



## **The Retail-Led Transformation of Agrifood Systems and its Implications for Development Policies<sup>1</sup>**

**Thomas Reardon<sup>2</sup> and Julio A. Berdegue<sup>3</sup>**

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<sup>2</sup> Corresponding author: Michigan State University, [reardon@msu.edu](mailto:reardon@msu.edu)

<sup>3</sup> Rimisp-Latin American Center for Rural Development

## Executive Summary

This paper focuses the retail dimension of the profound and rapid transformation of the food industry in developing countries, a key element of globalization. There has indeed been a “supermarket revolution” in developing countries since the early/mid 1990s. Before roughly 1990, in most developing countries, supermarkets<sup>4</sup> had occupied only minor niches among richer consumers in large cities. The “take-off” of supermarket diffusion started in earnest in the early/mid 1990s; the sector grew meteorically thereafter, to the point where in many countries supermarkets now dominate urban food retail and have gone way beyond the initial middle-class clientele to penetrate the food markets of the poor.

This “shock” downstream in the food system has had expanding ripple effects upstream in the food system, on the wholesale, processing, and farm sectors. Most of these effects have only started to be manifest in the past 5-10 years. Thus, relative to the 25 years since the last WDR focused on food and agriculture, this is a very recent phenomenon, and is even recent compared to the several decades since globalization (in its trade aspects) started in the early 1980s. Policy debate and research have only in the past five years registered the supermarket revolution and reflected on its impacts on agrifood systems and development.

This paper reviews the emerging issues, evidence, and suggests development policy implications. Section 2 discusses trends in the spread of supermarkets in developing countries. Section 3 analyzes the determinants. Section 4 examines the impacts on consumers and traditional retailers (downstream in the agrifood system) and processors, wholesalers, and farmers (upstream in the system). Section 5 discusses implications for policies and strategies in different contexts (corresponding to different stages of supermarket diffusion, different actors, and different product categories). Section 6 briefly concludes. The key points are as follows.

First, while supermarket diffusion was occurring slowly before approximately 1990, starting in the 1990s there was a sudden and meteoric rise of supermarkets in developing countries. The prognosis is that while this take off will likely continue to occur very quickly in the current “third wave countries” in particular in India, China, Russia, and Vietnam; it will continue but at a more gradual pace now in the first and second wave countries of the CEE,

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<sup>4</sup> We use “supermarkets” throughout the paper as shorthand for the various segments of modern retail, and only distinguish the segments (hypermarkets and superstores, supermarkets and neighborhood stores, convenience and forecourt stores, and discount and club stores) where the need arises. We lump “cash & carry” stores into modern retail; while they are formally in the wholesale sector, in most developing countries they de facto mix retail and wholesale. The reason for this aggregation in our discussion is that our emphasis is the interface of retail modernization and development, in terms of impacts downstream in the food system (consumers, retailers) and upstream (wholesalers, processors, farmers). For that objective, it is not so much the size of the store or that the stores are self-service that are important, but rather the procurement system. The latter conditions costs and quality and thus prices and product hedonics (which affect downstream actors in the food system), and conditions the interface with and impact on the upstream actors. Similar procurement system changes occur among hypermarket chains, supermarket chains, convenience store chains, and for that matter, among fast food chains. See an analysis of this for the case of Brazil in Mainville et al (2005).

Latin America, and the rest of East and Southeast Asia. It is not clear whether it will occur rapidly in what are now the emerging “fourth wave countries” such as in West Africa.

Second, retail procurement system modernization has proceeded relatively far in the case of processed and semi-processed foods, and appears set to continue diffusion. That modernization has started much more recently in fresh produce and will take some time to become significant. There is emerging evidence that traditional retailers are “fighting back” which is in fact modernizing them in ways that make their marketing and procurement behavior similar to that of modern retailers. In that case “all ships rise with the tide” and there may be generalized effects on producers upstream.

Third, the supermarket revolution has had certain and deep effects “downstream” in the food system, in particular and foremost on small shops selling processed and semi-processed foods. The effect so far has been least in fresh produce. However, evidence from “advanced” cases among developing countries on all continents suggests that the impacts on wetmarkets will occur eventually.

Fourth, again with the earliest and strongest effects in the categories of processed and semi-processed products as well as fruit, supermarkets have raised quality and lower prices for consumers, driving their rapid shift to supermarkets. That effect has been less strong or even very weak so far in fresh vegetables.

Fifth, the effects “upstream” mirror the results differentiated by region (wave) and product category. The most obvious and rapid effects are on producers of processed and semi-processed products and by extension their ingredient suppliers, such as grains, meat, dairy. The least effects so far have been on fresh produce growers, but even there the emerging evidence is that in the second and first wave countries (but not yet in third wave countries), there is evidence of emerging exclusion of under-capitalized small farmers. Assistance to those farmers to make a transition to either being competitive suppliers of supermarkets, or finding viable alternatives, is crucial.

Finally, policy has played a key role in terms of conditioning the diffusion of supermarkets, and that role has been positive and stronger than in developed countries. In turn, policy change has sparked globalization in the food industry of developing countries, which in a very important way has meant a supermarket revolution. Policy, such as retailer-supplier codes of conduct, will play a crucial role in spurring development of commercial sector modernization with the least conflict and most opportunities for small farms and firms upstream.

## 1. Introduction

This paper focuses the retail dimension of the profound and rapid transformation of the food industry in developing countries, a key element of globalization. There has indeed been a “supermarket revolution” in developing countries since the early/mid 1990s. Before roughly 1990, in most developing countries, supermarkets<sup>5</sup> had occupied only minor niches among richer consumers in large cities. The “take-off” of supermarket diffusion started in earnest in the early/mid 1990s; the sector grew meteorically thereafter, to the point where in many countries supermarkets now dominate urban food retail and have gone way beyond the initial middle-class clientele to penetrate the food markets of the poor.

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This paper reviews the emerging issues, evidence, and suggests development policy implications. We proceed as follows. Section 2 discusses trends in the spread of supermarkets in developing countries. Section 3 analyzes the determinants. Section 4 examines the impacts on consumers and traditional retailers (downstream in the agrifood system) and processors, wholesalers, and farmers (upstream in the system). Section 5 discusses implications for policies and strategies in different contexts (corresponding to different stages of supermarket diffusion, different actors, and different product categories). Section 6 briefly concludes.

## 2. Food retail change in developing countries

Supermarkets have been around for a half-century in a number of developing countries. For example, Holton (1953) and Galbraith and Holton (1965) studied emergent supermarkets in Puerto Rico in the 1950s and 1960s. Goldman (1974) noted the emergence of domestic supermarket chains in a number of countries due to various demand side factors (rising

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incomes, urbanization, increasing opportunity cost of women's time in large cities). However, this was a very limited phenomenon – limited mainly to large cities, upper middle or rich consumer segments, and an affair nearly exclusively of domestic-capital chains.

In extreme contrast, a “supermarket revolution” in developing countries “took off” in the early/mid 1990s. Supermarkets then rapidly spread from that initial niche base over cities and towns, socioeconomic strata, and product categories. There was an avalanche of foreign direct investment (FDI) and the massive entry of foreign chains was an important, if not the most important, spark in the revolution. Suffice it here to say that the “take-off” was created by a confluence of demand, policy, and supply side factors that we further explore in the next section. In this section we trace supermarket diffusion over countries, over space and socioeconomic groups within a country, and over product categories.

### ***Diffusion of modern retail over regions and countries***

The spread of supermarkets has and is taking place in three established waves, and a fourth emerging wave.

The “first wave” countries experienced supermarket-sector “takeoff” in the early to mid 1990s. These include much of South America and East Asia outside China (and Japan), Northern-Central Europe and the Baltics, and South Africa. In these countries, the average share of supermarkets in food retail went from roughly only 10-20% circa 1990 to 50-60% on average by the early 2000s (Reardon and Berdegué 2002, Reardon et al. 2003). Compare that to the roughly 75-80% share that supermarkets have in food retail by 2005 in the US and Western Europe, and one sees a process of convergence. Country-specific examples include frontrunners where the supermarket take-off started in the early 1990s, as in Argentina with a 60% supermarket share in food retail in 2002 (Gutman 2002), Brazil with 75% (Farina 2002), Taiwan with 55% in 2003 (Chang, 2005), and Czech Republic with 55% (Dries et al. 2004). These first wave countries saw supermarket diffusion in a single decade that took some five decades in the U.S. and the U.K.

There is a second set of countries perched at the tail end of the first wave and near the start of the second wave that we class with the first wave, with their supermarket “take-off” in the mid 1990s. Examples include: Costa Rica and Chile with circa 50% (Reardon and Berdegué 2002, Berdegué et al. 2005), South Korea with 50% in 2003 (Lee and Reardon, 2005), Philippines and Thailand with approximately 50% each (Manalili 2005 and Thailand Development Research Institute 2002), and South Africa with 55% (Weatherspoon and Reardon, 2003).

The second-wave countries include Mexico and much of Southeast Asia, Central America, and Southern-Central Europe. In these areas, the share went from circa 5-10% in 1990 to 30-50% by the early 2000s, with the take-off occurring in the mid to late 1990s. Examples include Mexico (56% share of supermarkets in total retail, ANTAD 2005, Reardon et al. 2006), Ecuador with 40% in 2003 (Alarcon, 2003), Colombia (47% share, see de Hernandez, 2004), Guatemala (36% in 2002, Orellana and Vasquez 2004) and Indonesia with 30% (Rangkuti, 2003), and Bulgaria with 25% (Dries et al. 2004).

The third-wave countries include countries where the supermarket revolution take-off started only in the late 1990s or early 2000s, reaching about 10-20% of national food retail by circa 2003. These areas include parts of Africa (such as Kenya with 20% of urban retail, Neven and

Reardon 2004) some countries in Central and South America (such as Nicaragua with 20% (see Balsevich et al., 2006a) and Peru and Bolivia), Southeast Asia (such as Vietnam, see Phan, 2004), and China and India and Russia.

***Focus on China and India as pace-setters for the third wave (and further waves...).*** China and India are fascinating third-wave cases that will influence the development of agrifood markets in developing regions on into the 21<sup>st</sup> century. They were the foremost destinations for retail FDI in the world in 2004 (Burt 2004), with India ranking first and China second in the AT Kearney “Global Retail Development Index” in 2005 and 2006 (The Hindu Business Line, 2006).

In China, modern retail has roughly 10% of national retail, and 30% of urban food markets (Hu et al. 2004); the national share in India is less than 5%. (Sources vary on this, with McKinsey (2001) reporting 2%, Singh (2004) reporting only 0.4%. Suffice it to say the share is low, and market is still quite traditional and fragmented (Anand and Nambiar 2004). It is somewhat anomalous that they are “late comers”, in the third wave, as their demand side characteristics (income, absolute size of the middle class population, urbanization rate, share of women in the workforce) make them similar to many countries in the second wave, which had supermarket “take off” some 5-7 years earlier. The main reason for the lag was policy – in the form of severe constraints on retail FDI that were progressively relaxed in China and Russia in the 1990s and partially relaxed in India in 2000 and possibly/apparently (given the scramble of positioning by foreign chains) set for a further relaxation in the next few years.

Note that the growth rates of supermarket food sales as well as retail FDI are inversely correlated with the waves, so that the fastest growth is occurring in the supermarket sector in China (with 30-40% a year) versus only 5-10% in the more mature, relatively saturated supermarket sectors such as those in Brazil and Taiwan.

China had no supermarkets in 1989, and food retail was nearly completely controlled by the government. The supermarket sector began in 1990, and by 2003 had climbed meteorically to 13% of national food retail, 71 billion dollars of sales, 30% of urban food retail, and was growing the fastest in the world, at 30-40% per year (Hu et al. 2004) Many of the driving forces for supermarketization were in place (rising incomes, urbanization) and it merely took a progressive privatization of the retail market and even more importantly, a progressive liberalization of retail FDI that started in 1992 and culminated in 2004 (as a provision of WTO accession). FDI drove intense competition in investment among foreign chains and between foreign chains and domestic chains that even accelerated prior to WTO accession and thereafter with full liberalization of FDI. Also during the 1990s, accelerating and then decelerating in the past several years, the wholesale sector developed. It is interesting that there was a wholesale sector “boom” that overlapped with the early rise of supermarkets just as it had in the late 1970s and 1980s in South America – a general development of the downstream services components of the food system.

India is perhaps a decade behind China in FDI liberalization, essentially at the point of stiff regulation of and limitation to joint ventures with foreign chains that characterized China in the mid 1990s. However, many industry observers believe that fuller liberalization will happen in the short-medium term. The Hindu Business Line (2006, no paging) notes:

India has emerged as the most attractive destination for mass merchant and food retailers, outperforming China for the second year in a row, according to global

consulting firm A T Kearney. A T Kearney's Global Retail Development Index (GRDI), which ranks 30 emerging countries based on a set of 25 variables including economic and political risk, retail market attractiveness and retail saturation levels, has retained India's position at the top. The Indian retail market is gradually but surely opening up, while China's market becomes increasingly saturated," said Mr Fadi Farra, a Principal in A T Kearney's Consumer Industries and Retail Practice and leader of the Global Retail Development Index study. The report said that the Indian Government had been tentative in its moves to open up the retail sector to Foreign Direct Investment (FDI). On the permission to allow FDI up to 51 per cent in single-brand retail, the report said: "This has triggered market-entry announcements from some retailers and has signalled to international retailers that India is serious about opening up the sector.

A note of clarification is required. The Indian government in January allowed single-brand foreign firms to own 51 percent of retail joint ventures. But multiple-brand firms – such as like Wal-Mart and Tesco - are still barred as sole enterprises at the retail level, though they can set up wholesale operations, and they can enter joint ventures.

Industry observers note that the expectation of the major global chains is that liberalization will continue, and this belief is evidenced by a flood of foreign investment and selection of joint venture partners:

- Wal-Mart announced in May 2005 that it intends to enter the retail market in India (CIES 2005).
- South Africa's Shoprite and Hong Kong's Dairy Farm chains also entered in 2004 and 2005 in joint ventures.
- Germany's Metro Group (Cash and Carry) also entered in a joint venture and is expanding fast (PlanetRetail, 2006, July 4).
- Tesco may enter India soon in a joint venture.
- Carrefour also announced it is arranging a joint venture (PlanetRetail, October 3, 2006).
- Reliance Industries, the largest private company in India, announced (and then implemented) in October 2006 (Economic Times of India, 2006, and PlanetRetail, October 30, 2006) one of the most dramatic retail investments of this century in any country. It announced it will undertake 5.56 billion dollars over the next 5 years (note that this is some 25% larger than the yearly – massive – rate of Wal-mart investment in Mexico...), building thousands of supermarkets, hypermarkets, discount stores, and building thousands of "agrihubs" in an "attempt to build and forge strong and enduring bonds with millions of farmers" (Economic Times of India, 2006).
- This in turn has spurred other competitive domestic investment. For example, the southern Indian retailer Trinethra Super Retail is expanding from 150 to 200 supermarkets just this year (PlanetRetail 2006, October 30).

### ***Diffusion trends within a country - over space, socioeconomic strata, and product markets***

There were and are also waves of diffusion of supermarkets over space within a country, over consumer segments, and over product categories.

***Diffusion over space within a country.*** Supermarkets tend to start in large cities, and then spread to intermediate cities and towns, and then to small towns in rural areas. The business strategy is the same as chains have in spreading in waves over countries: the richest and

largest market is entered first due to highest profit per capital invested; competition and saturation of the initial base drives investment by a given chain into the series of subsequent markets. While the gross return declines, there are cost savings due to economies of scale and procurement system change discussed below. Often the multinational chain acquires or joint ventures with the large domestic chain, and both acquire smaller local chains operating in the various regions of a country; the competition from the larger chains in turn pushes intermediate-city-based chains to extend into the hinterland towns seeking refuge from the increasing competition in its base market; this process accelerates the diffusion of supermarkets over space.

Examples of the latter pattern are given for Argentina in Gutman (2002), Chile (Faiguenbaum et al. 2002), Central and Eastern Europe (in Dries et al. 2004 and Dries and Reardon 2005), in China (Hu et al. 2004), and in Indonesia (Natawidjaja et al. 2006). The upshot is that what begins as a transformation of big city retail ends as a transformation of small rural town retail. Reardon et al. (2006b) review illustrative evidence of supermarket chains extending recently into small rural towns in Bulgaria, China, India, Indonesia, Mexico, Poland, South Africa, and Vietnam.

***Diffusion over consumer segments/socioeconomic strata.*** Controlling for the pattern of spatial diffusion, there are similar waves of diffusion over socioeconomic groups cum consumer segments. Obeying the same business logic as in spatial diffusion, supermarkets focus first on upper income consumer segments (national and expatriate), and then move into the middle class, and finally into the markets of the urban poor.

Note that the penetration rates beyond the “initial core” of a chain’s operation (large city, upper income segment) depends on several inter-related factors: (1) the wave (the more advanced the general penetration, the broader the diffusion); (2) the degree of procurement system modernization of the leading chains (hence cost reduction which can be passed on, while maintaining profits, into price reductions to win over poorer consumers); (3) the product category (with broader diffusion in processed product retail, second in semi-processed, and last in fresh products), as discussed further below. Thus, for example, the typical small store of the Lianhua chain, operating in the small towns in the hinterland of Zhejiang in China (hence a first wave internal zone in a third wave country), carries cheap dry goods for poor consumers, while a Carrefour hypermarket in Shanghai carries a full line of fresh products that would rival its stores in Paris.

***Format diversification with diffusion over space and strata.*** Moreover, as modern retail spreads, there tends to be format diversification to facilitate the spatial and consumer segment differentiation. For example, to penetrate the markets of inner cities and small towns where space is limited and product assortment can be more narrow, chains use discount stores, convenience stores, and small supermarkets. A typical example is shown in Mexico: Walmart and Soriana are, in the past year, opening small format supermarkets in smaller towns. To penetrate suburbs and large cities where transportation is available, chains use large supermarket and hypermarket formats. Zoning regulations of course condition these choices; for example, Tesco has been opening small-format “City Centre” stores in downtown Bangkok where it cannot open hypermarkets. Chains also open small, focused “hard discount” stores and convenience formats to compete with traditional neighborhood shops on prices. A typical example is that of the southern Indian supermarket chain Trinethra, who in October 2006 (PlanetRetail 2006, October 30) opened a chain of “Trinethra Quick Shop”, selling the 3000 SKUs (shop keeping units, or types of products) that represent 70-80% of its

supermarkets' sales. This format is larger than a convenience store in assortment, but smaller than a supermarket and can focus on inner city settings where traditional shops dominate.

As many chains started operations in the tight real estate markets of large cities or in commercial centers or as parts of department stores, in the early 1990s the supermarket format was predominant. Subsequently, to facilitate the spatial and consumer segment differentiation the other formats have proliferated. Interestingly, however, while a popular image is of the importance of convenience store chains, while the stores are numerous, they are each small, and the aggregate share of modern retail is generally some 10%. By contrast, while hypermarkets are much fewer, their sales are large (for example, a Carrefour store in Shanghai typically has sales of 100 million dollars per year; a smaller hypermarket in Poland typically sells only 50 million a year...).

***Diffusion over product categories.*** The penetration by supermarkets of food retailing has occurred in the following waves of food categories.

The first wave of product penetration is in processed foods (canned, dry, and packaged items such as rice, noodles, and edible oils). This is due to the economies of scale in procurement as well as direct relations with processed food manufacturers. Typical of many developing countries, in China, supermarkets very quickly took over staples and packaged food retail in the top 60 cities in China in the late 1990s early 2000s (ACNielsen 2002) as they did in Hong Kong in the 1980s (Goldman et al. 1999) and in Argentina in the 1980s and 1990s (Gutman 2002).

The second wave is in semi-processed foods (with extensive or minimal processing such as dairy products) and minimal processing/packing (chicken, pork, beef, and fruit). Supermarket chains again have advantages over mom and pop stores and wetmarket operators due to economies of scale and relations with major processors and packers. Goldman et al. (1999) point this out in the case of Hong Kong where supermarkets gained quickly in the 1980s and 1990s in fruit and meats but had difficulties making major headway in fish and vegetables (as discussed below). For chicken in Argentina (Gutman 2002) and beef in Chile (Faiguenbaum et al 2002) and in Costa Rica (Balsevich et al. 2006b), supermarkets quickly penetrate these commodity markets where large chilling facilities and deals with the processors lower costs for chains relative to traditional butchers. (The exceptions are where the meat is not a commodity, but rather a highly differentiated product, such as with beef in Argentina (Gutman 2002).) Other shocks further increase the supermarket share: Phan and Reardon (2006) show that there was a large shift in consumer poultry purchase from small shops and wetmarkets to supermarkets with the avian influenza in Vietnam. Supermarkets also take over rapidly the retail of dairy products, and also provide a major boost to dairy market development and product diversification; for China, see Hu et al. 2004b; for Russia, Dries and Reardon 2005; for Zambia, Neven et al. 2006b; for Poland, Wilkin et al. 2006; for Chile, Faiguenbaum et al. 2002; for Brazil and Argentina, Farina et al. 2005.

The third wave is by far the slowest and the longest in starting in developing countries, and that is into the vegetable market (in particular, leafy vegetables). This was also the case in the US historically, where supermarkets very slowly over 1920s to the 1960s replaced fruit shops and green/wet-markets (where consumers had traditionally done daily shopping; Levenstein 1988) the same is true in France, where the supermarket share is 80% but the fruit and vegetable share of modern retail is only 61% in 1997 (although it was only 35% in 1971, so it nearly doubled in only three decades, a major shift in a country where it was assumed that

modern retail would not penetrate the traditional, culturally cherished produce retail system) (Codron et al. 2003).

A rough rule of thumb emerging from empirical studies is that the share of the supermarkets in fresh produce retail is lower than its share in overall food retail, and that this gap closes as the latter rises. For instance, the share of supermarkets in fresh produce retail in Guatemala is about 10% where their share in overall food retail is about 35%, hence the market penetration rate for produce is one-third of overall food market penetration; by contrast, the shares 56% versus 25% in Mexico (Reardon et al. 2006a, ANTAD 2005) and 50% versus 75% (produce market penetration and overall food market penetration rate by supermarkets), or two-thirds, in Brazil (Farina 2002).

Hence, at earlier stages of supermarket development, the freshness, convenience (near consumer residences), and lower cost of small produce shops and wetmarkets dominate easily produce retail. This changes over time as supermarkets modernize vegetable procurement (see below), imitate wetmarkets in marketing techniques, and make gains in commodity vegetables. Arieh Goldman has examined this question closely, comparing consumption shares in China versus Hong Kong. In a new study in the six largest cities in China, from a random sample of 1200 consumers, Goldman and Vanhonacker (2006), show that that modern retailers have a retail market share of 94% in non-food, 79% in packaged/processed goods, 55% in baked goods, 46% in meat, 37% in fruit, 35% in poultry, 33% in fish, but only 22% in vegetables. Even in Hong Kong, which one might say represents the average Asian consumer sometime in the medium-term future, supermarkets have a 59% share in fruit retail, but only a 55% share in vegetables (hence a share similar to supermarket penetration of produce retail in Brazil), 52% in meat, 39% in poultry, and 33% in fish (Coca-Cola Retailing Research Council Asia 2005). This shows that well into ubiquity of supermarkets, in advanced supermarket-penetration cases such as Brazil and Hong Kong, small shops and wetmarkets still maintain nearly half the market in vegetables (and even more in fresh fish). A similar finding is shown in Mexico by ANTAD (2005), reporting the supermarket share in produce markets at 25% in 2005 (based on consumer surveys), versus the share in cheese at 53%, and packaged foods at 84%. We expect that the supermarket penetration of the vegetable market in most developing markets will never be complete, and may only eventually get to 60-70% of the market, as it does in France, another food culture where frequent purchases of fresh produce is valued. However, there is emerging evidence from a large ACNielsen consumer survey (reported in PlanetRetail, 2005) in Asia that younger consumers are “forsaking wetmarkets” and that in less than a generation there may well be a substantially more supermarket-oriented average produce buyer, which will accelerate effects of the retail transformation on the horticulture sector.

### **3. Determinants of the Diffusion of Supermarkets in Developing Countries<sup>6</sup>**

Pre-“takeoff” (before 1990) models of the diffusion of supermarkets in developing countries focus on demand-side factors determining the emergence of supermarkets, such as in Goldman's pathbreaking work in the 1970s and 1980s (Goldman, 1974). That work emphasizes factors such as incomes, urbanization, opportunity cost of women's time, and other enabling conditions.

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<sup>6</sup> This section draws from Reardon et al. (2003) and Reardon and Timmer (2007).

Post ‘takeoff’ (post-1990) models of the diffusion of supermarkets, such as Reardon et al. (2003), reiterate the demand-side factors as necessary but not sufficient, and emphasize policy factors and retail-supply-side factors, in particular the supply of retail foreign direct investment (FDI), that emerged mainly in the 1990s. This later literature traces patterns of FDI and the competitive investments of domestic chains following retail liberalization of foreign investment starting in the early 1990s, and the supply of procurement system modernization by retail that reduce costs and allow rates of expansion that were not possible earlier.

Here we integrate these strands of literature. The inter-country and inter-regional diffusion patterns (the “waves”) are roughly correlated with: (1) socioeconomic factors related to the demand-side of retail-services; (2) foreign-policy factors driving FDI which conditions the supply-side of retail services; (3) domestic-policy factors affecting supermarket diffusion; (4) procurement system modernization affecting the supply-side of retail services. The order of those correlates structures this section.

### ***Demand-Side Drivers: Income Growth and Urbanization and its Sequelae***

There were and are two sets of demand side factors that influence demand for supermarket services in developing countries. These are similar to those driving the rise of supermarkets in the U.S. and Western Europe.

First, urbanization since the 1960s, with the 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 home preparation time. This was reinforced by the rapid growth in the 1990s in ownership of refrigerators meant an increased ability to shift from daily shopping in traditional retail shops to weekly or monthly shopping. Growing access to cars and public transport in the 1980s and 1990s further supported this trend.

Second, real per capita income growth in many countries of the regions during the 1980s and 1990s, along with the rapid rise of the middle class, increased demand for processed foods. The latter is 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 and concomitant actions of large processors.

### ***Policy and Supply-side Driver: Foreign-Policy of Retail FDI Liberalization - leading to an avalanche of FDI - with concomitant competition, consolidation, and multinationalization***

The reader will have noted a chronological conflict between the above discussion of demand-side factors (some of them present for the past two-three decades) and the timing we noted for the “take-off” of the supermarket revolution in the early 1990s. The resolution of the contradiction is as follows. While the demand-factors were necessary for the slow endogenous growth, based on domestic capital, in the supermarket sector (much as they were in the US and Western Europe...) they were not sufficient to induce the take-off.

The hitherto missing element amply supplied in the 1990s and 2000s was an avalanche of retail FDI, formerly blocked by stringent policies against it in most countries. Reardon and Timmer (2007) argue that there has in fact been a much larger impact on the domestic food economy of FDI liberalization compared to trade liberalization, and that in fact, for the

agrifood sector, FDI liberalization is the heart of globalization ... and yet it has received much less attention in public debate.

Starting in the early 1990s and on into the 2000s there was a series of partial or full liberalizations of retail FDI. Often FDI liberalization was included to some degree in structural adjustment programs and bilateral or multilateral trade agreements, and then the FDI liberalization was extended and deepened subsequently (such as in Mexico, Brazil, and Argentina, where it was part of NAFTA and MERCOSUR in the mid 1990s). Sometimes however it occurred well after trade liberalization, such as in Indonesia, the Philippines, and Thailand, where it was resisted for some time as local retailers “geared up” for the opening which then occurred in 1998 for Indonesia and 2000 for the other two (Cabochan 2005 and Manalili 2005). Sometimes, as in China, it started as partial liberalization in 1992 and culminated in full liberalization in 2004 as part of accession to the WTO. India partially liberalized in 2000, and is in 2006 debating further liberalization.

Several types of retail FDI patterns have emerged:

(1) The dominant pattern is FDI from Western European and US global multinationals - mainly Carrefour (France), Wal-mart (U.S.), Ahold (the Netherlands), Metro (Germany), and Tesco (UK) (five companies which taken together have roughly 600 billion dollars of sales...);

(2) A secondary but important pattern is FDI from second-tier chains from the global perspective but often first-tier chains in a particular market, investing at emergent retail multinationals in their own or nearby regions; examples include Japanese, Thai, Taiwanese, and South Korean retailers into China, Chinese retailers into Vietnam, Hong Kong retailers (such as the giant Dairy Farm) into the rest of southeast Asia and India as well as China; Slovenian retailers into southeast Europe, Chilean retailers into Argentina, Turkish retailers into Russia, Shoprite (South Africa) into the rest of Africa and now India, and Reliance (India) with plans now to enter Africa and the rest of south Asia --- the list goes on and on and new variants on the directions of investments emerge every year.

(3) In both of the above patterns, retailers may enter solely as a greenfield investment or by acquiring a local chain, or enter as a joint ventures (JVs). The acquisition and joint venture routes are most common except for large chains such as the top five who with the exception of Ahold often enter solely, or enter as a JV and then acquire the balance of the partner.

The reasons for retailers to undertake FDI are several.

First, multinationals based in Western Europe and the U.S. faced highly saturated and contested home markets in the 1990s, after intense consolidation processes in the northwestern Europe in the 1980s and in the US in the second half of the 1990s. This was also true of developing country multinationals, who often combined expansion into secondary cities (as we note above) with investment in neighboring countries as a dual strategy of profit maintenance and “retail real-estate occupation” for dealing with the ingress into their regions of global multinationals.

Second, the counterpart of moving from saturated to less contested markets was a far superior profit rate at entry. For example, Gutman (2002) reported that Carrefour earned profit rates three times higher in Argentina than France. Capital advantages (and access to much cheaper international credit, see Shwedel 2003 for the Mexico case) of global multinationals over domestic firms meant that a large chain may have several years of high profit rates before saturation of the market by other global competitors and the limited number of large local chains. The multinationals also have access to best practices in retail and logistics management, some of which they developed as proprietary innovations. Global retailers adopt retailing and procurement technology generated by their own firms.

There are of course notable exceptions, although they are relatively rare. For example, the Chinese government, through the system of longtouqiye (dragon head firms) helped large semi-public retailers such as Lianhua to get loans at favorable rates. The Chilean firms Jumbo and D&S expanded on the base of commercial loans and forestalled or reversed foreign retail ventures.

The FDI and competitive local investment led to rapid consolidation and multinationalization of the supermarket sectors in the region over the past decade, with the trend again correlated with the waves.

An upshot of the intense investment competition is that the supermarket sector in these regions is increasingly and in most cases overwhelmingly multi-nationalized (foreign-owned) and consolidated. The multi-nationalization of the sector is illustrated in Latin America where global multinationals constitute roughly 70-80% of the top five chains in most countries.

The rapid consolidation of the sector in those regions mirrors what is occurring in the U.S. and Europe. For example, in Latin America the top five chains per country have 65 percent of the supermarket sector (versus 50 percent in the US (Kinsey 2004) and 72 percent in France). The consolidation takes place mainly via foreign acquisition of local chains and secondarily by larger domestic chains absorbing smaller chains and independents.

### ***Policy Driver: Domestic-Policies Promoting Supermarkets and Hindering Traditional Retail Development***

Domestic regulations of the commerce sector can either promote supermarket diffusion or hinder it; the overall corpus of regulations can push and pull both ways with promotion or hinderance winning out in different phases of supermarket diffusion. In this section we focus on the domestic regulations that have promoted supermarket diffusion (and constrained traditional retail development), and in the “policy implications” section (5), we discuss current policies of developing countries that are limiting/hindering modern retail development, in particular hypermarket diffusion. Suffice it to say here (see Reardon and Hopkins 2006) that the regulatory balance appears to be net promotional favor of supermarket diffusion for most developing countries – and that this policy environment differs sharply from the (constraining) regulatory environment for modern retail in much of the 20<sup>th</sup> century in the US in particular and also in Western Europe. We see this as an additional key factor in determining the particularly rapid diffusion of supermarkets in developing regions today.

There are several sets of policies promoting supermarkets and hindering traditional retail in developing countries today.

First, some governments directly invest in modern retail, explicitly to modernize the food distribution sector as well as generate revenue for government. For example, in China there is investment by the State and by municipal governments in supermarket chains, such as the top three Chinese chains today, Lianhua, Hualian, and Nonggongshang, managed by the municipal government of Shanghai. They operate as profit-oriented enterprises and compete with private firms. State-sponsored companies get easy access to credit, cheap real estate and other benefits. Note that this is often a factor in the ability of domestic chains to compete with foreign chains (Hu et al. 2004).

Second, municipal and state governments sometimes provide incentives for supermarket location in their areas, again as a modernization and tax revenue generator. Examples include tax incentive policies in South Korea (Lee and Reardon 2005) and Russia (Dries and Reardon 2005).

Third, in many countries there is government regulation of wetmarkets that de facto or de jure constrains their development. The usual reasons are because wetmarkets are informal sector and do not pay taxes, can cause street congestion, can be unhygienic, and sometimes are considered drags to commerce sector modernization. Many governments impose strict zoning limits and hygiene regulations on wetmarkets. China has gone a step further. The Chinese government is actively working to stop further wetmarket development (for example, banning them from starting anywhere, and requiring them to move outside the main territory of the large cities). They also have a policy to actually convert wetmarkets to supermarkets, a policy called “nonggaichao” (literally, changing farmers markets into supermarkets). The policy started in mid 2003 and is being undertaken over a half decade in various large Chinese cities (Beijing, Hangzhou, Shanghai, Wuhan, Dalian, Qingdao, nine cities of Fuzhou province, Zhengzhou in Henan in the central region, and others). The policy requires that wetmarkets be auctioned to supermarket chains. Moreover, the municipal governments in a number of large and medium cities have banned “morning street wetmarkets” (zao shi) to reduce traffic congestion. This reduces the former ease and convenience of getting to wetmarkets (Hu et al. 2004).

### ***Supply-Side Driver: Modernization of Procurement Systems of Retailers***

As retail FDI poured into developing countries over the past decade, and domestic chains made competitive investments, and surviving traditional retailers worked to compete on cost and quality, retail competition soared. Competing meant reducing costs in order to penetrate the mass market, and raising quality to hold on to and deepen the market among middle class clientele. A crucial instrument of reducing costs and raising quality is modernization of procurement systems to achieve efficiency gains, economies of scale, and coordination cost reductions. We discuss this modernization here.

We must first set the stage by discussing the “traditional” procurement system of supermarkets in developing countries that was common to most chains until recently (with variations over chains and product categories and countries in what “until recently” means, that we discuss below). That traditional system did not differ much from the procurement system also used by traditional retailers: (1) each store procured its own products or one store was used as an entrepôt for a few neighboring stores; (2) products were procured from the traditional wholesale markets; (3) retailers relied on spot markets rather than on contracts with suppliers; (4) retailers relied on public quality and safety standards where they existed.

Supermarket chains have expressed problems with the ability of the traditional procurement system to enable them to meet their quality upgrading and cost reduction objectives. They found (for example in Boselie 2002 or Berdegué et al. 2005) that the traditional wholesale system has: (1) low or no standards for quality and/or safety; (2) inconsistent volumes and quality; (3) often despite cheap labor in the broker sector, high transaction costs (coordination costs) related to use of many small brokers, especially important after the “inflection point” of produce becoming a substantial share of marketings.

To shift away from that traditional system, toward a modernized procurement system (described below), there has to be sufficient incentive for the change (in cost-benefit terms) combined with sufficient capacity (financial, managerial) to make the needed investments and practice changes outlined below. However, before we outline the procurement modernization components, we first note several important points regarding the heterogeneity and conditioners of diffusion patterns of this modernization.

***The Marked Heterogeneity of the Diffusion of Retail Procurement Modernization.*** The adoption of retail procurement technology change varies greatly over various dimensions, including chains, products, and countries – reflecting the heterogeneity of incentives and capacity over these dimensions. In some contexts defined by these dimensions, the diffusion curve is at the start of the “S curve” and in others well advanced – again reminiscent of waves of diffusion. This unevenness of adoption is not specific to developing countries; Kinsey (2004) also notes it in the US case.

The evidence for the patterns of modernization diffusion comes primarily from the studies of retailers by the authors and collaborators and several other researchers primarily in China, Indonesia, Malaysia, Vietnam, Thailand, South Korea; Kenya, South Africa, Zambia; Argentina, Brazil, Chile, Colombia, Nicaragua, El Salvador, Nicaragua, Guatemala, and Mexico; and Russia, Poland, Slovakia, Croatia, and Czech Republic; Morocco and Turkey. In most cases interviews were done with the major chains and several second- and third-tier chains for comparison. Thus, there has been a significant sampling over a variety of countries. The main points that emerge are as follows.

First, procurement modernization is in general so far confined to the leading 4-5 chains per country which have the capacity to undertake the investments such as in distribution centers. As noted above, this often means several global or regional multinational chains as the early adopters, followed by adoption by a few large domestic chains. The second- and third-tier chains and independents generally tend to continue to use the traditional system and adopt if at all, with a significant lag.

Because of the cost reduction afforded by the changes, late adopters can find themselves to be non-competitive and are then targets for the many mergers and acquisitions occurring yearly in the countries. Our interviews reveal that once the frontrunner chain in a given country shifts to distribution centers for produce and meats, the other leading chains feel under intense pressure to adopt. As in Cochran’s Treadmill, once a procurement innovation is made, with the concomitant spike in profits and dip in costs relative to competitors, and then competitors follow suite, the frontrunner must again innovate, thus pressing forward in this case the procurement technological change.

Second, diffusion rates vary by type of product, roughly mirroring the pattern observed in penetration of markets by product category – first processed, then semi-processed, then fresh.

A typical case is observed in Mexico, where the leading chains undertook procurement modernization (as discussed below) in processed goods in the late 1980s early 1990s, aided by parallel modernization of supply systems by major processors, then semi-fresh in the mid 1990s, and only in the past 3-4 years the beginnings of modernization of fresh produce procurement (coinciding in mutual causality with the surge of produce from 1-2% of food sales to 8-10% in food sales in supermarkets and hypermarkets) (Reardon et al. 2006).

Moreover, there can be substantial variation over sub-categories of products. Berdegué et al. (2005) show that supermarkets in Guatemala moved early (as much as five years ago) to modernize procurement of several large commodities such as tomatoes and some high value niche products like lettuce in the past several years, but have continued to rely on traditional wholesalers for nearly half of their produce, mainly in the medium- and small volume categories. Codron et al. (2004) found similar trends in Turkey and Morocco. Digal and Concepcion (2004) illustrate this even within the general category of “mangoes” in the Philippines, showing that chains tend to source centrally (and directly from the supplier) processed mangoes (say from a large processor such as San Miguel Foods), while for fresh mangoes they may source in a more decentralized store by store or zone depot by zone depot manner. Factors such as perishability, availability of a large suppliers, transaction costs, and seasonality play roles.

Third, the extent of diffusion differs sharply over countries (correlated inversely with the waves). This is partially related to the degree of competition due to relative saturation, and partly due to conditions in the country on the supply side. For example, Wang et al. (2006) make the case that supermarkets in China rely relatively more on traditional wholesale markets, given a similar share in urban retail, than one finds in Southeast Asia, where it is hypothesized that the wholesale markets are less developed than in China, and thus the “push factor” to modernize procurement is stronger.

These points are important on the one hand because they demonstrate to what extent the retail transformation directly affects the wholesale sector, and on the other hand the extent to which the transformation affects processors and farmers, and thus the “upstream” of the agrifood system. After all, the retail transformation only affects processors and retailers if it changes the proximate market to which they sell. If the retailers continue to buy from the traditional wholesale sector, and that sector does not change under the influence of changes in the retail market, then the farmer and processor do not perceive a change in their market conditions arising from the supermarket revolution.

With those caveats in mind, we discuss the “central tendencies” of these trends. Because of space limitations we present the broad lines of these changes; for detailed illustrations, see Reardon 2005 and Reardon and Timmer, 2007, as well as region-specific papers (Reardon and Berdegué 2002 for Latin America, Berdegué et al. 2005 for Central America, Reardon et al. 2006 for Mexico, Reardon and Timmer 2006 for Asia, Dries et al. 2004 for Central and Eastern Europe, Weatherspoon and Reardon (2003) for Africa, and Codron et al. 2004 for North Africa and the Middle East.

***First trend in retail procurement system change: extension and integration of procurement catchment area – with emerging national, regional, and global trade implications.*** As the number of stores in a given supermarket chain grows, there is a tendency to shift from a fragmented, per-store procurement system, to a distribution center serving several stores in a given zone or district, and eventually the whole country. The “catchment” area of a

distribution center or set of them usually starts as the zone of a country (such as “northeast China”) and then broadens to several distribution centers representing a centralized system for procurement over all zones in a country (such as Soriana’s five distribution centers in Mexico).

This “de-fragments” - integrates and centralizes – the procurement system over the country. 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. China Resources Enterprise (2002), for example, notes that it is saving 40 percent in distribution costs by combining modern logistics with centralized distribution in its two large new distribution centers in southern China. There are similar figures from (the few available) studies elsewhere, for example in Costa Rica and Brazil.

The next, and economically logical, step is regionalization (internationally) - to set up a regional system of distribution centers to allow coordinated procurement over a set of countries. In a sense, this means intra-firm trade coordinated over several countries. A logical further extension is insertion into global procurement networks. This trend would mirror a trend of several decades in world trade toward increasing intra-firm trade over countries. Moreover, this trend is reinforced by the usual progressive entry of a global multinational into the countries of a given sub-region (for example, in Asia, Tesco’s entry into Thailand, Korea, and in 2004, China), Ahold’s entry in 2001 (and now Wal-mart, having taken their place in 2005) into Costa Rica, Nicaragua, Honduras, El Salvador and Guatemala through partnership with two regional multinational chains in a partnership called Central American Retail Holding Company, CARHCO, formed in 2002), and the formation and expansion of regional multinationals, for example the expansion into Southeast and South Asia by the Hong Kong-based Dairy Farm International chain. Reardon et al. (2005) provide various illustrations of gross trade creation created by these regional sourcing arrangements in the Pacific Rim.

***Second trend in retail procurement system change: shift from exclusive reliance on traditional wholesale sector to use of non-traditional – specialized/dedicated wholesalers and logistics firms.*** The second trend is the adoption of organizational innovations comprising a shift from exclusive reliance on spot markets (in particular, traditional wholesale markets and brokers) toward growing use of specialized/dedicated wholesalers. The latter, non-traditional players are specialized in a product category and dedicated to the supermarket sector as a main or the main client.

These specialized wholesalers cut transaction, coordination, and search costs, and enforce private standards and contracts with suppliers on behalf of the supermarkets. Examples from Thailand are given in Boselie (2002), from the Philippines, in Digal and Concepcion (2004), and in Indonesia, the case of Bimandiri (among several others) by Natawidjaja et al. (2006), and in Central America, the case of Hortifruti (in the same holding company as the Costa-Rica based chain CSU), which undertakes contract farming and spot-market purchases to source produce for the CSU stores in Costa Rica, Nicaragua, and Honduras, following the private standards of that chain (Berdegué et al. 2005).

Moreover, as noted in the case of Bimandiri, specialized/dedicated wholesalers are expanding their operations beyond their point of origin to “follow” the expansion of supermarket chains they supply; this constitutes a multinationalization of wholesalers in the region as a result of supermarketization. Examples include the following: (1) Hortifruti “multinationalized” along with CSU as the latter moved from its Costa Rica base into Nicaragua and Honduras; (2) Bimandiri, a specialized/dedicated wholesaler working closely with Carrefour, has been expanding from its base in west Java into other parts of Indonesia “following” Carrefour, and reportedly the latter requested that the wholesaler make such an expansion (Natawidjaja et al. 2006).

Finally, retail chains 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 that Wu-Mei of China announced in March, 2002 (CIES, 2002) that it will 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, 2002).

***Third trend in retail procurement system change: incipient shift from spot market to implicit contracts or preferred supplier lists.*** There is mounting evidence of chains and/or their specialized wholesalers (acting as “channel captains”) entering into such preferred supplier relationships – de facto but informal contracts per Hueth et al. 1999 – with processors and farmers. Beside the meta-conditioners for procurement modernization (the country hence the “wave,” whether a lead chain, and whether processed or fresh products), chains and/or their specialized wholesalers tend to move from spot markets to preferred supplier lists where there is greatest need for quality and consistency, and where farmers or processors are associated or are individually large (thus lowering transaction costs). Research on this emergence of preferred supplier systems is in its mere incipience and there are no systematic calculations yet of the share of producers under them. It is likely that the numbers are still minor shares of total producers supplying into supermarket channels, simply because the changed procurement systems are still in the minority, and do not cover all products.

Illustrations of this situation are in Boselie (2002) for Ahold in Thailand, and Manalili (2005) for Big R in the Philippines, and Tesco in Chiang Mai, and Digal and Concepcion (2004) for processed mangoes in the Philippines, and Hu et al. (2004) for fresh cuts for Lianhua chain from Xincheng in Shanghai and for Metro for the case of dairy products in Russia (Dries and Reardon 2005). Again, there has been little systematic empirical analysis to map the situations. Hu et al. (2004) describe the case of Xiaobaiyang (medium chain in Beijing area) who went from 1000 processors/food manufactures from which it was sourcing nearly on a spot basis to select from the 1000 a set of 300 preferred suppliers, mainly medium and larger firms, who could supply their needs, perhaps not on the vaunted “one stop shopping” basis, but with much lower transaction costs and risks.

The contract is established when the retailer (via their wholesaler or directly) “lists” a supplier. That listing is an informal (usually) but effective contract (Hueth et al. 1999) – in which delisting carries some cost, tangible or intangible. 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.

These contracts with retailers sometimes include direct or indirect assistance for farmers to make investments in human capital, management, input quality, and basic equipment. Evidence is emerging that for many small farms these assistance programs are the only source of such inputs and assistance – in particular where public systems have been dismantled or coverage is inadequate.

Moreover, there is evidence of interlinked product and factor markets emerging. For example, an interlinkage between the output and credit market is evidenced in farmers' contracts with a supermarket chain serving as a collateral substitute. An illustration is the case of Metro in Croatia intervening with the bank, noting that the suppliers would have contracts with the supermarket, to provide a "collateral substitute" so would-be strawberry suppliers could make needed greenhouse investments (Reardon et al. 2003b)

***Fourth trend in retail procurement system change: the rise of private standards and private enforcement of public standards.*** The fourth trend in procurement system change is the rise of private quality and safety standards implemented by supermarket chains and large-scale processors – as well as private enforcement of public standards (Reardon et al. 2001). 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, in the case of regional and global chains, the private standard is set at the international level of the chain and imposed in the various countries that supply product either for the local stores of the chain or for the overall chain. This means an international "diffusion" of private standards through regionalizing and globalizing procurement systems.

#### ***Scenarios of further diffusion based on likely paths of above drivers***

Traill (2006) examines the prospects to 2015 of further diffusion of supermarkets in developing countries using the results of a regression of supermarket shares in total food retail on GDP per capita, income distribution, urbanization, female labor-force participation, and (policy) openness to inward FDI. He predicts "significant but not explosive further penetration." Similar regressions were done across provinces for China (Hu et al. 2004) and across countries in Central and Eastern Europe (Dries et al. 2004) with roughly similar results.

Traill notes that income growth and urbanization will drive forward supermarket diffusion in Latin America and Central and Eastern Europe even without further liberalization of their economies. He also notes the importance of these in Africa, China, Russia, and India. He also notes that for countries that are even moderately closed (to FDI) in 1995, liberalizing FDI (in 2010, on supermarket diffusion projected in 2015 with a lag) will have a "substantial effect." He notes that a dramatic effect would occur in South Asia and North Africa with such further

opening. Trail emphasizes that this does not imply foreign ownership, as “the threat of competition and potential entry would be sufficient.” The latter is reminiscent of Chile, where local chains made massive investments to forestall, or “nip in the bud”, foreign investment, and by so doing drove quickly the supermarketization of Chile without major FDI – to the point where Chilean firms themselves became important exporters of retail FDI in other countries in the region.

The latter point is especially interesting given that the article was published in the second quarter of 2006, and in the third quarter came the announcement in India of the massive investment by Reliance and then a series of other announcements (by Tesco, by Wal-mart, by Metro, by a number of Indian chains) of very large investments. It is probable that there will be heavy political pressure in the future by several Indian chains competing with Reliance to have further opening in order to make it easier for them to enter joint ventures with foreign chains in order to compete with Reliance. Moreover, Reliance just announced that it will itself undertake retail FDI in other South Asian and African countries, which argues that as usual there will be moves toward reciprocity in terms of FDI liberalization.

We examined data for 48 countries (in Asia, Africa, Latin America, Central and Eastern Europe, and North Africa and the Middle East) from a main industry source, M&M Planet Retail ([www.planetretail.net](http://www.planetretail.net))<sup>7</sup> for 2001-2005. PlanetRetail covers a limited set of first and second tier retailers (leaving out coverage of a substantial number of second and third tier, and some first tier, chains and independents), and so comprehensive data analysis of supermarket diffusion cannot be done with the data from this source. We analyzed total sales and grocery sales of five formats (hypermarkets, supermarkets, discount stores, convenience stores, and cash and carry stores; the latter are technically “wholesale” but in many countries they are mixed retail and wholesale so we included them). But the data are useful to understand the behavior of the front-runners in retail in developing countries. The major finding that emerged from this analysis is presented in the annex Table. For all regions and sub-regions except South America (where a depression in 2001 led to negative growth rates in modern retail which then drastically reduced the short period average we used), modern retail real annual growth rates are well above GDP real growth rates, with the difference greater in third wave as compared to first wave countries, as expected. This corroborates numerous country-specific studies cited above.

#### **4. Impacts of the rise of supermarkets on the other segments of the agrifood system**

##### ***Downstream: Competition with Traditional Retailers ... Competition for Consumers***

The mirror image of the spread of supermarkets is the decline of the traditional retail sector in substantial part due to competition with modern retailers.

The fastest decline in the traditional sector is small general stores selling broad lines and processed foods and dairy products, while fresh produce shops and wetmarkets hold out longer. Several examples follow. (1) In Indonesia, sales of supermarkets rise 15% a year in Indonesia, those of traditional retail decline at 2% a year; while nearly all Indonesians except a tiny pocket of rich consumers and expatriates shopped only in small shops and wetmarkets

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<sup>7</sup> We are grateful to the Regoverning Markets Project for access to PlanetRetail, and to Ricardo Hernandez for research assistance.

in 1990, by 2005, 30% of overall food is bought in supermarkets, and 15% of produce (Natawidjaja et al. 2006). (2) In urban Chile between 1991 and 1995, there was a disappearance of 15,777 small shops mainly in Santiago, a city of 4 million – a decline of 21-22% of general food, meat and fish small shops, 25% in deli/meat shops and dairy product shops, but only a 17% decline in fruit/vegetable shops (Faiguenbaum et al. 2002). (3) In urban Argentina, Gutman (1997) notes that from 1984 to 1993, in the most intense period of takeoff of supermarkets, there was a decline of small food shops from 209,000 to 145,000 – roughly 64,000 went out of business. She estimated that during the 1990s, 4 out of 10 neighbourhood shops turned into self-service stores, another 4 survived but with drastic drops in sales, and 2 closed. Rodriguez et al. (2002) note that while general-line small shops folded quickly, those in a specialized niche, in particular bakeries, fresh fish and meat, and fruit and vegetable shops, disappeared less quickly.

There are several focal points of the competition between supermarkets and traditional retail.

**Competition on Price.** Supermarket chains trend toward charging lower prices to consumers than do traditional retailers. This trend is correlated with the stage of diffusion of supermarkets, the type of product (supermarket prices of processed products are typically competitive much earlier than fresh foods), and degree of modernization of the chain's procurement system (which modernization drives down costs). The main elements of that procurement system modernization include: (1) a shift from store-by-store procurement to centralized procurement via distribution centers; this tends to increase the geographical market-shed of procurement first to the country, then the region, then globally; the centralization of procurement tends to reduce coordination costs and congestion diseconomies substantially, a gain that swamps increases in transport costs; this also allows purchase at mass scale, allowing stronger bargaining power with suppliers and reduction of per unit fixed costs of transaction; and (2) a shift from spot market procurement in traditional wholesale markets gradually toward procurement via specialized dedicated wholesalers and direct purchase from growers or grower associations; this increases efficiency in the supply chain and cuts costs from wholesaler margins. The pace of this modernization is sharply correlated with: (1) the "wave" of the country (so far mainly occurring in first and second wave countries where competition in the supermarket sector spurs technology change in retail); (2) the size of the chain, with larger leading chains being the main modernizers as they have the capacity to do so; (3) situations where the wholesale sector represents a drag on development of supply chains to supermarkets (in many countries) and there is thus incentive to skirt the traditional system (Reardon et al. 2003).

Examples of supermarkets charging lower prices include the following. (1) A recent study in Chile, a "first wave" country (LatinPanel study for 2004, reported in Camara Nacional de Comercio, 2005) shows that supermarkets, by charging lower prices for food compared to traditional retailers, reduced the cost of the food consumption basket of the lower and middle income consumers in Chile. (2) D'Haese and van Huylenbroeck (2005) found that supermarket prices were well below the prices of small shops in South Africa (a second wave country) in particular for the processed foods and staples that accounted for the top ten consumer purchase items (of rural town/village areas) as well as bulk produce items such as cabbage and semi-processed items such as dairy. (3) Neven et al. (2006) show in Nairobi, Kenya (a third or perhaps fourth wave country) that supermarket prices are lower than traditional shops for processed foods and non-food items, but not in general for fresh produce.

The “price war” is an important point of conflict between supermarkets and traditional retailers in developing countries. Lower prices based on lower costs from procurement modernization and economies of scale are an object of tension with small traditional retailers who cannot match those economies of scale except in the rare buying club or via franchise arrangements that then bring the small shops into the formal and thus modern retail sector. The riposte of the supermarkets is that the traditional retail sector does not have to incur costs associated with formality (such as registration), the normal infrastructure of large stores such as the building and parking lots and signage, and often is “below radar” of inspectors regarding hygiene regulations which impose further operating costs.

Moreover, controlling for the factor of relative costs of procurement, supermarkets are sometimes charged, by traditional retailers or competition authorities, with selling at unfairly low prices (below cost, subsidized by other earnings, either in one-off events such as promotions or in longer marketing campaigns) in order to capture market share from traditional retailers. The riposte by supermarkets is that wetmarket stall owners and small shops in the informal sector usually do not pay taxes or registration fees and thus have unfairly low prices. This exchange of charge and counter-charge fuels the inter-segment conflicts in the retail sector.

***Competition on Convenience.*** Supermarkets and traditional retailers in developing countries also compete on convenience – specifically a set of “transaction costs” - that consumers face, that condition the overall cost of the “food consumption basket” bought from retailers.

The first of these is the cost of a household’s acquiring (search, transport, purchase) its full set of (consume-at-home) food items, its “food consumption basket.” This in turn is a function of several things: (1) the distance of the store from the home; (2) the number of trips needed to get all the items in the “basket”; (3) the variety of items available at a given store; (4) the hours of the store and thus the ability of the consumer to minimize the opportunity cost of a trip to the store; (5) the storability of the product.

The comparison of the modern and traditional retail sectors is complex along the lines of these costs because as we noted, our use of the term “supermarkets” simplifies what is a diversely-formatted modern retail sector. Thus, while large modern retail stores (supermarkets and hypermarkets) are typically more costly in terms of transport to visit than small traditional shops in the consumer’s neighborhood, modern convenience store and hard discount chains are typically inserted into dense neighborhoods and easy to access. Large modern retail stores also tend to have a far wider assortment of products than a small shop, and thus one trip to a large store would be equivalent to many trips to a variety of small shops.

In general, and mirroring the product market penetration of supermarkets noted above, the supermarkets in developing countries have tended to best small shops in the conveniences of wider assortments and longer hours, in particular for processed and semi-processed products that can be bought less frequently than daily, and/or (2) for consumers with high opportunity costs of time (the urban middle class), motorbikes or cars or easy access to buses, and refrigerators. For example, supermarkets have been rapidly gaining ground over small dairy products shops in Chile (Faiguenbaum et al. 2002), Russia (Dries and Reardon 2005), and China (Hu et al. 2005) due to far wider assortment combined with lower prices.

Modern retailers (particularly the retail multinationals) have pushed these advantages by having multiple formats (convenience stores, small urban supermarkets, hypermarkets,

discount stores, hard discount shops), having longer hours, and locating as close to the urban dense centers as real estate and zoning regulations (see below) allow. By contrast, small shops and wetmarkets have used the advantage of their location in inner cities, their offering of fresh foods, and personalized service to compete on convenience. The upshot is that, just as in developed countries, store location and hours have been key battle grounds in the regulatory debates we discuss below.

A final note on “transaction cost” competition is consumer credit and other services combined with retail. The conventional image is of the corner shop offering consumer credit and thus being more attractive to the lower income consumer - compared to the supermarket where cash must be paid. But the reality is more complex. (1) With urbanization and population mobility, there is emerging evidence of a decline in small shops’ offering consumer credit; for example, Alvarado and Charmel (2002) note that small shops offer only 10% of their clientele any consumer credit, and estimate that in Costa Rica only 4% of consumers get consumer credit from small shops. (2) By contrast, supermarket chains have recently made a heavy push to provide credit cards and even banking services; Gutman (2002) notes that supermarket chains made important gains during the economic crisis in Argentina because they actually increased credit card supply while small shops had to cut back. PlanetRetail (2006, 20, 22, and 27 September) show that Carrefour in Brazil and Wal-mart in China recently started banking and credit card services (following a trend among retailers in developed countries). This meshes with a general pursuit of “one-stop shopping” convenience for customers, as supermarkets in developing countries have also recently appended filling stations, fast-food stores, and pharmacies to their stores. Just as in developed countries, pharmacy chains, credit card companies, and banks have fought this trend, often politically.

***Competition on Quality and Safety.*** There are two dimensions of quality/safety assurance: (1) the retailer assuring that there is quality and safety in the product via supply chain management; (2) the retailer assuring the consumer of that quality/safety via signalling. The supermarket chain has certain advantages over traditional retailers in both dimensions, and those advantages in turn create competition and tension in developing countries.

First, while both supermarkets and traditional retailer segments can access high quality and safe sources of fresh and processed products, the supply chain coordination which the retail chain’s buying power and procurement modernization facilitate increases the ability to assure correct post-harvest handling along the supply chain. The signaling to consumers of that safety assurance procedure can and is used as a strategy of supermarkets against traditional retailers. Supermarket chains reinforce the coordination, and the signaling of it, via use of private standards (Reardon 2005b). For example, in Vietnam, modern retailers signaled to consumers their supply chain assurance procedures during and after the avian flu crisis, which won many consumers in Ho Chi Minh City to supermarkets away from wetmarkets (Phan and Reardon 2006). There is emerging evidence that the supermarket chains’ safety claims are seen by consumers as more credible than those of the informal sector, as for example in the case of vegetable safety in Vietnam (Figuíé, 2004) and Thailand (Posri and Chadbunchachai 2007). The implicit or explicit signaling is a source of growing tension between retail segments as wetmarket and small retailer associations resent and resist any signalling, implicit or explicit, in this regard (for example in Indonesia, see Natawidjaja et al. 2006).

Second, modern retail, by definition the formal segment of the retail sector, is the object of liability laws, product expiry regulations, and other regulations attending the formal retail sector’s interface with the consumer. This is a commonly signalled (to consumers) advantage

of modern retailers over informal sector shops, such as in the dairy market in Russia (Dries and Reardon 2005). Even the occasional enforcement of erring supermarket chains reinforces the image in the public mind that at least this formal segment is policeable and being policed.

In sum, there are various sources of tension and conflict between supermarket chains and traditional retailers in developing countries. Those sources are partly simply in the nature of conflicts between natural competitors with different advantages and disadvantages, and partly from strategies taken by each side to increase its advantage. The consequence is that beside the normal commercial competition between the two retail segments, there is also organized political, as well as spontaneous local, conflict between supermarket chains and small shops and wetmarkets, and the associations representing them.

Finally, it should be noted that “traditional” retailers can themselves transform both their marketing and their procurement systems in order to compete with supermarkets. Goldman et al. (1999) note that wetmarkets did this in Hong Kong; Wilkin et al. (2006) note that dairy traditional outlets are doing this in Poland (the case of Spolenta), and Martinez (2005) notes this for municipal markets in Mexico, and Gutman (2002) notes this for meat shops in Argentina. The wetmarket associations of Indonesia, Malaysia, and Thailand are undertaking this. Beside the business strategic reasons for this, there is also the pressure of government regulation and the assistance of government investments. The upshot is that this will both create further competition for the less-capitalized retailers, and will also add to the market change facing farmers, as “all ships will rise with the tide.”

### *Upstream*

***Tensions and Conflicts with Suppliers.*** We posit that the emergence of tensions and conflicts between supermarkets and suppliers are correlated with the modernization of retail procurement systems. Abstracting now from heterogeneity (over products, countries, and chains), we explore some emerging points of conflict, drawing from Reardon and Hopkins (2006).

First, there are what can be called “structural” tensions between supermarkets and suppliers. The modernization of procurement systems by supermarkets (which traditionals generally do not do, as they continue to source only from the spot-wholesale market), combined with the demands of the formal sector such as formal registration and invoicing from suppliers, translates into increasingly demanding requirements from suppliers with respect to volumes, consistency, quality, costs, and commercial practices. These represent substantial “threshold investments” and relation-maintenance costs for supermarket suppliers. As the supermarket sector consolidates, the bargaining power of the retailer shifts toward oligopsonistic power, and along with it, the power to impose requirements on suppliers.

Recent studies show that as a consequence of these demanding requirements, several patterns of participation by suppliers in supermarket supply chains are emerging: (1) supermarket chains tend to source from medium and large suppliers where they are available; this typically means a tendency toward sourcing from larger meat and dairy products and other processed food companies; (2) supermarket chains also tend to source, where possible, fresh products from medium/large farmers; however, this is rarely possible in most developing countries, except for a few products like bananas and other export sectors where large and medium farms have developed in produce; (3) most of the time supermarket chains thus source only indirectly, through wholesalers and processors, from small farmers. The latter tend to be the

upper stratum of small farmers in terms of capital assets (organization, equipment, and training), infrastructure access, and size (Reardon and Timmer 2007). (4) Where the small farmers are bereft of the needed assets, but the channel must still rely on them, it is common for the proximate intermediary to assist with training, credit, and so on (for the case of dairy in Poland, see Dries and Swinnen 2004; for produce in Central America, see Berdegué et al. 2005).

Hence, the smallest and least capitalized farmers are typically not part of supermarket channels, indirectly or indirectly, except where the chains are still relying on spot markets of wholesale markets, or where they are prepared to help capitalize the small farmers. There is at present little evidence of tensions between political associations of small farmers and supermarket chains due to this process of avoidance. Only in some of the advanced stage countries, like Mexico, have there been explicit political tensions between small farmers/peasants unions and supermarket associations or chains; the National Peasant Confederation (CNC) confronted retailers, leading to a political agreement recently (see Poy 2005).

By contrast, the more substantial tensions are present, and will probably grow (barring policy solutions), between supermarket chains and their suppliers. It is probable that this will continue to be the main source of “supply side” tension, as the types of producers that are excluded from modern markets (very small and undercapitalized farmers and processors, hinterland producers) tend (with some exceptions of course) also to be those with the least political voice in their respective societies.

Second, there are what can be called “behavioral” tensions between supermarkets and their suppliers. We say “behavioral” because they are beyond the consolidation and competition forces noted above, and are discretionary practices of individual chains that affect their suppliers. There are a number of complaints made by suppliers concerning supermarket chains that we have encountered in many developing countries. (1) Supermarkets often pay with a substantial lag, compared to traditional wholesalers who pay “on the spot”. For example, Gutman (2002) and Brom (2002), for Argentina, note that in the late 1990s the highly delayed payments by retailers to suppliers were the retailers’ method of financing their expansion with “negative working capital” – using the suppliers as de facto lenders. By 1999/2000, supermarkets were paying suppliers in the very long period of 60-120 days (versus either 0 days of consumer payment to supermarket or up to 25 days for credit card payment), compared with the 30 day limit imposed by the law enacted in 2001 (see below). (2) Supermarkets impose a series of regular fees on suppliers – such as slotting allowances and promotion fees, as well as fees and discounts imposed for special events such as store openings. (See for example Dries and Reardon (2005) for Russia dairy sector illustrations.). (3) Supermarkets require a range of post-harvest services from suppliers (special packaging, product delivery, and so on). (4) Supermarkets require suppliers meet stringent quality and sometimes safety standards which can require a high degree of asset-specificity. Suppliers also occasionally accuse supermarkets of changing the standards when it suits them commercially. (See Berdegué et al. 2005.) (5) Supermarkets in developing countries usually use only implicit/de-facto (unwritten) contractual relations (“listing”) in most of the produce categories, with the occasional formal contract with a large company. In these implicit contracts (Hueth et al. 1999) and relations, suppliers complain that there is scope for ambiguity which acts to transfer risk to the supplier.

However, supermarket chains in developing countries also complain about their suppliers' practices. Chief among these complaints include: (1) suppliers often do not comply with contracts, selling to brokers who visit the farms at harvest and offer better prices or immediate payment or both; for an Indonesian example see Natawidjaja et al. 2006; (2) inconsistent quality and volumes; (3) lack of counterpart-investment in supply chain logistics, such as cold chains and vehicle and package design that can efficiently interface with the distribution system of the retailer (for a Mexican example see for example Berdegué et al. 2006).

The above tensions, charges and counter charges, have costs for the system. As competition among chains heats up, it is then common for a contradiction to take place – where supermarket chains, trying to cut costs in their supply chains to lower consumer prices and to create a “war chest” for competition with other retailers, lengthen the delay in payment, increase fees – but at the same time expect more and more in quality, packaging, and services from suppliers. The suppliers begin to see a drop in profitability in selling to the modern market channel, at the same time the set of buyers is shrinking (due to retail consolidation) and they are expected to make more investments. This can be considered a “crisis point” for both suppliers and retailers. Brom (2002) describes a situation in Argentina where many suppliers began at that point to bankrupt, and for supply chains to retailers to begin to fail. It is at that crisis point that governments and retail and supplier associations turn to regulations and codes of conflict to address the issues. We turn to policy approaches to these in the following section. Before that, however, we review evidence of effects on processors and farmers of the supermarket revolution.

***Emerging Evidence of Effects on Suppliers.*** Most of the recent work on the relation of the rise of supermarkets and their effects on food markets, processors, and farmers, has focused on the diffusion of modern retail, and the recently initiated changes in the leading chains' procurement systems for produce, meat, dairy, and processed staples such as beans. In general, that work shows the rapid spread of supermarkets, as well as diffusion of procurement system change, earliest in processed foods, meat, and dairy, and very recent and partial in fruits and vegetables (see for example Reardon and Berdegué 2002 for Latin America, Berdegué et al., 2005 for Central America, Dries et al. 2004 for Central and Eastern Europe, Schwentesius et al. 2002 for Mexico, Farina 2002 for Brazil, and Weatherspoon and Reardon 2003 for South Africa. That early body of work used primarily retail data, not farm data, and hypothesized, based on observed procurement system change, that the retail transformation would most deeply and quickly affect processors, dairy and meat producers, and over time, produce growers.

A second wave of work has been recently initiated. That work so far (for example, Hernandez et al., 2006, in Guatemala, Balsevich et al. 2006 in Nicaragua, Berdegué et al. 2006 in Mexico, Neven et al. 2006a and 2006b, in Indonesia, Natawidjaja et al. (2006), in China, Wang et al. 2006) has focused on the effects on produce growers and dairy farmers. While most of the studies find that small farmers participate in the modern retail supply channels (with the rare exceptions where there are medium/large farmers from whom the processors and supermarkets can source), the studies in general show that the “upper stratum” in size and capital assets of the small farmer stratum tends to be the only small farmers participating in modern channels – while the smallest and least-capitalized small farmers are excluded. While this body of work contradicts the earlier worry/hypothesis that few if any small farmers would participate, it engenders a new worry that only the commercial elite of small farmers will prosper and be included as the retail market modernizes.

## 5. Implications for Policies and Strategies Differentiated by Context

Policymakers, civil society, and the private sector have an interest in identifying policies and programs that can address challenges (such as conflicts between supermarkets on one hand and traditional retailers or supermarket suppliers on the other) or maximizing opportunities (such as of farmers supplying the emerging modern retail channels) emerging from the trends discussed above. This section discusses policy options. We start with a typology of “differentiated contexts” to capture broadly the heterogeneity of contexts of application of policy. (This is inspired by the differentiated policy context approach applied to peasant strata by Schejtman (1980).) We then present a taxonomy of policy approaches that can be applied singly or in combinations to those differentiated contexts. We end with thoughts about how to map policy instruments to contexts.

### *Differentiated Policy Contexts*

There are four broad categories of variables that define the context, based on the discussion of the trends.

- (1) The “wave” (degree of penetration of supermarkets in retail in the country or area) distinguishes the policy context. We distinguished three waves above, and noted the emergence of a fourth.
- (2) The product category distinguishes the policy context. As discussed above, a useful distinction can be made among: (a) processed products; (b) semi-processed (such as dairy, meat, fish); (c) and non-processed fresh (produce).
- (3) The actor type distinguishes the policy context, in particular whether one is treating retailers or suppliers.
- (4) The level and type of capital assets of the country and/or actor distinguish the policy context. This represents the capacity of the government to implement policy (such as juridically handling complaints of contract violation) and of retailers or suppliers to make needed investments.

One can think of “policy-context clusters” of observations on the above four variables to typify policy contexts. We give several examples as follows.

A first “policy-context cluster” is the early stage of supermarket “take-off” (such as in third wave countries like China or India today or first wave countries like Brazil or Chile a decade ago). Modern retail immediately poses a major challenge to traditional retailers, in particular small shops selling processed products (evidence of which we noted above), but not yet wetmarkets. Nearly all of the challenge is in large cities to which supermarkets have so far spread in this early situation. There is an emerging challenge to suppliers of processed products as supermarket chains very early begin instituting procurement system modernization for processed products (not yet for other product categories, wherein wholesale markets and wetmarkets reign nearly unchallenged); above we noted the example of the triage of processed food companies by chains in Beijing. Neither retailers nor suppliers in fresh produce or even semi-processed products are yet significantly challenged. By contrast, higher value niche product producers may find some opportunities in the emerging supermarket-market. Finally, the policy context represented by this cluster is sharply different by asset or resource base. On the one hand, the options implementable by a upper-middle income country or area a decade ago differ from those available to a lower-middle or lower income country facing the rapid emergence of supermarkets today. On the other hand, small and resource-poor suppliers of processed foods will be first challenged, and those of fresh foods with least

opportunity. By contrast, the upper stratum of small farms and firms will be least challenged and best positioned to avail themselves of the new opportunities represented by modern retailers.

A second “policy-context cluster” is the intermediate stage of supermarket penetration (such as second-wave countries like Mexico or Poland or Thailand today, or Chile or Argentina seven years ago). Modern retail continues to pose a major challenge to traditional retailers, but increasingly not just of processed foods but of semi-processed foods such as meat and dairy shops, and the barest emerging challenge to wetmarkets. The challenge now spreads to intermediate cities and even rural towns (see Reardon et al. 2006), where the government capacity to implement programs is lower. The challenge to suppliers of processed products is now advanced, such as that observed in the late 1990s in Argentina (Brom 2002), and the challenge is now important for semi-processed product suppliers (such as of meat, see Faiguenbaum et al. 2002 for Chile, or Dries and Reardon (2005) for Russia). Supermarket chains have by this stage just initiated procurement modernization for fresh produce, have just begun to rely less on wholesale markets, and are starting relations with specialized wholesalers off-market and some direct purchase from producers (mainly for large commodity categories, see Berdegué et al. 2005 for the Central American case). The opportunities for higher value niche producers have consequently grown (such as the case of lettuce in Guatemala, see Flores and Reardon 2006). But as the dominance of supermarkets in urban retail is now in the 30-50% range, major tensions are now emerging between supermarkets and suppliers (such as those in 1999/2000 in Argentina, see Brom, 2002, or those in Mexico or Thailand today, see Reardon and Hopkins (2006) for an account). Moreover, traditional retailers are beginning to modernize their procurement systems to better compete with supermarkets (such as the case of the traditional dairy products retailer Spolenta in Poland now), which means that for processed and semi-processed products, the challenge to suppliers begins to “generalize” or homogenize over market segments. Again, this cluster as a policy context will differ over high and low- resource/asset situations and producers.

A third “policy-context cluster” is the advanced stage of supermarket penetration such as one finds in Brazil, Argentina, Taiwan, Hong Kong or South Korea today. By this stage, processed and semi-processed small retailers and processors are now relegated to small towns and quality niches; wetmarkets and produce shops survive but only has about half of the market. Supermarket chains have advanced in produce procurement modernization, which has spilled over into a consolidation of the wholesale sector. The challenge is simply to maintain opportunities for the traditional sector. Modern retail has penetrated small towns, bringing the challenges and opportunities hitherto experienced only in the larger cities. It is at this stage that a major challenge to the broad mass of non-staple producers emerges, and with it tensions that need to be addressed, as for example Argentina sharply experienced in 2001, recounted below.

### ***Differentiated Policy Instruments***

This section presents a taxonomy of policy approach options to address development challenges and maximize development opportunities arising from the spread of supermarkets. We draw on Reardon and Hopkins (2006) and a body of literature reviewed therein.

One can map a given policy or program into the below three-dimensional matrix (with the x axis being the sources of challenge or opportunity, the y axis being the policy foci or targets, and the z axis being the policy-function dimensions).

There are two basic sources of conflict between the supermarkets on one side, and the traditional retailers and the supermarket suppliers on the other:

- (1) inequality of power (based on concentration, scale, and the technologies and commercial practices made possible by that scale);
- (2) practices and strategies that make use of that power (magnification of initial advantages through supermarket practices of pricing, quality, location, payment, and contracting).

There are two policy-functional axes:

- (1) Public regulation versus private codes of conduct;
- (2) General policies that affect all businesses (without specifying “retailers” or other types of businesses) versus policies specific to retailers and their suppliers.

There are several basic policy foci to address the above two sources of conflict and challenge:

**Competition Policy.** Government or the private sector (through self-regulations) can limit the growth of the supermarkets’ power through competition policy that limits concentration and collusion (such as through the Competition Commissions that one finds in most large developing countries (Brazil, Indonesia, Mexico, et alia have them).

**Regulation of Retail Marketing Practices.** Government or the private sector (again through self-regulation) can limit the application of the power through limiting supermarkets’ diffusion and market penetration as well as convenience (such as through zoning and hours regulations). Various developing countries have regulations, similar to the zoning and opening-hours regulations we described in the historical context of the US and UK, and arising from similar political pressures by traditional retailer associations, that impede supermarket diffusion, often in particular that of hypermarkets.

Hypermarkets are often associated with foreign chains, low prices, and particular competition with small stores. For example, Thailand and Malaysia have regulations in particular on hypermarket diffusion, perceived as most competitive with traditional retail. The intensity of the regulation in these “strong regulator” countries has in fact varied considerably over the past five years (the emergent regulation period). For example, in Thailand, such regulation first rose (in 2003) then relaxed (in 2004/5), and in 2006 has risen again. In Malaysia as well there was fluctuation, first a rise and then a relaxation (see CIES 2006, June, July, and October).

Moreover, regulations (and/or private codes) can limit the use of supermarket power through policies focused on the practices which make use of their power (pricing regulations that keep supermarkets from pricing under cost to consumers (such as La Loi Galland in France)

However, recall from above that it is also common for governments to promote the spread of modern retail and to stiffly regulate the location and marketing practices of traditional retailers such as wetmarkets (in the various ways we noted above), all in an effort to modernize the commercial services sector. Also, as we noted, it is common for governments

through FDI policy to facilitate foreign hypermarket (and other format) ingress and expansion. The fact that supermarkets in general and the share of foreign hypermarkets in particular have grown extremely fast in developing countries over the past decade indicates that the net effects of the myriad of policies affecting modern retail diffusion and marketing practices tends to show promotion, or at least facilitation, rather than hinderance, on balance. In fact, a strong case could be made that the regulatory approach in the US, from 1930 to 1995, was far more hindering and regulating of the supermarket sector, on balance, than what one observes in the past decade in developing countries (see Reardon and Hopkins 2006).

***Regulation of Retail Procurement Practices and Retailer-supplier relations.*** One can generalize to say that most developing countries undergoing rapid retail transformations do not have strong regulations and implementation systems in place for buyer-seller relations, such as the PACA regulation in the US. The relatively sudden and extremely rapid rise of supermarkets has tested the commercial law system and shown it wanting. That has been at the base of the various crises in supermarket-supplier relations discussed above.

However, this dearth of regulation of supermarket-supplier relations may now be changing, initiated by a series of recent actions in Latin America. It is indicative that the experiences are in the first and second wave countries, where inter-segment relations have already manifested tensions and conflicts.

In essence, a combination of legal-regulatory and self-regulatory approaches is emerging, sparked by the Argentine example, followed by other Latin American examples. We discuss these here.

In both Argentina (circa 2000/1) and Mexico (circa 2005), a crisis emerged in terms of relations between supermarkets and their suppliers, essentially due to the various tensions and conflicts that we discussed above. In Argentina, the Competition Commission (calling on a legal foundation of three laws, Truth in Trading, 1983, Consumer Protection, 1993, and Competition Law, 1999) said that it would promulgate a national law to closely regulate supermarkets and their relations with suppliers – if the retail, wholesale, processor, and farming sectors did not formulate and implement a private code of commercial conduct. This is similar to the private sector code also “encouraged” by the competition commission in the UK in 2002 (which later became mandatory). The Argentine (and foreign FDI firms such as Carrefour) private sector responded to this “stick” policy, and in July 2001 retailers and suppliers signed a ‘Code of Good Commercial Practices’, the first of its kind in Latin America, and probably the first in developing countries (Brom, 2002). It was complemented by public regulation to strengthen it further, with the promulgation of Decree 1/2002 in March 2002 to limit the payment period to suppliers of perishable goods (to 30 days, in many cases much faster than current payment periods), basically similar to the payment period provisions of the PACA law in the US.

The terms of the private code were in essence four, and tend to be the main elements of most regulations elsewhere: (1) compliance with contracts by both retailers and suppliers; (2) equal treatment among suppliers; (3) prompt payment; (4) cooperation in logistics development. There is evidence that the conflict resolution mechanism accompanying the code has been effective (Brom 2006). Apart from the last element, the private code is in essence similar to the public regulations in the US such as the PACA (see Reardon and Hopkins 2006) and its amendments, but formulated and implemented by the private sector. Brom (2006) argues that in many developing countries a private code may well be the most practical and useful

approach in the short-medium run, in that it harnesses private sector interest, will, and resources and can be implemented in situations where commercial laws and institutions are still in the development stage.

Variants of the Argentine code have proven attractive, rapidly, in Latin America, as it spread to Colombia (signed in 2005) and to Costa Rica (where it is under discussion) and Mexico (signed in June 2006).

The striking similarity of the Mexican process illustrates the attraction of the private code to supermarkets and their suppliers. Galindo (2006) notes that in late 2005 and the first half of 2006, there was intense debate in congress and the competition commission concerning potential stringent public regulation of retailers and their suppliers. By May that had been defeated, as the retailers and major suppliers did not want directive regulation by the government, but preferred self-regulation. Supplier organizations such as CONCONACA noted that they would press for public regulation if the private code was not rigorously enforced and adhered to. The new code is in essence similar to the Argentina code and to the PACA regulation in the US. Its implementation system is being put in place at the time of our writing.

***Programs to strengthen suppliers, wholesalers, and traditional retailers.*** As we already dealt with regulations that condition the relative strengths and influence the practices of the actors (supermarkets, their suppliers, other suppliers, wholesalers, and traditional retailers), here we take as exogenous the extent of supermarket penetration, and treat programs that: (1) strengthen suppliers and wholesalers capacity to supply supermarket chains; (2) strengthen suppliers, wholesalers, and traditional retailers to pursue market opportunities other than supermarkets and/or compete with supermarkets.

Reardon and Flores (2006) distinguish “structural competitiveness” (increasing all actors’ efficiency in generic ways to help them compete in the market) from “customized competitiveness” (increasing suppliers’ capacity to make flexible and specific investments to meet the specific requirements of demanding domestic or foreign market niches such as local or global supermarkets). We apply that distinction here.

Measures to develop “structural competitiveness” will, all else equal, improve the following: (1) the overall costs of procurement of supermarkets and thus the food-price-inflation dampening effects that retail modernization can have; (2) the levelness of the “playing field” for traditional retailers, wholesalers, and suppliers in dealing with a modernized retail sector.

Structural competitiveness measures include the following.

- (1) Generic business practice regulations regarding contracts and competition;
- (2) Reduction of regulatory “red tape” to facilitate supplier registration/formalization in order to access modern sector markets (for an example see Del Grossi and da Silva, 2001 re the World Bank/Government of Parana project “Fabricas do Agricultor)
- (3) Improvements in wholesale markets as well as other commercial infrastructure in order to (a) increase market alternatives to small farmers and make the latter more competitive, (b) help the traditional wholesale markets compete with emerging specialized wholesalers, and (c) help the wholesale markets stay for as long as possible a viable and competitive sourcing base for supermarkets (Reardon 2005). These points echo the call for investment in wholesale market institutions in

(2002) and the emphasis on this point in the literature of the 1960s and 1970s, such as Abbott (1967) calling for “public provision of market information and advice, credit institutions, and local warehousing facilities, or by reducing barriers to the entry of new trading enterprises and fostering the growth of alternative marketing channels, as through cooperatives.” (Abbot page 370). Wang et al. (2006) hypothesize that the persistence of sourcing from wholesale markets as the supermarket sector grows in China may be due to what appears to be relatively high efficiency and low margins of wholesalers in China relative to some other Asian countries. Natawidjaja et al. (2006) for Indonesia, Boselie (2002) for Thailand, and Berdegué et al. (2005) for Central America note that, by contrast, supermarkets have been working as hard as possible to get around wholesale markets due to relative inefficiency (as we discussed in the procurement modernization section).

- (4) Improvements in wetmarket and other traditional retailer operations. Goldman et al. (1999) provide an illustration of this in Hong Kong: in the 1990s, the government of Hong Kong instituted an “aggressive modernization program” that included wide-ranging improvements in infrastructure and hygiene of wetmarkets, privatization, centralization of procurement, and advertizing. This modernization, combined with certain advantages of traditional retailers in fresh vegetables and fish, allowed wetmarkets to protect their high share in the these categories, despite the ubiquity of supermarkets and hypermarkets and the latter’s gains in other fresh categories such as fruit, pork, and chicken where they could gain scale advantages through relations with large processors and packers.

“Customized competitiveness” involves additional measures – focused on making four kinds of capital available - to provide suppliers with the capacity to supply supermarkets. There are four elements to this, each of which we discuss and illustrate.

First, governments have the option of providing “market intelligence capital” for suppliers at the same time they facilitate “business linkages” between suppliers and supermarkets. This includes: (1) provision of market information focused on detailed trends in the food industry as well as facilitation of face-to-face meetings (bilateral and multilateral, business round tables, conventions) between retailers and suppliers; (2) follow-up investments by the government to help suppliers meet the requirements of supermarket chains and thus enter that market. Government facilitation of contacts as well as investments is often useful because small farms and firms typically lack the “entrée” (and interacting with small farmers has higher transaction costs for chains) as well as access to external sources of credit. The meetings allow the resolution of information asymmetries that can be accomplished no other way. Three illustrations follow.

In Mexico, ASERCA (the Mexican market promotion service of the Secretariat of Agriculture) has a “direct marketing” program where it facilitates links between local suppliers of fresh produce and supermarket chains in Mexico and in other countries. An example is their facilitating links between an association of grape producers and several of the largest chains in Mexico. ASERCA also has trade shows where supermarket chain buying agents and suppliers meet. ASERCA sponsors producer groups from the various states of Mexico to attend the ANTAD (Mexico’s supermarket association) yearly convention (ASERCA, 2005). In parallel (and sometime in coordination with ASERCA), the State governments’ secretariats of agriculture also have emerging linkage programs for suppliers with supermarkets in Mexico as part of their market promotion efforts. For example, the

Market Promotion Program of the government of Michoacan's Secretariat of Agriculture linked an association of small growers of raspberries with Sam's Club (Wal-mart) in Mexico, by facilitating meetings, providing assistance to the association with investments in a cold chamber, truck, and packing facilities, and orientation on follow-up business practices (Marx Aguirre, SEDAGRO Michoacan, personal communication, May 2006).

In Brazil, an illustration is the Fabrica do Agricultor program in Parana, Brazil (Del Grossi and Da Silva, 2001). The government of the state and the World Bank help local small-scale food processors to sell to supermarkets in the intermediate cities, sponsoring meetings between suppliers and chains, and providing suppliers with technical assistance in processing and packaging, and marketing training and contacts. They also helped by revamping and streamlining the state-level licensing/certification program for businesses at the state level, to obtain at lower transaction costs the formal status needed to have commercial relations with the supermarkets.

A further illustration is where governments can facilitate alliances with retailers to spur local sourcing and at the same time exports (via procurement systems of global and regional chains). In 2004 a linkage agreement was established between Carrefour, the Brazilian Export Promotion Agency (APEX) Development, and the Brazilian Industry and Trade Ministry for Carrefour to promote Brazilian fruit both in its local stores and then in its European stores and then in its stores in Asia and the Americas (Mais y Mais, 2005). In 2005, Metro (German global chain) entered into similar arrangements in India (for example, see The Hindu Business Line, 2004) and Vietnam, and Wal-mart has now a similar arrangement in India. The Malaysian government has a program called the Federal Agricultural Marketing Authority (FAMA) which arranges linkages between local suppliers and foreign hypermarket chains (as well as domestic supermarket chains) in Malaysia, to supply them locally as well as to enter regional and global procurement systems of these chains.

Second, governments have the option of facilitating the building of "organizational capital" among suppliers. It is incontrovertible that supermarket chains usually do not work with individual small farmers, and if they work with small farmers, they interact with associations or groups of farmers to cut transaction costs. Moreover, traditional cooperatives are usually not viable for these relationships because of free-rider problems.

Governments thus need to think hard about the role of "new generation cooperatives" and other farmers association and how to design new programs to assist them in new markets. In particular for small and medium producers, groups or associations are crucial for reducing the transaction costs for retailers and processors of dealing with multiple suppliers in a coordinated fashion. Berdegué (2001) for Chile found, however, that forming small-farmer organizations (for export and for modern markets locally) is "necessary but not sufficient"; groups and clusters are often needed to attain critical mass of volume and economies of agglomeration to enter a market – but a series of key management and organizational investments are needed by groups, and a continuous and flexible upgrading and adaptation to the needs of specific clientele, to stay in the market and prosper. Many do not make the grade or stay in a dynamic market niche – but for those who do take the needed steps, the payoffs can be indeed quite high, as a recent study shows for the case of a meat producers' cooperative in Costa Rica (Jano et al. 2005).

Third, governments have the option of building "standards capital." In order to match the public standards with private standards of processors and supermarkets and thus induce a

diffusion of practices that would meet those norms, governments have begun adapting public standards to private standards. Although not a supermarket example, relevant is the case of Argentina in the dairy sector, experimenting with working to have their public standards converge, at least partially, with the more demanding private standards, gradually, in stages. The goal is to have more and more farmers upgrade so that the ranks of modern channel suppliers exporters (and successful small farms and firms) can expand. At issue of course is that raising standards means exclusion of those without the means to invest – the crucial dilemma facing governments.

Fourth, governments have the option of building “financial services access capital” for suppliers. Reduction of the market-risk faced by retailers coupled with increase in access to financial capital (as working capital and for investments in equipment and other physical capital upgrading) are crucial final elements of “customized competitiveness” for suppliers. There are several recent innovations with respect to these in terms of local supermarkets-local suppliers.

Retailers and their specialized/dedicated wholesalers are themselves intermediating between commercial banks and suppliers to solve problems of credit access by providing the equivalent of a “collateral substitute” for small and medium farmers – by proffering a de facto contract as evidence that that suppliers will be able to repay the loans. An example (for certain products and circumstances) is Metro in Croatia, and Gigante in Mexico.

Governments are moving to provide similar guarantees so that small/medium farmers can get access to commercial bank loans to upgrade to sell to supermarkets. Again, the case of the innovative actions of the Mexican government to facilitate “direct commerce” between suppliers and supermarkets in Mexico is interesting. Firstly, SAGARPA is extending the existing “factoring service” - where a supplier gets immediate cash instead of having to weather the “waiting period” for payment, in return for a share of the invoice paid to the factoring service (public in this case) or company - from the domain only of exports to the domestic market in particular for sales to supermarkets (see [www.mexbest.com.mx](http://www.mexbest.com.mx)). Secondly, as part of the SAGARPA initiatives discussed above, the Mexican government is working to bring in the Financiera Rural (which replaced the BANRURAL (Banco Nacional de Crédito Rural) in June 2003) to pay small farmers immediately and then invoice the local supermarket chains. Thirdly, the CNA (the Consejo Nacional Agropecuario) and SAGARPA are developing a project to institute a type of credit-worthiness evaluation service similar to the Blue Book [www.bluebookprco.com](http://www.bluebookprco.com) or the Red Book ([www.rbc.com](http://www.rbc.com)) services found in the U.S. The objective is to demonstrate the credit worthiness of domestic suppliers to domestic and foreign supermarkets in order to show reduce the perception of risk on the part of the supermarket chains in sourcing from local producers and producer groups.

While the above program options for governments have the attraction of helping suppliers overcome obstacles to supplying to local supermarkets, there are several important issues that are emerging.

First, the cost of threshold investments to enter modern channels can be substantially higher than those for traditional markets. In order not to neglect assistance to the broad mass of under-capitalized farmers that do not have immediate potential to enter modern channels – and yet to provide assistance in the form of the four types of capital investments noted above that several governments are in fact undertaking, requires a larger budget or donor assistance or both. Some governments, such as the Chinese, grasp the nettle and help the development of

“Dragon Head Firms” that lead the supply sector and are capable of building relationships with modern retailers and export markets. This is also, de facto, the approach of the various “business linkage” programs discussed above, such as by the government of Michoacan in Mexico.

Note that many of the examples above are of large governments with relatively “deep pockets”; it is much harder for smaller countries to find the fiscal resources to have such programs. The latter end up relying on donor programs that are not, in the long term, sustainable solutions (for example, the budget of the new US MCC program for market linkages in Honduras is yearly thrice that of the Honduran Ministry of Agriculture!).

Second, a general dilemma that will increase as the food industry consolidates and increasingly the “market” is actually just a handful of retailers, is that governments, accustomed to programs creating broad public goods for many sellers and many buyers, will find that, de facto, the goods they create might be public in access on the supply side, but their nature will be adapted to the requirements of the few buyers on the demand side, which will make them of a semi-private nature. That will be an increasing political dilemma.

## **6. Conclusions**

As we have already examined policy implications, this section will present a brief synopsis of the key points.

First, while supermarket diffusion was occurring slowly before approximately 1990, starting in the 1990s there was a sudden and meteoric rise of supermarkets in developing countries. The prognosis is that while this take off may continue to occur very quickly in the current “third wave countries” in particular in India, China, Russia, and Vietnam; it will continue but at a more gradual pace now in the first and second wave countries of the CEE, Latin America, and the rest of East and Southeast Asia. It is not clear whether it will occur rapidly in what are now the emerging “fourth wave countries” such as in West Africa.

Second, retail procurement system modernization has proceeded relatively far in the case of processed and semi-processed foods, and appears set to continue diffusion. That modernization has started much more recently in fresh produce and will take some time to become significant. There is emerging evidence that traditional retailers are “fighting back” which is in fact modernizing them in ways that make their marketing and procurement behavior similar to that of modern retailers. In that case “all ships rise with the tide” and there may be generalized effects on producers upstream.

Third, the supermarket revolution has had certain and deep effects “downstream” in the food system, in particular and foremost on small shops selling processed and semi-processed foods. The effect so far has been least in fresh produce. However, evidence from “advanced” cases on all continents suggests that the impacts on wetmarkets will occur eventually.

Fourth, again with the earliest and strongest effects in the categories of processed and semi-processed products, supermarkets have raised quality and lower prices for consumers, driving their rapid shift to supermarkets. That effect has been less strong or even very weak so far in fresh vegetables.

Fifth, the effects “upstream” mirror the results differentiated by region (wave) and product category. The most obvious and rapid effects are on producers of processed and semi-processed products and by extension their ingredient suppliers, such as grains, meat, dairy. The least effects so far have been on fresh produce growers, but even there the emerging evidence is that in the second and first wave countries (but not yet in third wave countries), there is evidence of emerging exclusion of under-capitalized small farmers. Assistance to those farmers to make a transition to either being competitive suppliers of supermarkets, or finding viable alternatives, is crucial.

Finally, policy has played a key role in terms of conditioning the diffusion of supermarkets, and that role has been positive and stronger than in developed countries. In turn, policy change has sparked globalization in the food industry of developing countries, which in a very important way has meant a supermarket revolution.

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Annex Table. Real Annualized Growth of “Major Retailers” (Set Followed by PlanetRetail)  
Total Modern Retail Sales by Region (%)

	South America	Central America	Mexico	Southeast Asia	South Asia	East Asia Transition
2002	-37	4	-8	21	32	50
2003	-9	15	-7	19	49	36
2004	8	-5	2	8	40	19
2005	18	-1	8	9	57	19
Average Real GDP Growth Rate	-5	3	-1	14	44	31
Simple Average	3	3	2	5	7	9

	Europe CIS	Central Europe & Baltics	Southeast Europe	Sub-Saharan Africa	South Africa	North Africa	Middle East
2002	56	17	62	7	-18	19	7
2003	54	25	43	11	51	30	24
2004	47	16	39	-3	22	19	17
2005	30	9	15	3	3	12	10
Average Real GDP Growth Rate	47	17	40	4	14	20	15
Simple Average	7	4	5	4	4	5	4

**Note. List of countries considered in each developing region.**

Region	Countries
South America	Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Paraguay, Peru, Uruguay and Venezuela
Central America	El Salvador, Guatemala, Honduras and the Dominican Republic
Southeast Asia	Indonesia, Malaysia, Philippines and Thailand
South Asia	India and Pakistan
East Asia Transition	China and Vietnam
Europe CIS	Moldova, Russia and Ukraine
Central Europe & Baltics	Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland and Slovakia
South East Europe	Bosnia and Herzegovina, Bulgaria, Croatia, Romania and Serbia
Sub-Saharan Africa	Côte d'Ivoire, Ghana, Kenya and Tanzania
North Africa	Algeria, Morocco and Tunisia
Middle East	Egypt and Lebanon

Source: [www.planetretail.net](http://www.planetretail.net) for the raw data, calculations by authors of sales; real GDP growth rate data from [www.worldbank.org](http://www.worldbank.org).