food sales from the foreign subsidiaries of U.S. companies reached an estimated \$150 billion in 2002, compared to exports of some \$30 billion. These operations are the result of the foreign direct investment (FDI) undertaken by U.S. food companies. The sales from foreign subsidiaries have grown since they are typically a more cost-effective way to supply a foreign market than exporting the product from the U.S. Companies are under pressure from their stockholders or private owners to increase the value of the company, and its stock, by continuously growing the business' profits and the value of its assets. Facing a mature domestic market, major food and beverage manufacturers have focused on three primary strategies to achieve continued growth: acquisitions and mergers, new product introductions, and expansion into new markets. In seeking new markets, the largest food processors all operate internationally and in most cases have done so for many years. Most of these companies make and market some of the most widely recognized branded products in the world. They were pushed into the international market by saturation of their domestic markets and pulled by the market potential abroad and the economies of scale that could be achieved in manufacturing and marketing with greater volumes. Companies with strong consumer brands or proprietary technologies can further capitalize on such assets by expansion in the global market.

The structure of control that determines the geographic and functional distribution of foreign activities and ensures their coordination, may occur in several forms such as ownership (or equity) linkages providing direct managerial supervision, non-equity linkages in which formally independent firms are linked through a variety of relationships such as franchising, licensing, subcontracting, marketing contracts, common technical standards or stable, trust-

based business relationships. To implement their international strategies, food companies may utilize a number of different production and distribution arrangements. One option is to produce in the home market and then export, making use of a foreign licensee or joint venture to handle foreign distribution and marketing. Another approach is to license a local company to produce and market the product in the foreign market. A company might also form a joint venture with a local business. A firm would need to make the greatest investment and expose itself to the most risk if it decided to acquire or create a wholly owned foreign affiliate to handle production and marketing. Finally, the decision might be made to supply one foreign market from a foreign affiliate, joint venture, or licensee in another foreign country. The approach chosen depends on an assessment of the market opportunities and the barriers to entry faced in the foreign market, plus the feasibility of production outside the domestic market. Management would also weigh the trade-off between the risk of the foreign operation and the need to maintain direct control over production and marketing (Malanoski et al., 1996; Malanoski, et al., 1997).

The most common means for food manufacturers to enter foreign markets is through foreign direct investment as is well documented by the FDI data presented in previous tables. However, there is also evidence that although food firms have historically preferred mergers and acquisitions to partnerships, this attitude is changing. Indeed, several consumer-packaged-goods companies are turning to a range of alliance opportunities to achieve growth. A few companies, such as Nestlé, Procter & Gamble, and Starbucks, are already realizing good returns on their alliance activity. A recent analysis of Cook et al. (2003) found that of 77 leading consumer-packaged-goods firms the 10 most alliance-intensive ones delivered average total returns to shareholders nearly four times larger than the rest. In addition, the highest-performing companies captured a disproportionate share of the alliance opportunities and locked in the best partners. Cook's findings also show that one key to success is pursuing

a full range of alliance opportunities—not just geographic-expansion or simple co-marketing deals, but also cost reduction programmes and partnerships for innovation.

4. The Internationalization of the Retail Industry

This section examines the international operations of retailers. As we have already noted in discussing Tables 3 and 6, the retail industry is characterized by a low level of internationalization. As measured by TNI and NSI, retailing is clearly lagging behind manufacturing in terms of international expansion. The retail industry is, however, drastically changing its structure through a process of consolidation and major retailers are increasingly adopting strategies of internationalization. According to recent estimates, the top 200 retailers have captured 29 per cent of the worldwide market. In particular, the largest retailers have increased their market share. Sales for the top 10 retailers reached \$650 billion, which represents 29.2 per cent of the sales from the top 200 retailers. Five years ago, the top 10 share was only 23 per cent (Kutyla, 2004). Grocery and food retailing is becoming increasingly concentrated. A substantial consolidation took place in the last decade through both organic expansion and a number of high-profile domestic and international mergers and acquisitions (M&A). Both the process of consolidation and international expansion are expected to continue. For example, there is speculation that Carrefour, the world's second-biggest retailer by revenue may be in the sights of Wal-Mart, the only retailer that is bigger, which unsurprisingly, recently signalled it would like to start expanding more aggressively in Europe (White et al., 2004).

Table 8 lists the largest food retailers. The ranking is in accordance with their retail sales in 2002. Of the top 20 retailers, 8 are American, one is Japanese, and the remaining are European (5 of German, 3 French, and 2 British. Figures in the three right-hand columns present the number of countries in which each retailer is operative. As an index of

globalization, a simple count measure has obviously its limits, but it is enough to give an idea of how relevant the international expansion of large retailers is. The average number of countries of operation has increased from 6.7 in 1997 to 10.5 in 2002. The table reveals that a small number of European companies (mainly Carrefour, Ahold and Metro) along with Wal-Mart are dominating the global expansion of food retailing. The table also shows that retailers pursue multi-format strategies and that format diversification is increasing and positively associated with international expansion. In the process of international expansion and organizational change of the retail industry, therefore, a key role is played by a very small number of major retailers.

Table 8. Top 20 Largest Food Retailers in 2002

| Retailer | Country of origin | Number of formats | | | Retail sales (millions of US dollars) | Countries of operation | | |
|-----------------|-------------------|-------------------|------|------|---------------------------------------|------------------------|------|------|
| | | 2002 | 2000 | 1997 | | 2002 | 2000 | 1997 |
| 1 Wal-Mart | US | 5 | 2 | 2 | 229,617 | 12 | 10 | 8 |
| 2 Carrefour | Fr | 6 | 5 | 2 | 65,011 | 31 | 24 | 14 |
| 3 Kroger | US | 5 | 5 | 2 | 51,760 | 1 | 1 | 1 |
| 4 Metro | Ger | 6 | 6 | 5 | 48,349 | 26 | 22 | 18 |
| 5 Target | US | 3 | 2 | 2 | 42,722 | 1 | 1 | 1 |
| 6 Ahold | Neth | 7 | 7 | 3 | 40,755 | 27 | 25 | 13 |
| 7 Tesco | UK | 5 | 3 | 1 | 40,071 | 10 | 10 | 6 |
| 8 Costco | US | 1 | 1 | 1 | 37,993 | 8 | 7 | 6 |
| 9 Sears | US | 4 | 3 | 2 | 35,698 | 3 | 3 | 1 |
| 10 Albertson | US | 3 | 2 | 1 | 35,626 | 1 | 1 | 1 |
| 11 Aldi Einkauf | Ger | 2 | 2 | 2 | 33,837 ^E | 12 | 11 | 8 |
| 12 Safeway | US | 1 | 1 | 1 | 32,399 | 3 | 2 | 3 |
| 13 Intermarchè | Fr | 8 | 7 | 3 | 31,688 ^E | 7 | 8 | 9 |
| 14 Rewe | Ger | 8 | 8 | 1 | 31,404 | 12 | 11 | 9 |
| 15 Kmart | US | 2 | 1 | 1 | 30,762 | 1 | 4 | 6 |
| 16 Edeka/AVA | Ger | 6 | 5 | 2 | 26,514 ^E | 6 | 7 | 5 |
| 17 J Sainsbury | UK | 4 | 3 | 4 | 26,460 | 2 | 3 | 3 |
| 18 Ito-Yokado | Japan | 6 | 7 | 7 | 26,179 | 18 | 15 | 2 |
| 19 Auchan | Fr | 4 | 6 | 3 | 26,071 | 15 | 14 | 10 |
| 20 Tengelmann | Ger | 8 | 6 | 3 | 23,209 ^E | 14 | 16 | 10 |

^E = estimate

Source: Stores (2002, 2004).

Not only major retailers are pursuing international expansion programmes, but there is evidence that the relative importance of their cross-border expansion accelerated in the recent years. Figures that show the value of cross-border M&As in the sectors of the food system (agriculture, food processing, and trade or retail/wholesale) between 1988 and 2001, are

given in Table 9. Looking at the composition of M&As, it is possible to note that M&As in downstream stages play the crucial role. In particular, the retail industry has increased its participation. The trade (retail/wholesale) sector accounted for only 17.9 percent of the total by the end of the 1980s. But its share increased to almost half (49.1 percent) in 2001-2002. The share of food manufacturing decreased over the same period from 75 to 50 percent. Trade M&A growth has been particularly significant in the 1990s. Whereas the value of cross-border trade sector M&As in 1988-89 was only \$US4.3 billion, it increased to \$21.7 billion in 2001-02. As a consequence, by the end of the period, the composition of M&As in the food system drastically changed: the share of trade and food manufacturing in cross-border M&As is quite similar. Retailers are playing an increasing role in the globalization of food systems (Lal, 2004).

Table 9. Cross-border M&As by Industry of Purchaser, 1988-2002 (millions of dollars)

| Sector/industry | 1988-1989 | | 1993-1994 | | 2001-2002 | |
|--------------------|-----------|-------|-----------|-------|-----------|-------|
| | | % | | % | | % |
| Agriculture | 1772 | 7.5 | 109.5 | 0.8 | 410.5 | 0.9 |
| Food manufacturing | 17629 | 74.6 | 7770 | 56.3 | 22117 | 50.0 |
| Trade | 4232.5 | 17.9 | 5911 | 42.9 | 21713.5 | 49.1 |
| Total food system | 23633.5 | 100.0 | 13790.5 | 100.0 | 44241 | 100.0 |

Source: UNCTAD, World Investment Report (2001, p. 297).

The Strategies and Competitive Position of Leading International Retailers

WAL-MART. Sales outside the United States accounted for 16 percent of the total for Wal-Mart. Wal-Mart had 597 discount stores, 455 supercenters, 64 Sam's Clubs and 54 supermarkets in other countries at the end of 2002.ⁱⁱ Wal-Mart's international expansion only began in 1991 with a joint venture with the Mexican retailer Cifra, which is now 50 percent owned by Wal-Mart. Wal-Mart has limited its operations to a fairly small number of countries in Europe: Germany and the United Kingdom, in Asia: China, Japan, Singapore,

South Korea and Vietnam, and in Latin America: Argentina, Brazil, and Mexico, plus Canada. In the countries it has entered Wal-Mart has quickly become a major operator in many. Wal-Mart was estimated to have a 30 percent share of the retail food market in Mexico by 2002. Wal-Mart has entered some markets from which it has withdrawn, such as Indonesia. In more recent moves Wal-Mart acquired the Asda supermarket chain in Great Britain and a stake in Seiyu in Japan, that country's second largest grocer. Wal-Mart has had the most problems with its operations in Germany. Looking out to 2005, Wal-Mart continues to expect to get 60-70 percent of its growth in sales and earnings from the U. S. market. However, the expected contribution of international operations is growing over time (Fernie, 2004).

CARREFOUR. After Wal-Mart the next several global food retailers are European companies, which is a reflection of the saturation of their home markets. Carrefour is actually much more focused on international operations than Wal-Mart. In 2001, for the first time, international sales exceeded domestic sales in France. France accounted for 49 percent of Carrefour's sales, the rest of Europe 32 percent, South America 12 percent and Asia 7 percent. Carrefour had 517 hypermarkets, 1,298 supermarkets, 3,300 discount stores, and 716 convenience stores in other countries at the end of 2001. The first foreign market Carrefour entered was Spain through a joint venture in 1973. It has continued to expand internationally primarily through organic growth, although some key acquisitions have been made, such as Promodes in Argentina in 1982. Interestingly, they now consider all Europe a home market, not just France. Their private label products are an important part of the company's strategy. Carrefour has very ambitious expansion plans stating that they want to "open one discount store a day and one hypermarket a week worldwide."

AHOLD. Although tarred by serious problems with their financial reporting, the Dutch company Ahold was ranked number one with the highest foreign sales. They accounted for 85 percent of its total sales with only 15 percent coming from operations in the Netherlands. Ahold's primary international format is the supermarket of which it had 3,885 in other countries, along with 209 hypermarkets, which are similar to supercenters, and 1,487 convenience stores. Ahold's international operations were primarily in the United States, which accounted for 59 percent of the company's total sales, and are concentrated on the U. S. East Coast. It entered the U.S. market with the acquisition of Bi-Lo and Giant Food Stores in 1977. Since then Ahold has entered markets in Eastern Europe, Asia and Latin America. However, Ahold lacks a presence in the three largest European countries: Germany, France and the United Kingdom.

METRO. Some 45 percent of Metro's sales are outside of Germany its home market: 29 percent in other Western European countries, 14 percent in Eastern Europe and 2 percent in Asia and Africa. Metro has an array of formats in its international operations with cash and carry stores, consumer electronics stores, and hypermarkets, but not any supermarkets. *DELHAIZE* is similar to Ahold in that it was "pushed" out of a small country, Belgium, with little opportunity for domestic supermarket growth. It receives 85 percent of its total sales from foreign operations and only 15 percent from its home market. Likewise, Delhaize is essentially a supermarket company with most of its foreign operations in the United States, where it operated 1,769 supermarkets that accounted for 79 percent of the company's total sales. Delhaize entered the U. S. market in 1974 purchasing 32 percent ownership in Food Town, which became Food Lion in 1983, with Delhaize gaining full control in 2001. Most of the rest of its foreign operations are in other European countries.

TENGELMANN got 56 percent of its sales outside its home country, Germany, with Canada and the United States accounting for 44 percent and other European countries 12 percent. In 1979 Tengelmann acquired a 54 percent stake in A & P in Canada and the United States. Tengelmann's primary international formats were 858 discount stores and 769 supermarkets. *ALDI* had 2,554 stores outside of Germany that generated 40 percent of its net sales. Most of these were deep-discount limited assortment stores in Europe and the United States, which. The French company, *AUCHAN*, had 163 hypermarkets and 310 supermarkets in other countries, contributing 35 percent of its net sales.

The Spread of Supermarkets in Developing Countries

Supermarkets, including supercenters, hypermarkets and other modern food retail formats, have been gaining market share at a phenomenal rate in many countries in Asia, Latin America and some African nations (Roe, 2004). The rates of diffusion are so rapid that supermarkets have become the dominant food retailer in many countries in Latin American and Asia in a matter of years rather than the decades that process took in the United States. Much of this expansion has been by the major global retailers, such as Ahold, Carrefour and Wal-Mart, discussed in the previous section. Successful Third World retailers have also undertaken regional expansion. CSU, a Costa Rican supermarket chain, has expanded into other Central American countries and Chile's Santa Isabel has stores in Peru, Ecuador and Paraguay (Balsevich et al., 2003; Reardon et al., 2003).

Table 10 provides the estimates made by Thomas Reardon of the percent of food retail expenditures captured by supermarkets and related formats in various countries. The spread of multinational retailers in these countries prior to about 1990 was quite slow, but since then the rate of diffusion has been dramatic. In general, the countries in East and Southeast Asia

are about five years behind Latin America, but supermarket growth is occurring even more rapidly there. With rapid expansion by Wal-Mart and other global retailers, Reardon estimates that between just 1999 and 2001 supermarkets went from 30 percent to 48 percent of the retail food market in China's cities. By 2002 they had a 60 percent market share in Shanghai, the economic capital of China, according to Reardon. The dramatic growth of supermarkets in these countries is being fueled by a massive infusion of foreign direct investment, by the likes of Carrefour and Wal-Mart, which liberalized investment policies have facilitated.

Table 10. Supermarket Share in National Food Retailing (percent)

| Country | Earlier Year | Circa 2000 |
|---------------|--------------|------------|
| Latin America | | |
| Brazil | 30 (1990) | 75 |
| Argentina | 17 (1985) | 57 |
| Chile | | 50 |
| Costa Rica | | 50 |
| Mexico | | 45 |
| Honduras | | 42 |
| Guatemala | 30 (1999) | 35 (2001) |
| | 1999 | 2001 |
| Asia | | |
| South Korea | 61 | 65 |
| Philippines | 52 | 57 |
| China (urban) | 30 | 48 |
| Thailand | 35 | 43 |
| Malaysia | 27 | 31 |
| Indonesia | 20 | 25 |

Source: Reardon (2002).

The supermarket expansion occurred first in the most developed of the Asian and Latin American countries, such as Korea, Taiwan and Chile, in the largest cities, and typically in the more wealthy neighborhoods first. More recently supermarkets have spread to other countries in the regions, to smaller cities and towns, and into less well-to-do areas. The supermarkets, hypermarkets and other modern retailers are not just drawing their customers

from wealthy and middle class households, as might be assumed. The poor are also shopping there. To get to these stores the poor either use public transportation or go together to hire a taxi. The savings on bulk food purchases, for example on a 10 kg bag of rice, may be so great that it pays for several women living in the slums to get a taxi together to go to the nearest hypermarket. The rapid spread of supermarkets is driving many traditional food retailers, particularly the small “mom and pop” stores, out of business in these countries with relevant implications for local supply chains (Senauer and Goetz, 2003; Sexton, 2004).

Private Label Foods as a Growing Global Phenomenon

Sales of private label foods are a large and growing global phenomenon (Table 11). A recent report of ACNielsen (2003) shows that Latin America, Asia Pacific and the Emerging Markets all have very small Private Label markets in terms of overall retail sales. All these regions are, however, experiencing much more rapid sales growth. For example, the Emerging Markets of Czech Republic, Hungary, Poland and South Africa saw a collective growth rate of 48% compared to 2002, while Latin America and Asia Pacific saw year over year growth rates of 16% and 14% respectively. European growth was 6%, while North America, excluding Wal-Mart in the US, remained unchanged from 2002. The high growth rates for Private Label in the developing markets are directly related to the international expansion of global retailers. In addition, it is worth noting that ACNielsen report found that, overall, growth rates for Private Label products outpaced those of manufacturers’ brands in nearly two-thirds of the countries studied.

Table 11. Top Ten Fastest Growing Private Label Markets (Based on Value Sales)

| | Country | Region | PL Growth | Manufacturer Brands Growth | PL Value (\$000) | PL Share |
|----|----------------|------------------|-----------|----------------------------|------------------|----------|
| 1 | Poland | Emerging Markets | 115% | 4% | 171,413 | 2% |
| 2 | Philippines | Asia Pacific | 48% | 2% | 158 | 0% |
| 3 | Czech Republic | Emerging Markets | 44% | -2% | 114,006 | 4% |
| 4 | Hungary | Emerging Markets | 44% | 8% | 250,227 | 8% |
| 5 | Thailand | Asia Pacific | 35% | 9% | 38,123 | 1% |
| 6 | Colombia | Latin America | 31% | 11% | 48,632 | 2% |
| 7 | Argentina | Latin America | 31% | 19% | 96,526 | 2% |
| 8 | South Africa | Emerging Markets | 28% | 7% | 272,987 | 6% |
| 9 | Sweden | Europe | 25% | 2% | 640,663 | 11% |
| 10 | Japan | Asia Pacific | 23% | 3% | 1,252,454 | 4% |

Source: ACNielsen (2003).

International Restaurant Chains

Food service is a further increasingly powerful engine of change and globalization of food systems. Burger King and McDonalds were the first to venture outside the borders of the United States in the 1960s. Since then dozens of food service chains have moved into the international marketplace. The expansions abroad have ranged from tentative entries into a few low-risk markets to a vast global operation. McDonald's is by far the most globalized of the restaurant chains with over 15, 000 outlets in other countries and international sales of almost \$20 billion. In recent years McDonald's has opened new outlets far more rapidly in foreign markets than at home and international sales growth has outpaced domestic growth. In addition, KFC, previously Kentucky Fried Chicken, Pizza Hut, and Burger King have extensive international operations. In addition to the fast food chains, other American food service operators have entered the international market. Starbucks, the coffee house chain, has opened outlets in Europe, Asia and recently Mexico. Morton's, a Chicago steakhouse, is operating in Hong Kong.

Succeeding in the global marketplace is a substantial challenge requiring planning, patience and flexibility to overcome problems associated with government regulations, cultural differences, training staff, and sourcing ingredients. Greater risk is typically inherent in foreign operations than domestic ones, but the market potential may be large. Most restaurant companies have used a franchise format to expand internationally, with a small proportion relying on full ownership, joint ventures or licensing agreements. A 1996 Survey of International Restaurant Operators reported that almost two-thirds of the multinational food service operators franchise all their international units. Only 9 percent owned them and 20 percent reported a combination of methods. The study found that foreign franchised outlets became profitable in an average of 16 months, whereas company-owned ones required 25 months (Masur, 1997).

A local franchisee with good connections and business experience can be very helpful in overcoming many obstacles in a foreign country. The prospect of sharing in the profits provides franchisees a strong motivation to work for the success of the enterprise, as it does in the U.S. market. The 1996 Survey also found that finding and keeping good unit managers was the most the most important element for success in both the U.S. and foreign markets. Sourcing ingredients had a greater impact on foreign than domestic operations, since it is more challenging to find and retain reliable suppliers.

McDonald's currently has operations in 119 countries. McDonald's approach is an excellent example of the adage, "think globally and act locally." The company rigorously insures consistency in all its global operations of key attributes associated with the McDonald's brand. These include a family atmosphere, cleanliness, public rest rooms, and air conditioning, plus the trade mark of fast, efficient service. Although such services are not

unique and do not provide a competitive advantage in the U.S., they are seen as innovations in many countries. When one of the authors asked where the rest rooms were in a London department store, he was told they are for employees only, but you can go to the McDonald's next door and use theirs (American Forum, 2003). On the other hand, McDonald's also "acts locally" and adapts to foreign cultures. McDonald's operates its international restaurants with franchisees who have an understanding of the local culture and business environment. McDonald's tries to source ingredients locally, if possible, and will go to a considerable effort to develop local suppliers. The menus reflect local preferences.

5. Looking for a Conceptual Framework

The factors driving the increasing globalization of the food system can be roughly placed in three categories: push/supply-side, pull/demand-side and enabling/external factors. The importance of these factors affect the industries of the food system differently given that some of these factors affect one industry more than others. While several forces on both demand and supply sides have, for example, determined the changes in world agricultural trade, the widening and deepening of trade flows in processed agricultural foods appear essentially due to demand-side factors, such as the increasing taste of final consumers for variety and well-known differences in the income elasticity of demand, with low elasticity levels for unprocessed agricultural products and high levels for attributes tied to qualities and services. Income growth, urbanisation, and lifestyle changes affect food consumption patterns, in developed countries and in many developing countries, in such a way that the substitution of high-value processed foods for traditional foods is increasing.

Factors such as international migration, the communications revolution and international tourism have contributed to a internationalisation of food habits. While the demand for

variety may explain why most food trade is intra-industry trade between similar developed countries as noted by Traill (1997), income growth is transforming food demand in many developing countries. Food expenditures are rising as per capita incomes rapidly grow in some developing countries, especially the largest ones. China has experienced phenomenal rates of economic growth and more recently India's growth has been robust. According to Engel's Law, the lower the initial per capita income level of a population the greater will be the expansion in food demand for a given rise in income. One of the primary things the poor of the world want to do with added income is improve their diets with more animal protein, more variety and improved quality. In addition to the impact of rising incomes, the increasing urbanization and growing participation of women in jobs outside the home and off the farm have created attractive opportunities for food retailers, food service providers and food manufacturers.

A rapidly growing middle class is emerging in some developing countries. Based on a per capita gross national income level equivalent to U. S. \$6,000 per year, a study by The Food Industry Center estimated the emerging middle class in China to number some 290 million people, in India over 90 million, and in Brazil almost 60 million in 2000. Given the rising incomes and very large populations in these countries, the market potential is very attractive. Moreover, although birth rates are declining virtually worldwide, population growth is far higher in Third World nations than in industrial countries (Senauer and Goetz, 2003). But these demand-side factors have been supported by supply-side factors such as improvements in food technology, refrigeration facilities and improvements in transportation that have made processed food items more easily tradable (Athukorala and Sen, 1998; Rae and Josling, 2003). There are several theoretical explanations for why firms invest abroad. Firms are going international because of slow growth in domestic markets and to capitalize on their

specific advantages (e.g., technology, marketing skills, reputation) as well as the location advantages of specific foreign countries. Theoretical models and empirical evidence support the hypothesis that FDI is generally high in sectors where firm-specific advantages are an important determinant of performance (Helpman and Krugman, 1985; Ethier, 1986; Dunning, 1993; Caves, 1996). Rather than technology providing the firm-specific advantages associated with FDI, in the case of the food industry it is intangible assets associated with branding policies that is of key importance (Henderson and Handy, 1993; Henderson and Handy, 1994). Porter (1990) defined food multinationals as ‘multidomestic’ ones for the relevance of their ‘market seeking’ strategies closely related to competitive advantages associated with branding. Our stylized facts in the previous section confirm the ‘multi-domestic’ nature of food multinationals.

Theoretical literature adopts an important taxonomy based on the distinction between horizontal and vertical multinational firms (Ethier and Markusen, 1996). The fact that affiliates in the food industries are so geographically spread supports and confirms the hypothesis that most foreign investments in these industries are of horizontal type and essentially market driven. Vertical specialization and patterns of international fragmentation of production through which firms move production of parts and components or product assembly abroad have become increasingly relevant in several industries. Traill (1997) had argued that the food industry is also moving in this direction with major food manufacturers assembling ingredients coming from international sourcing. However, a crucial characteristic of agri-food trade is that it is not a trade in fragmented components, but rather a trade in final goods. Vertical specialization is not as relevant in the food industries as a consequence of the fact that the scope for dividing production into discrete stages and subcontracting out large

parts to independent firms is much more limited in food manufacturing compared to other manufacturing industries.

This has relevant implications for the volume of trade flows. There is theoretical and empirical evidence that vertical fragmentation explains the strong increases in trade for many manufactured products. The reason is that the disintegration of production itself leads to more trade since traded products are neither basic raw materials, nor finished consumer goods, but are intermediate inputs at different stage of processing which may cross borders several times during the manufacturing process (Ethier and Markusen, 1996; Feenstra, 1998). While there is some evidence that trade flows in processed foods have increased also as a consequence of a larger use of imported intermediate inputs, these trade patterns remain less relevant than those of manufacturing industries involved in deep processes of vertical fragmentation. Unsurprisingly, as we have already noted, the products identified by Mayer et al. (2003) as those whose export values have grown most rapidly during the period 1980-2000 are also the products affected the most by vertical fragmentation of production processes at the international level.

While the process of multinationalization of food manufacturing is well explored both theoretically and empirically, the internationalization of the retail industry is much less analysed. Clearly, this depends on the fact that prior to the 1980's, the retail industry was essentially a localized, domestic industry. The same theoretical debate in the specialized literature has not solved the issue of whether theoretical models and paradigms developed to analyze the determinants of FDI in manufacturing may be used also for retailing given the organizational differences in these two sectors (see, for example, Dawson, 1994). In any case, push and pull factors seem at work in retailing as well. Push factors concern the saturation and the lack of growth in domestic markets. Pull factors regard the attractiveness

of foreign markets. In terms of push factors, home market saturation has been a major factor behind the international expansion of the European grocery retailers, such as Ahold and Carrefour, and the American fast food chains, like McDonald's and KFC, especially. Supermarkets and other retail operators also face significant land use and labor restrictions in Europe. In the United States, for example, the major fast food chains have literally exhausted most of the opportunities for expanding their traditional format. Increasing the density of McDonald's in an area may increase overall sales somewhat through the increased accessibility, but also reduce sales per site to the displeasure of franchisees.

Domestic market saturation and the reduced growth in food spending has led to increasing competitive pressures on company profits. At the same time, efficiency gains in supply chain management have allowed operators to reduce their costs and helped maintain profitability. The advances in information technology, that have transformed logistics and replenishment operations, also make it far easier to manage multinational operations. A company, such as Wal-Mart, possesses a competitive advantage through the ability to transfer its highly-efficient supply chain practices and technologies to its international operations. A final push factor that should not be overlooked is the fear of being left behind. Strategic interaction creates strong pressures and incentives to retail internationalization (Abate, 1997). If competitors are establishing a multinational presence, it is likely to prove more difficult to break into these markets after others are firmly established there.

In terms of enabling factors, the greater the political instability in a country the more the risk to foreign business operations. Although the news is full of examples of civil unrest, terrorism and actual warfare around the world, many of the largest developing countries and transition economies, such as China, have achieved levels of political stability that make foreign commercial investment attractive. Trade liberalization through the World Trade

Organization (WTO), regional agreements such as the North American Free Trade Agreement (NAFTA), and bilateral accords have lowered trade barriers and protectionist measures and opened up international trade and investment opportunities. In addition, the globalization of various industries complement and support one another. The internationalization of the food system has been facilitated by the global nature of several industries, such as airline travel, communications and finance. Vast improvements in communication and transportation technology have contributed to the growing global inter-connection. Globalization is also facilitated by air travel and shipping. The international spread of many industries has both contributed to and benefited from cultural globalization. It should also be noted that an important factor of interaction operates within the food system itself through changing vertical relationships between food manufacturers and retailers.

Finally, the end of the Cold War opened up Eastern Europe and the former Soviet Union to Western businesses. One of the major regions of expansion for Western European food retailers and manufacturers has been in countries, such as Poland, that were formerly behind the Iron Curtain. The recent period of globalization accelerated in the 1990's with the end of the Cold War during which much of the world was divided into opposing camps aligned with either the Soviet Union or the West.

6. Summary and Concluding Remarks

This paper has reviewed some empirical evidence and identified a set of stylized facts concerning the globalization of food systems. The main findings are the following: (1) some unprocessed agricultural products may be classified as dynamic agricultural products; (2) processed foods are increasingly important in agricultural trade as opposed to trade in traditional agricultural commodities; (3) food manufacturing is characterized by one of the

greatest degrees of transnationality and foreign production by food multinationals is increasing; (4) a key role in this process is played by the major companies; (5) despite the increasing role of multinationals, local players remain more important in the food industry when compared with most manufacturing industries; (6) an important process of international expansion and organizational change of the retail industry is taking place; (7) there has been a significant increase in the relevance of cross-border M&A of retailers; (8) a very small number of major retailers is playing an increasing role in the globalisation of food systems, and (9) private label foods are a large and growing global phenomenon.

By and large such empirical facts support the hypothesis that food systems have increasingly become integrated mainly through trade and particularly FDI in the last several decades. An increasing part of consumption patterns in developed countries, as well in large sections of the populace in many developing countries, involves imported food items, both unprocessed and processed. The largest food multinational firms pursuing their growth market-oriented strategies have played a crucial role in the process of globalization. But, in more recent years, a key role has also been played by the largest retailers' international expansion strategies.

Even if we do not provide in this paper a complete analysis of the determinants and of the consequences of the globalization of food systems, it seems possible to conclude that the changes underway are here to stay. On the one hand, this means that several features and dynamics of contemporary food systems can only be understood in the context of globalization; on the other hand, several issues of the globalization of food systems will increasingly be worth researching for both their positive dimensions and their strategic as well as public policy implications. In particular, we suggest that future research should focus

on the internationalization strategies pursued by retailers and explore carefully their implications. The globalization of food systems has long been regarded as a process largely dominated by the internationalization of food manufacturing. We would like to stress what seems to be the most relevant of the paper's findings, which is the increasing role played by retailers. Indeed, the most important conclusion from our work is that the globalization of food systems seems to proceed through a sequence of stages quite similar and related to the domestic evolution of food systems. The first stage during which the main engine of structural and strategic change is played by food manufacturing, is followed by a stage characterized by an increasing role played by food retailing. The same process seems at work at a global level.

While retail internationalization may be expected to have several and complex implications, the shift from a local, domestic-oriented food retailing to an increasingly global retailing is a recent phenomenon whose relevance for upstream sectors of food systems is not yet appropriately addressed. Particular attention should be paid to issues such as retailers' entry and expansion strategies into international markets and their consequences for the intensity of competition in domestic retailing markets, the nature of the vertical relationships between global retailers and food manufacturers, the development of global branding and international sourcing, the extent of global buyer power, and the emergence of global food supply chains with far-reaching implications for both developed and developing countries in terms of static, allocative and dynamic efficiency.

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