

## Principal Paper Sessions

*The Rise of Supermarkets in Developing Countries: Opportunities and Challenges for Agrifood Products Suppliers (Fred Buttel, University of Wisconsin at Madison, presiding)*

# THE RISE OF SUPERMARKETS IN AFRICA, ASIA, AND LATIN AMERICA

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Supermarkets are traditionally viewed by development economists, policymakers, and practitioners as the rich world's place to shop. The three regions discussed here have a great majority of the poor on the planet. But supermarkets are no longer just niche players for rich consumers in the capital cities of the countries in these regions. The rapid rise of supermarkets in these regions in the past five to ten years has transformed agrifood markets at different rates and depths across regions and countries. Many of those transformations present great challenges—even exclusion—for small farms, and small processing and distribution firms, but also potentially great opportunities. Development models, policies, and programs need to adapt to this radical change.

This paper describes the transformation of agrifood systems in Africa, Asia (excluding Japan), and Latin America. First, we describe the traditional retail and wholesale system in the midst of which emerged modern food retailing and its procurement system. Second, we discuss the determinants of and patterns in the diffusion of supermarkets in the three regions. Third, we discuss the evolution of procurement systems of those supermarkets, and consequences for agrifood systems. At the end,

we hint at emerging implications for farms and firms in the region.

### **The Context of Traditional Food Retail and Wholesale Sectors**

As development proceeded in the currently developed world, and is proceeding in the three developing regions under study here, markets shift from fragmented, local markets (such as village markets with wholesale and retail functions) to larger, centralized wholesale markets. This “de-fragmentation” tends to occur first in dry goods such as grains and later in “fresh products”—fruits and vegetables, meat, fish, eggs, and milk. There is progressive fresh-food market integration through the rise of medium/long distance trade and the establishment of specialized production areas, as one would expect from the theory of specialization and comparative advantage. This integration is accelerated by urbanization and improvements in roads, and thus takes place at different rates over regions, countries, and zones. Governments have also intervened to spur growth in the fresh foods and grains wholesale sector, such as in Brazil in the 1970s/1980s and in China now. Governments have also intervened directly in grain wholesale and even retail marketing, such as the Fair-Price Shops in India and the (now defunct and eclipsed) Foodstuff Stores in China. Governments seldom, however, intervened in the fresh food retail sector that continued, until the recent rise of supermarkets, to be dominated by mom and pop stores, street fairs, and central markets. That is, traditionally, a major change occurred in the

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wholesale sector with only gradual effects on the food retail sector.

In the latter stages of these changes in wholesale markets in Europe and the United States were concomitant changes in the retail sector, with the advent of self-service stores and then consolidation of the retail sector via the rise of supermarket chains in the past fifty to eighty years. A reversal of the traditional causal direction then occurred: retail transformation deeply changed the wholesale sector and thus the conditions faced by farmers. Below we show that a similar retail transformation has already made great headway in most countries of the three developing regions in only one decade.

### **Determinants of Supermarket Diffusion in Developing Countries**

The determinants of the diffusion of supermarkets in developing regions can be conceptualized as a system of demand by consumers for supermarket services, and supply of supermarket services—hence investments by supermarket entrepreneurs. Both functions have as arguments incentives and capacity variables.

On the demand side, several forces drive the observed increase in demand for supermarket services (and are similar to those observed in Europe and the United States in the twentieth century). Demand-side incentives were as follows. First, urbanization, with the consequent entry of women into the workforce outside the home, increased the opportunity cost of women's time and their incentive to seek shopping convenience and processed foods to save cooking time. Second, supermarkets and large-scale food manufacturers spurred the secular reduction in processed food prices.

Demand-side capacity variables were as follows. First, real mean per capita income growth in many countries of the regions during the 1990s, along with the rapid rise of the middle class, increased demand for processed foods (the entry point for supermarkets as they could offer greater variety and lower cost of these products than traditional retailers due to economies of scale in procurement). Second, rapid growth in the 1990s in ownership of refrigerators meant ability to shift from daily shopping in traditional retail shops to weekly or monthly shopping. Growing access to cars and public transport reinforced this trend.

The supply of supermarket services was driven by several forces, only a subset of which

overlap with the drivers of initial supermarket diffusion in Europe and the United States. The supply-side drivers were three. First, foreign direct investment (FDI) was a crucial factor. The development of supermarkets was very slow before (roughly) 1990, as only domestic/local capital was involved. In the 1990s and after, FDI was crucial to the take-off of supermarkets. The incentive to undertake FDI by European, U.S., and Japanese chains, and chains in richer countries in the regions under study (such as chains in Hong Kong, South Africa, and Costa Rica) was due to saturation and intense competition in home markets and much higher margins to be made by investing in developing markets. For example, Carrefour earned three times higher margins on average in its Argentine compared to its French operations in the 1990s. Moreover, initial competition in the receiving regions was weak, generally with little fight put up by traditional retailers and domestic-capital supermarkets, and there are distinct advantages to early entry, hence occupation of key retail locations. Attracting FDI were policies of full or partial liberalization of retail sector FDI undertaken in many countries in the three regions in the 1990s and after (e.g., China in 1992, Brazil, Mexico, Argentina in 1994, various African countries via South African investment after apartheid ended in the mid 1990s, Indonesia in 1998, India in 2000). Overall FDI grew five to ten fold over the 1990s in these regions (UNCTAD); growth of FDI in food retailing mirrored that overall growth.

A second crucial supply-side factor was the revolution the past decade in retail procurement logistics technology and inventory management. New practices included efficient consumer response, ECR, an inventory management practice that minimizes inventories-on-hand, and use of internet and computers for inventory control and supplier-retailer coordination. These appeared first in developed countries and then in the late 1990s and early 2000s swept developing countries among leading chains, through home-office guidance for local branches of global chains, and knowledge transfer and imitation and innovation by domestic supermarket chains. These changes were in turn key to centralizing procurement and consolidating distribution in order to “drive costs out of the system,” a phrase used widely in the retail industry. Substantial savings were thus possible through efficiency gains, economies of scale, and coordination cost reductions. China Resources

Enterprise, for example, notes that it is saving 40% in distribution costs by combining modern logistics with centralized distribution in its two large new distribution centers in southern China. These efficiency gains fuel profits for investment in new stores, and, through intense competition, reduce prices to consumers of essential food products.

### **Patterns in Supermarket Diffusion in Developing Countries**

The incentive and capacity determinants of demand for and supply of supermarket services vary markedly over the three regions, within individual countries, and within zones and between rural and urban areas at the country level. Several broad patterns are observed.

First, from the earliest to the latest adopter of supermarkets, the regions range from Latin America to Asia to Africa, roughly reflecting the ordering of income, urbanization, and infrastructure and policies that favor supermarket growth. The overall image is of waves of diffusion rolling along. The first wave hit major cities in the larger or richer countries of Latin America. The second wave hit in East/Southeast Asia; the third in small or poorer countries of Latin America and Asia including, for example, Central America and Southern then Eastern Africa. By this time, secondary cities and towns in the areas of the "first wave" were being hit. The fourth wave, just starting now, is hitting South Asia.

Latin America has led the way among developing regions in the growth of the supermarket sector. While a small number of supermarkets existed in most countries during and before the 1980s, they were primarily financed by domestic capital and tended to exist in major cities and wealthier neighborhoods. That is, they were essentially a niche retail market serving at most 10–20% of the national food retail sales. However, by 2000, supermarkets had risen to occupy 50–60% of national food retail among the Latin American countries, almost approaching the 70–80% share of the United States and France. In a single decade Latin America had the same development of supermarkets that the United States experienced in five decades. The supermarket share of food retail sales for the leading six Latin American countries averages 45–75%: Brazil has the highest share, followed by Argentina, Chile, Costa Rica, Mexico, and Colombia. Those six countries account for 85% of the income and

75% of the population in Latin America. Supermarket sectors of other countries in the region have also grown rapidly, but these started later and from a lower base. For example, supermarkets accounted for 15% of national food retail in Guatemala in 1994 and today account for 35% (Reardon and Berdegué).

The development of the supermarket sector in East/Southeast Asia is generally similar to that of Latin America. The "take-off" stage of supermarkets in East/Southeast Asia started, on average, some five to seven years behind that of Latin America, but is registering even faster growth. The average processed/packaged food retail share over several Southeast Asian countries—Indonesia, Malaysia, and Thailand—is 33%, but is 63% for East Asian countries—Republic of Korea, Taiwan, and Philippines—(ACNielsen). A rough rule of thumb, applicable from Latin America, is that the share of supermarkets in fresh foods is roughly one-half of the share in packaged foods, hence roughly 15–20% in Southeast Asia and 30% in East Asia outside China (and Japan). The 2001 supermarket share of Chinese urban food markets was 48%, up from 30% in 1999. Assuming the urban share of the total Chinese population to be approximately one-third, the total national packaged/processed food retail share of supermarkets is around 20%, similar to the share for supermarkets in overall food retail for Brazil or Argentina in the early 1990s. However, the rate of store growth is three times faster in China in 2003 than it was in Brazil and Argentina in the 1990s.

The most recent venue for supermarket take-off is in Africa, especially in Eastern and Southern Africa. South Africa is the front-runner, with roughly a 55% share of supermarkets in overall food retail and 1,700 supermarkets for 35 million persons. The great majority of that spectacular rise has come since the end of Apartheid in 1994. To put these figures in perspective, note that 1,700 supermarkets is roughly equivalent to 350,000 mom and pop stores or "spazas" in sales. Moreover, South African chains have recently invested in thirteen other African countries as well as in India, Australia, and the Philippines. Kenya is the other front-runner, with 300 supermarkets. Zimbabwe and Zambia have fifty to hundred supermarkets each (Weatherspoon and Reardon).

Second, within each of the three very broad regions there are large differences over sub-regions and countries. Usually, these can be

supermarket-growth-ranked according to the variables in the supply and demand model presented above. In Latin America, for example, Brazil with a 75% share of supermarkets in food retail store sales can be contrasted with Bolivia with at the most 10%; in developing Asia, Korea with 60% can be contrasted with India with 5%; and in Africa, South Africa with 55% can be contrasted with Nigeria with 5%.

Third, the take-over of food retailing in these regions has occurred much more rapidly in processed, dry, and packaged foods such as noodles, milk products, and grains, for which supermarkets have an advantage over mom and pop stores due to economies of scale. The supermarkets' progress in gaining control of fresh food markets has been slower, and there is greater variation across countries because of local habits and responses by wetmarkets and local shops. Usually the first fresh food categories for the supermarkets to gain a majority share include "commodities" such as potatoes, and sectors experiencing consolidation in first-stage processing and production: often chicken, beef and pork, and fish. In Brazil, where the overall food retail share of supermarkets is 75%, the share in Sao Paulo of fresh fruits and vegetables is only 25%. This kind of rough "three to one" ratio is typical in the regions. This difference is also not uncommon in developed countries: in France, supermarkets have 70% of overall food retail, but only 50% of fresh fruits and vegetables. The convenience and low prices of small shops and fairs, with fresh and varied produce for daily shopping, continues to be a competitive challenge to the supermarket sector, with usually steady but much slower progress for supermarkets requiring investments in procurement efficiency.

Despite the slower growth in supermarkets' share of domestic produce, it is staggering to calculate the absolute market that supermarkets now represent, even in produce, and thus how much more in other products where supermarkets have penetrated faster and deeper. For example, Reardon and Berdegue calculate that supermarkets in Latin America buy 2.5 times more fruits and vegetables from local producers than all the exports of produce from Latin America to the rest of the world! This should be contrasted with the nearly exclusive focus on produce exports in government and donor programs to spur growth in agricultural diversification and to help producers gain access to dynamic markets.

Fourth, the supermarket sector in these regions is increasingly and overwhelmingly

multinationalized (foreign-owned) and consolidated. The multinationalization of the sector is illustrated in Latin America where global multinationals constitute roughly 70–80% of the top five chains in most countries. That supermarket sector growth is substantially driven by FDI from outside these regions differentiates supermarket diffusion in these regions from that in the United States and Europe. The tidal wave of retail FDI was mainly due to the global retail multinationals, Ahold, Carrefour, and Wal-Mart, smaller global chains such as Casino, Metro, Makro, and regional multinationals such as Dairy Farm International (Hong Kong) and Shoprite (South Africa). In some larger countries, domestic chains, sometimes in joint ventures with global multinationals, have taken the fore. For example, the top chain in Brazil is Pão de Açúcar (in partnership with Casino, of France, since 1999), and the top chain in China is the giant national chain, with some 3,500 stores, based in Shanghai and formed in April 2003 as a fusion of Lianhua, Hualian, and two others.

The rapid consolidation of the sector in those regions mirrors what is occurring in the United States and Europe. For example, in Latin America the top five chains per country have 65% of the supermarket sector (versus 40% in the United States and 72% in France). The results are striking: for example, 3 of each 10 pesos spent on food by Mexicans are now spent in Wal-Mart! The consolidation takes place mainly via foreign acquisition of local chains (and secondarily by larger domestic chains absorbing smaller chains and independents).

These multinationalization and consolidation trends fit the supply function of our supermarket diffusion model. Global and retail multinationals have access to investment funds from own liquidity and to international credit that is much cheaper than is the credit accessible by their domestic rivals. The multinationals also have access to best practices in retail and logistics technology, some of which they developed as proprietary innovations. Where domestic firms have competed, they have had to make similar investments; these firms either had to enter joint ventures with global multinationals or had to get low-cost loans from their governments (e.g., the Shanghai-based national chain), or national bank loans.

Fifth, again as predictable from the diffusion model above, the inter-spatial and inter-socioeconomic group patterns of diffusion

have differed over large and small cities and towns, and over richer, middle, and poor consumer segments. In general, there has been a trend from supermarkets' occupying only a small niche in capital cities serving only the rich and middle class—to spread well beyond the middle class in order to penetrate deeply into the food markets of the poor. They have also spread from big cities to intermediate towns, and in some countries, already to small towns in rural areas. About 40% of Chile's smaller towns now have supermarkets, as do many small-to-medium sized towns even in low-income countries like Kenya. And supermarkets are now spreading rapidly beyond the top sixty cities of China in the coastal area and are moving to smaller cities and to the poorer and more remote northwest and southwest and interior.

### **Evolution of Supermarket Procurement Systems**

The decisions related to purchasing products for retail shelves rest with the procurement officers in supermarket chains. Whether in the United States, Europe, Nicaragua, Chile, or China, they are under several common "pressures" from supermarket managers, operating under intense competition and low-average profit margins. They are caught between the low-cost informal traditional retailers selling fresh local products on one side, and efficient global chain competitors like Wal-Mart on the other side. The procurement officers strive to meet this pressure by reducing purchase and transaction costs and raising product quality. Reflecting the varied demand of consumers, procurement officers seek to maintain diversity, year-round availability, and products with assured quality and safety levels.

Procurement officers of supermarkets usually find that they have to construct procurement systems parallel to and outside of the traditional wholesale systems because the latter cannot meet their objectives, and/or because they want to cut out the cost represented by the wholesaler's margin. Compared with the North American or the European market, produce marketing in the study regions is characterized by poor institutional and public physical infrastructure support. Private infrastructure, such as packing houses, cold chains, and shipping equipment among suppliers and distributors is usually inadequate. Risks and uncertainties, both in output and in suppli-

ers' responsiveness to incentives, prevail. The risks may be due to market failures, such as inadequate credit, third-party certification, and market information.

Several broad patterns of changes are observed in the procurement technologies that result.

First, there is a trend toward centralization of procurement (per chain). As the number of stores in a given supermarket chain grows, there is a tendency to shift from a per-store procurement system, to a distribution center serving several stores in a given zone, district, country, or a given region (which may cover several countries). This is accompanied by fewer procurement officers and increased use of centralized warehouses. Additionally, increased levels of centralization may also occur in the procurement decision-making process, and in the physical produce distribution processes. Centralization increases efficiency of procurement by reducing coordination and other transaction costs, although it may increase transport costs by extra movement of the actual products.

Usually retailers have a "step level" or threshold throughput where they go from per-store to centralized procurement as economies of scale permit and require, and depending on the nature and importance of the product category procured. For example, we observed a small chain (Xiaobaiyang) in an intermediate city in China that invested recently in building a distribution center (DC) for processed/packaged foods but continues to buy fresh foods from the spot market (traditional wholesalers). By contrast, a national chain (Hualian) invested in a large DC for packaged/processed foods and has recently built a large DC for fresh foods as produce throughput has attained a critical mass, and these products have attained a threshold importance in profits and chain marketing strategy.

The top three global retailers have made or are making shifts toward more centralized procurement system in all the regions in which they operate. Wal-Mart uses a centralized procurement system in most of its operating areas. Having centralized its procurement in France, Carrefour has been moving quickly to centralize its procurement system in other countries. For example, in 2001 Carrefour established a distribution center in São Paulo to serve three Brazilian states (with 50 million consumers) with fifty hypermarkets (equivalent to about 500 supermarkets) in the Southeast Region.

Similarly, Ahold centralized its procurement systems in Thailand (Boselie).

Regional chains, such as China Resources Enterprises (CRE) of Hong Kong—with Vanguard stores in southern China, are also centralizing their procurement systems. CRE is tenth in retail in China and has seventeen large stores in the provinces of Shenzhen and Guangdong. In anticipation of growth following its planned \$680 million investment in China over the next five years, a shift from store-by-store procurement to a centralized system of procurement covering each province is underway. Two large distribution centers were completed in 2002. The distribution center in Shenzhen is 65,000 square meters and will be able to handle forty department stores and 400 superstores/discount centers.

Second, there is a trend toward logistics improvements to accompany procurement consolidation. To defray some of the added transport costs that arise with centralization, supermarket chains have adopted (and required that suppliers adopt) best-practice logistical technology. This requires that supermarket suppliers adopt practices and make physical investments, which allow almost frictionless logistical interface with the chain's warehouses. The "Code of Good Commercial Practices" signed by supermarket chains and suppliers in Argentina illustrates the use of best-practice logistics by retail suppliers. Similar trends are noted in Asia. For example, Ahold instituted a supply improvement program for vegetable suppliers in Thailand, specifying postharvest and production practices to assure consistent supply and improve the efficiency of their operation (Boselie).

Retail chains in the three regions increasingly outsource (sometimes to a company in the same holding company as the supermarket chain) logistics and wholesale distribution function, entering joint ventures with other firms. An example is the Carrefour distribution center in Brazil, which is the product of a joint venture of Carrefour with Cotia Trading (a major Brazilian wholesaler distributor) and Penske Logistics (a U.S. global multinational firm). Similarly, Wu-mart of China announced in March 2002 (CIES, 2002) that it would build a large distribution center to be operated jointly with Tibbett and Britten Logistics (a British global multinational firm). Ahold's distribution center for fruits and vegetables in Thailand is operated in partnership with TNT Logistics of the Netherlands (Boselie).

Third, there is growing use of specialized wholesalers. The changes in supplier logistics have moved supermarket chains toward new intermediaries, sidestepping or transforming the traditional wholesale system. The supermarkets are increasingly working with specialized wholesalers, dedicated to and capable of meeting their specific needs. These specialized wholesalers cut transaction and search costs, and enforce private standards and contracts on behalf of the supermarkets. The emergence and operation of the specialized wholesalers has promoted convergence, in terms of players and product standards, between the export and the domestic food markets. Moreover, there is emerging evidence that when supermarket chains source imported produce they tend to do so mainly via specialized importers. For example, Hortifruti functions as the buying arm of most stores of the main supermarket chain in Central America, as does Freshmark for Shoprite in Africa.

Fourth, the rise of quasi-formal and formal contracts is relatively new in one of the most personalized, informal markets in the food sector, the produce sector. Contracts serve as incentives to the suppliers to stay with the buyer and over time make investments in assets (such as learning and equipment) specific to the retailer specifications regarding the products. The retailers are assured of on-time delivery and the delivery of products with desired quality attributes.

Manufacturers of private label processed fruit and vegetable and meat and cereals products typically operate under formal contract with the supermarkets. Supermarket chains have contracts with processing firms, who in turn may sign contracts with producers. Similarly, processed fruits and vegetables are sold under the label SABEMAS for the supermarket CSU in Costa Rica, and various firms produce under contract the products for the private label. As retail sales of private label products continue to grow, such contract arrangements are expected to increase in Latin America and Asia.

Finally, while food retailing in these regions previously operated in the informal market, with little use of certifications and standards, the emerging trend indicates a rapid rise in the implementation of private standards in the supermarket sector (and other modern food industry sectors such as medium/large scale food manufactures and food service chains). The rise of private standards for quality and safety of food products, and the increasing

importance of the enforcement of otherwise-virtually-not-enforced public standards, is a crucial aspect of the imposition of product requirements in the procurement systems. In general, these standards function as instruments of coordination of supply chains by standardizing product requirements over suppliers, who may cover many regions or countries. Standards specify and harmonize the product and delivery attributes, thereby enhancing efficiency and lowering transaction costs. Private standards of a given chain may also be designed to ensure (at a minimum) that the public standards are met in all the markets in which the retail chain operates. Often private standards may be designed as substitutes for missing or inadequate public standards (Reardon and Farina). In this respect, private standards can function as competitive arms against the informal sector (and other competitor products) by claiming superior product quality attributes. The evolution of private standards in the supermarket sector in these regions is also driven by multinational retailers' striving toward convergence between the private standards applied by the chain in developed countries and in developing countries. Not surprisingly, many small farmers and processors are finding it impossible to meet the requirements of supermarkets, and are being dropped from their procurement lists.

### Conclusions

The procurement practices of supermarkets and large processors are quickly reformulating the "rules of the game" for farmers and first-stage processors. To prepare them to take advantage of opportunities and meet challenges requires special and immediate attention and a redesign of development strategy for the small farm and SME sector. Development agencies must understand that "product markets" will mean "supermarkets." "Market-

oriented programs and policies" will in fact be "supermarket-oriented." Because three or four chains can command up to 50% or more of the supermarket sector in any given country, development programs and policies must learn to deal with just a handful of giant companies. This is an enormous challenge, and demands an urgent review and revision of current ideas, strategies, and practices.

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