United States Department of Agriculture

USDA

Economic Research Service

Economic Information Bulletin Number 97

June 2012

Indonesia's Modern Retail Sector

Interaction With Changing Food Consumption and Trade Patterns

John Dyck, Andrea E. Woolverton, and Fahwani Yuliati Rangkuti

Visit Our Website To Learn More!

Find additional information :

http://www.ers.usda.gov/

Recommended citation format for this publication:

Dyck, John, Andrea E. Woolverton, and Fahwani Yuliati Rangkuti. *Indonesia's Modern Food Retail Sector: Interaction With Changing Food Consumption and Trade Patterns,* EIB-97, U.S. Department of Agriculture, Economic Research Service, June 2012.

Cover photo credit: John Dyck.

United States Department of Agriculture

Economic Information Bulletin Number 97

June 2012

A Report from the Economic Research Service

www.ers.usda.gov

Indonesia's Modern Food Retail Sector: Interaction With Changing Food Consumption and Trade Patterns

John Dyck, Andrea E. Woolverton, and Fahwani Yuliati Rangkuti

Abstract

Indonesia's food market has changed in response to a changing and growing economy. The report examines changes in the food consumption pattern and measures the growth of modern food retail chains, packaged food purchases, and food imports in the world's fourth-most-populous country. The evidence suggests that Indonesians are moving toward modern global purchasing and consumption patterns, but more slowly than in some comparable countries. Barriers to foreign and domestic commerce, affecting the development of modern food retail supply chains, are important constraints on food market change in Indonesia. Further change in Indonesia's retail food sector will help determine future growth in imports, including from the United States.

Keywords: Indonesia, Indonesian retail food sector, Indonesian food demand, supply chain, trade barriers, supermarkets

Authors

John Dyck is an economist with the Markets and Trade Economics Division, Economic Research Service, USDA. Andrea Woolverton is an economist with the Food and Agriculture Organization, United Nations. Fahwani Yuliati Rangkuti is an analyst with the Foreign Agricultural Service, USDA.

Acknowledgments

The authors are grateful to Economic Research Service (ERS) reviewers, including Maurice Landes, Suchada Langley, Mary Anne Normile, Daniel Pick, Donna Roberts, Sharad Tandon, and Sarahelen Thompson; to Foreign Agricultural Service (FAS) reviewers, including Suzanne Balsam and Dennis Voboril; and to Liesbeth Dries of Wageningen University, the Netherlands, and two anonymous reviewers, who provided valuable comments. Elise Wagner of FAS and Professor Ronnie Natawidjaja of Padjadjaran University provided many substantive suggestions and participated in interviews in Indonesia. We are grateful to David Marquardt of ERS, who provided the map; to Priscilla Smith of ERS, who edited the report; and to Cynthia A. Ray of ERS, who designed the report.

Contents

Summary

What Is the Issue?

The economic growth and urbanization in Indonesia over the past decade has been accompanied by a fast-growing modern retail food sector and by changes in food consumption patterns. As the world's fourth most populous country, Indonesia provides a case study of the relationships among food consumption, sales, trade, and investment. In this report, we examine changes in food consumption patterns and measure the growth of modern food retail chains, packaged food purchases, and food imports in Indonesia during the past decade.

What Did the Study Find?

Indonesian food consumption patterns have changed since the late 1990s, with dairy and meat consumption growing and grain consumption falling on a per-person basis. Packaged and prepared food sales have grown strongly. Growth in household incomes and a sustained shift of population from rural to urban areas have contributed to these changes. Indonesia's food consumption changes are consistent with evidence that global food consumption patterns have been moving toward more meats, dairy products, and sugar. However, animal product consumption per person remains below the level of neighboring countries, and calorie intake has changed little over the last decade of strong economic growth.

While most Indonesians purchase their food from traditional retail outlets, modern food retail stores sell an increasing share of food products, particularly packaged goods, to urban consumers. Sales from modern food retailers increased from about US$1.5 billion in 1999 to over US$5.6 billion in 2009, and their share of total retail food sales rose from 5 to 11 percent over that period. Efficiencies in the modern chains do not appear to be forcing retail food prices down. However, if the modern stores can match traditional shops on product price, they can attract shoppers by offering additional value through these attributes. Modern stores offer refrigeration, air conditioning, and quality assurance that are usually not found in traditional shops. Refrigeration, especially for meats and dairy products, helps expand consumption and address consumers' food safety concerns.

Food imports have grown, but not as a proportion of food spending. In part, this may be the result of regulations by the Indonesian Government, which has voiced support for free trade in goods but often encourages food self-sufficiency in practice. Farmers sometimes wish to slow or stop competition from imports. At the border, imports of some products are effectively banned and many other foods face slow and uncertain import procedures. Indonesia's requirements for Government-issued registration numbers for each import can be a particularly serious impediment. Current plans to restrict the number of ports through which horticultural imports are allowed to pass could lead to lower imports in the future. Other regulations limit the location of new large stores. As a result, modern food retailing in Indonesia faces constraints in procuring products efficiently from both international and domestic sources and in obtaining sites for expansion.

Growth in Indonesia's modern retail food sector and ongoing changes in food consumption patterns are expected to continue. U.S. agricultural exports to this important market, which already obtains 20 percent of its food imports from the United States, stand to benefit from this growth. However, changes in food retailing and in food consumption patterns in Indonesia have been slower than in some comparable countries and might occur more quickly if economic barriers and constraints were removed.

How Was the Study Conducted?

We relied on market information collected by USDA's Foreign Agricultural Service in Indonesia through May 2012 and additional interviews by the authors in the cities of Jakarta and Bandung. We used detailed, recent Indonesian Government data on foreign trade and data from the market-research firm Euromonitor on the food retail environment to identify trends and shares. In our report, we draw on and update previous literature on Indonesia's food sector.

Introduction

Food consumption patterns across the globe have changed significantly in the last century. Economies and cities have grown, and global linkages have become more important. The extent, pace, and nature of change vary widely among regions and countries. Indonesia's experience exposes some of the constraints on food consumption change, as a newly urbanized, increasingly well-off population confronts the challenge of securing safe, affordable, convenient, and tasty foods in a changing environment (Tandon et al., 2011a).

The world's fourth-largest country by population size, Indonesia has experienced relatively rapid economic growth that has brought changes to food consumption patterns and to retailing. Modern food retailing through supermarkets, hypermarkets, mini-markets, and convenience stores has increased in Indonesia over the last few decades. Much of this increase has been organized by large chain merchandising firms. This report examines the growth of modern food retailing in Indonesia; its implications for Indonesia's food sector, including its domestic and international suppliers; and constraints that could possibly challenge further growth. Developments in food marketing in Indonesia, the eighth-largest foreign market for U.S. agricultural exports, are of interest to U.S. agriculture, which supplies both consumer-ready food products and feed inputs to animal-based foods in Indonesia.

Background

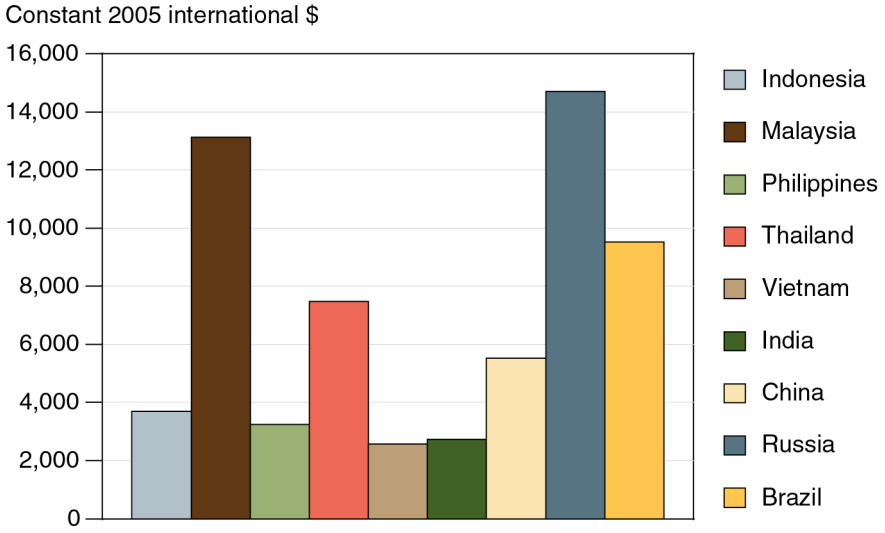
Indonesia is sometimes grouped with the BRIC nations (Brazil, Russia, India, China) because of its large size (in population, area, and economic output) and because it is regarded as a fast-growing economy that will play an increasingly important global role in the future. In income per person, Indonesia lies between India and China when compared to the BRICs, and its population exceeds that of Brazil and Russia (fig. 1). Indonesia is the largest country and the largest economy in the Association of Southeast Asian Nations (ASEAN), a bloc of 10 countries with a global reputation for economic dynamism.

Indonesia is a vast tropical archipelago, but about half of its population is packed densely onto Java (fig. 2). Historically, Indonesia's economy has relied on agriculture, including small-scale rice farming, large-scale plantations (rubber, palm oil, etc.), and fishing. In recent decades, new industries extracting fuel sources (oil, natural gas, and coal) and manufacturing products such as textiles and computer components have driven economic growth and contributed new job opportunities, increasing average incomes.

Industrialization, increased trade, and income growth have helped bring Indonesians to the cities. The rural population has been shrinking gradually since 1994.[1] In 2007, the estimated share of urban residents in the total population exceeded 50 percent for the first time (World Bank, 2010). Household income has also been growing: in 2007, one-third of Indonesia's 60 million households had incomes above $5,000, up from fewer than 3 million households in 2000 (Euromonitor, 2009). Between 2000 and 2007, the proportion of households with disposable income under US$2,500 declined from two-thirds of the population to one quarter (Euromonitor, 2009). Women's labor force participation has shown little change in the last two decades (fig. 3).

[1]All years cited in the report are calendar years, January-December.

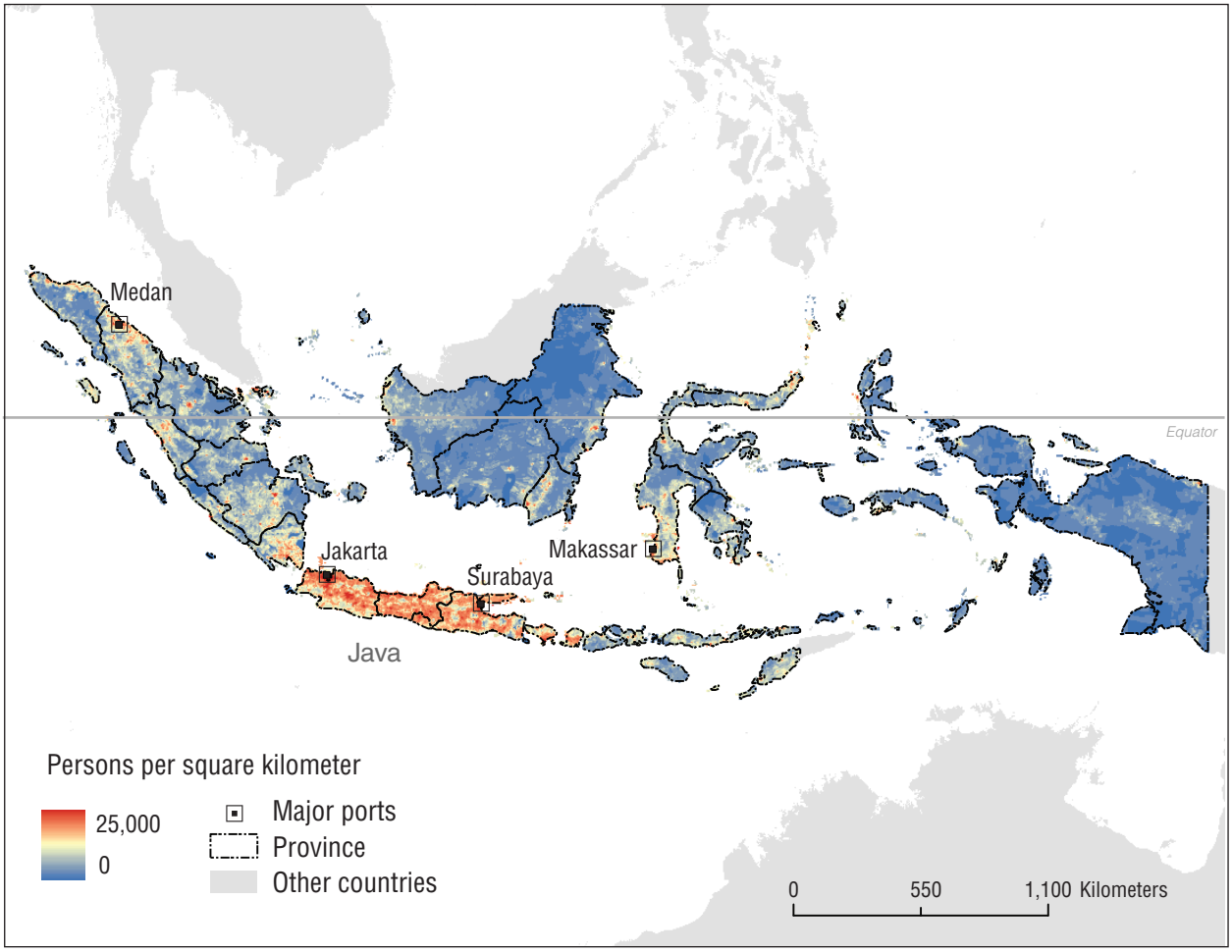
Figure 1
GDP/person, at purchasing power parity, 2008



Note: GDP = gross domestic product.

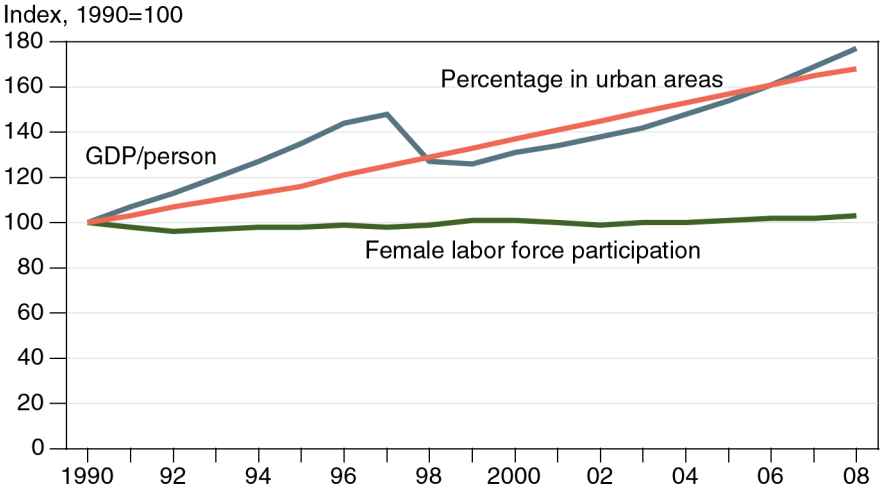
Source: USDA, Economic Research Service calculations using World Bank data.

Figure 2
Indonesia population density, 2005



Sources: Badan Pusat Statistik (BPS-Statistics Indonesia); Center for International Earth Science Information Network (CIESIN), Columbia University, New York, NY.

Figure 3
Socioeconomic indicators, Indonesia



GDP = gross domestic product.

Source: USDA, Economic Research Service calculations using data from World Bank, World Development Indicators, 2010.

Despite economic growth, income is unevenly distributed between middle and upper classes living in Jakarta and other cities and a large population in urban and rural areas that has substantially less household income. Food expenditures still consume half of average household budgets.

Indonesia's agricultural imports grew quickly in 2007 to 2010, more than recovering from the setback they suffered in the Asian financial crisis of 1997-98. Growth was most pronounced in the categories of packaged foods, dairy and meat products, beverages, fruits and vegetables, and food processing inputs. Most of these categories are sold directly to consumers, or lightly processed or reconstituted for retail sale. Thus, they are linked to Indonesia's food retail structure and the changes that it is experiencing. The U.S. share of these import categories is lower than its share of Indonesia's agricultural imports in general. Increasing this share will involve the Indonesian retail sector. In addition, other imports from the United States are determined indirectly by retail food sales, because they are crucial ingredients in bakery products (wheat) or meat production (soymeal). Understanding dietary and retail food changes in Indonesia is important for U.S. exporters interested in the Indonesian market.

Indonesia's Agricultural Trade

Indonesia imports products that serve as inputs to industry (e.g., cotton for textile production), as well as food and animal-feed products. Over half of Indonesia's import value is in commodities, such as cotton, wheat, soybeans, soymeal, corn, and rice, which are often shipped in bulk and often require further processing in Indonesia.[2] In figure 4, these commodities are represented by the categories:

- traditional food (soybeans and rice)
- nonfood products (chiefly cotton)
- feed and live animals (soymeal, corn, and feeder cattle)
- wheat and sugar

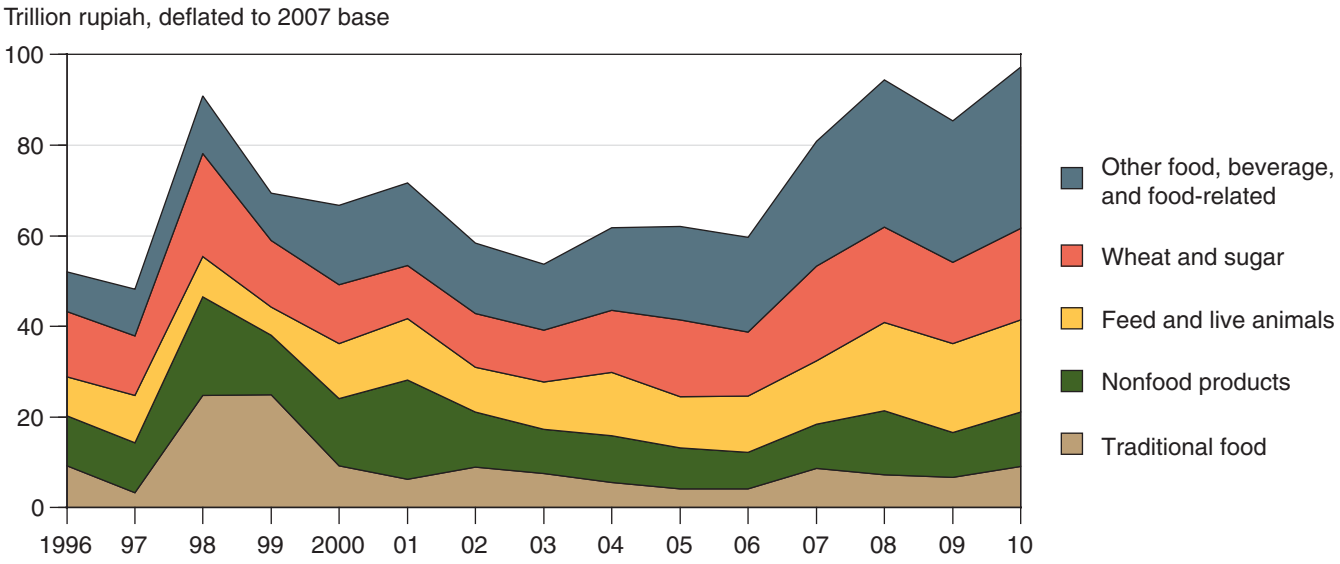
However, a growing share of imports ("other food, beverage, and food-related" in figure 4) consists of a diverse set of imports that are generally higher valued per kilogram and include:

- packaged foods
- dairy and meat products
- beverages
- fresh and frozen fruits and vegetables
- raw ingredients and other inputs to food processing (e.g., textured soy protein)

As Indonesia's food system continues to evolve, a larger modern food retail sector and changing consumer tastes and preferences are likely to increase the market for the higher value foods, beverages, and food processing inputs. Some of this market increase will be supplied by imports. In particular, improvements to the cold chain store system, often implemented by the modern food

[2]Indonesia has no soybean crushing industry. All soybeans are for food uses, with most processed for tofu and tempe.

Figure 4
Indonesia's agricultural imports



Source: USDA, Economic Research Service calculations using official Indonesian trade data in Global Trade Information Services, World Trade Atlas.

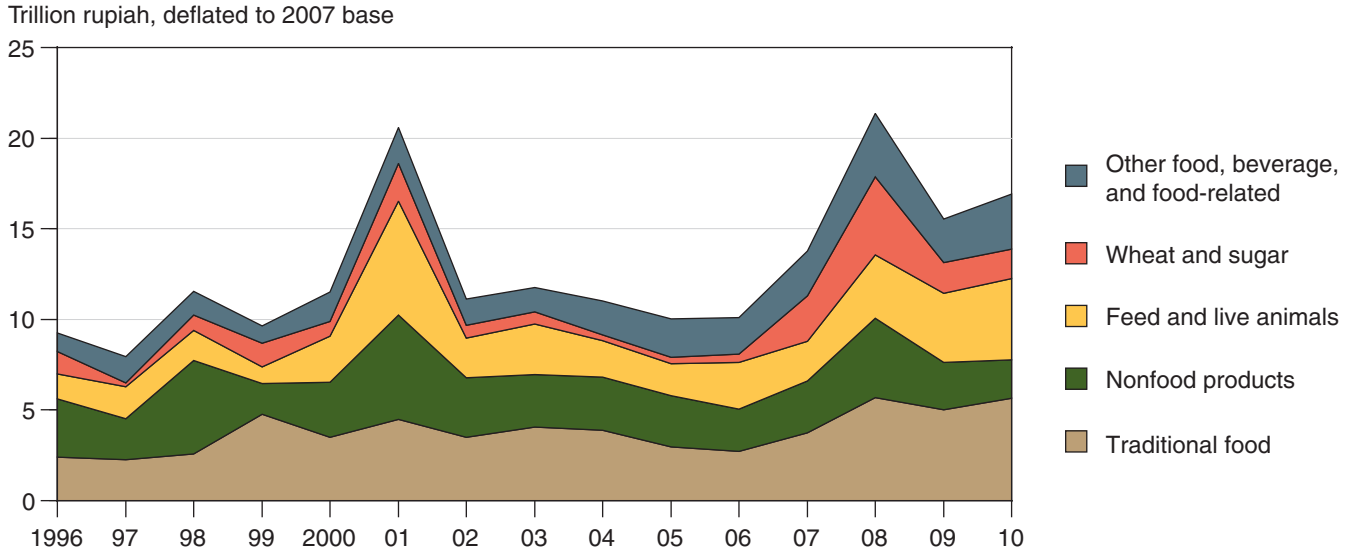
retail companies, would enable wider sales of chilled and frozen meat and dairy products. While much of dairy product consumption needs will continue to be met by imports, chilled/frozen meat demand is supplied both by imports and by domestic production. Greater domestic meat production (mostly broilers) would require greater imports of feeds like soymeal and corn (Rada and Regmi, 2010). Thus, prospects for imports of the higher valued foods and of feeds are linked to expansion of the cold chain and to the continued modernization of food retailing.

Agricultural Imports From the United States

The United States was Indonesia's largest source of imported agricultural products in 2010, supplying about 20 percent of the total value of agricultural imports. The U.S. trade profile (fig. 5) in Indonesia is different from the total trade profile (see figure 4). Imports of traditional foods (chiefly soybeans) are more important in the U.S. profile, and imports of wheat/sugar and other food, beverage, and food-related products are a smaller share than in the total profile. The U.S. dominance of Indonesia's soybean imports should be considered a long-term strength. Even though soybean food consumption will not grow rapidly in the future, Indonesian soybean production has been declining, and imported soybeans will remain important in traditional foods such as tofu and tempe, and also in newer products like soymilk.

The relatively low U.S. share of the "other food, beverage, and food-related products" trade is to some extent caused by the great geographic distance between Indonesia and the United States, in contrast to nearby Australia and the ASEAN countries. Transport costs from the United States are higher than from the competing sources. Another major factor is Indonesia's barriers to U.S. meat exports. Because of the size of its animal production, the United States can ship almost any meat cut or part in volume. For meat

Figure 5
Indonesia's agricultural imports from the United States



Source: USDA, Economic Research Service calculations using official Indonesian trade data in Global Trade Information Services, World Trade Atlas.

cuts/parts that are lower priced in the U.S. market than in foreign markets, this creates the opportunity for large-scale trade. For instance, many Asian consumers prefer dark meat from broilers, while U.S. consumers prefer white meat. Thus, broiler leg quarters can receive a higher return in Asian markets, including Indonesia, than they can in U.S. markets. However, no import permits were granted for U.S. broiler meat imports in 2010 and 2011.[3] Relaxation of Indonesia's current barrier to broiler meat imports could open the door to large imports from the United States, provided that the capacity to store, distribute, and retail frozen poultry meat exists in Indonesia. Expansion of such a cold chain system in Indonesia depends in part on the growth of the modern retail food sector.

[3]Indonesia has imported minor quantities of U.S. frozen turkey meat in recent years (Global Trade Information Services, 2011).

Changing Dietary Patterns

Regmi et al. (2008) presented evidence that food consumption patterns around the globe were moving toward more meats, dairy products, sugar, and caffeinated beverages. Indonesian dietary data reveal the same tendency to converge, but from a base that is quite different from North American, Chinese, or European dietary patterns. Indonesia's traditional diet is based on rice. Protein is provided by soybeans, fish, and eggs, rather than meat and dairy products. Most of the fat in the traditional diet is provided by vegetable oil. Fresh vegetables are an integral part of the diet, and fruits are added as seasonally available.

In recent decades, Indonesia's food-grain consumption has been declining on a per-person basis. Increased wheat consumption has not made up for declining consumption of rice and white corn. Per-person food consumption of cassava and other tubers has also fallen. As starch-based calories have declined, meat, dairy, and egg consumption has grown strongly (Rada and Regmi, 2010). The prepared food and miscellaneous food categories have also grown very quickly; much of this consists of packaged foods. Both the decline in starch consumption and increase in packaged food consumption are consistent with global trends. Growth in consumption of fish, vegetables, fruits, and oils has been modest, and total caloric intake per person has shown little growth (table 1). Indonesia's level of animal product consump-

Table 1

Indonesia: Calories consumed per person, per day

	1999	2002	2003	2004	2005	2006	2007	2008	2009	2010
	Index: Level in 1999 = 100									
Commodity										
Decreasing, 2010 compared to 1999										
Tubers	100	91	92	110	92	84	86	87	66	61
Cereals	100	98	97	96	95	93	89	91	88	87
Beverages	100	116	112	111	107	100	110	106	98	97
Rising by up to 100 percent										
Spices	100	119	103	106	125	122	116	111	101	104
Legumes	100	137	122	119	134	123	139	116	107	107
Oil and fats	100	120	117	115	117	114	120	116	111	113
Vegetables	100	116	127	120	120	125	144	141	121	120
Fruits	100	125	131	127	122	113	150	147	119	125
Fish	100	118	130	125	132	124	130	132	121	126
Prepared food	100	116	124	128	136	127	144	170	163	160
More than doubling										
Meat	100	174	208	198	207	156	209	192	178	205
Miscellaneous food items	100	145	138	140	184	167	247	233	204	206
Eggs and milk	100	162	155	166	193	178	234	220	212	230
Total kilocalories per day	100	107	108	107	109	104	109	110	104	104

Note: Original data in kilocalories/person/day are divided by the 1999 level and multiplied by 100 to form an index.

Source: USDA, Economic Research Service calculations using data from Badan Pusat Statistik (BPS-Statistics Indonesia).

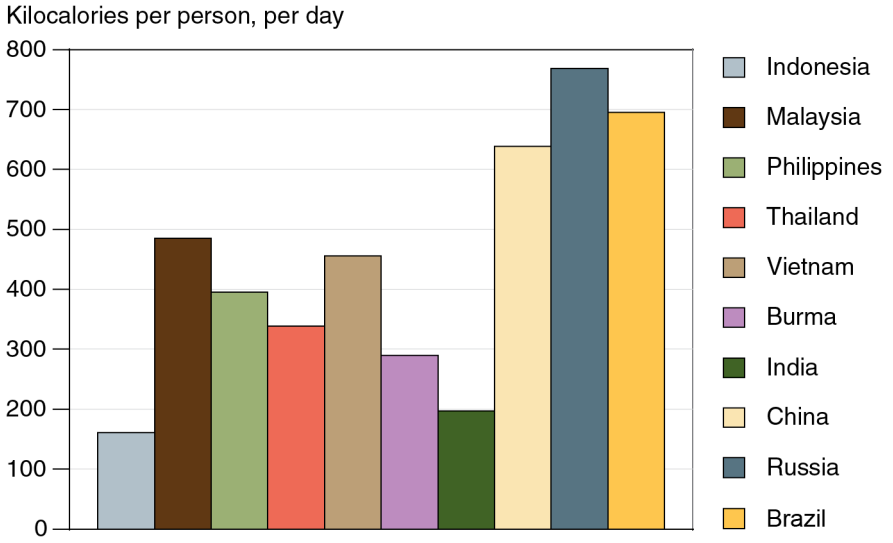
tion (meat, fish, dairy, eggs, etc.) per person is quite low when compared to other rapidly developing countries. Animal product consumption is at the same level as in India, but at a lower level than in the rest of Southeast Asia or in Brazil, Russia, and China (fig. 6).

Consistent with the growth of prepared and miscellaneous categories in the food consumption data, retail sales of packaged food have grown rapidly (table 1). Indonesia's consumers purchase a wide range of packaged foods (figs. 7 & 8). Among the packaged-food market segments, sales of baby food, confectionery, and dairy products have grown the most over the last decade, while sales of packaged noodles and rice have grown more slowly. (Euromonitor, 2009; see Data and Interviews section for more information).

The increase in packaged-food purchases likely responds in part to urban consumers' need for time-saving convenience and desire for variety (Rada and Regmi, 2010). Packaging acts as a partial guarantor of food safety and allows storage for some time.

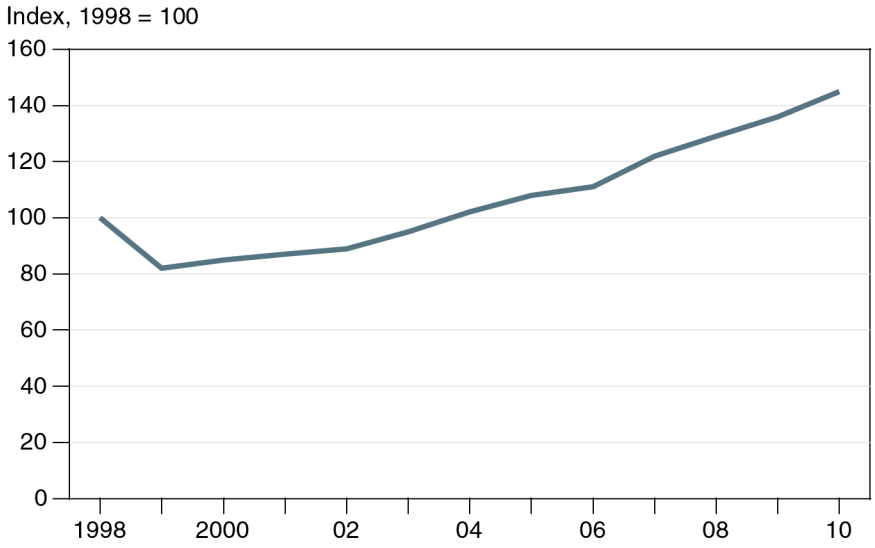
Prepared, but unpackaged, foods are also popular in Indonesia. They are often prepared and sold by street vendors, but modern chains, especially the larger ones, have increasingly offered prepared foods within their stores. As with packaged foods, greater convenience is a likely reason for the growth in sales of prepared foods.

Figure 6
Animal product consumption, 2007



Source: United Nations, Food and Agriculture Organization, FAOSTAT, 2007 (most recent available data).

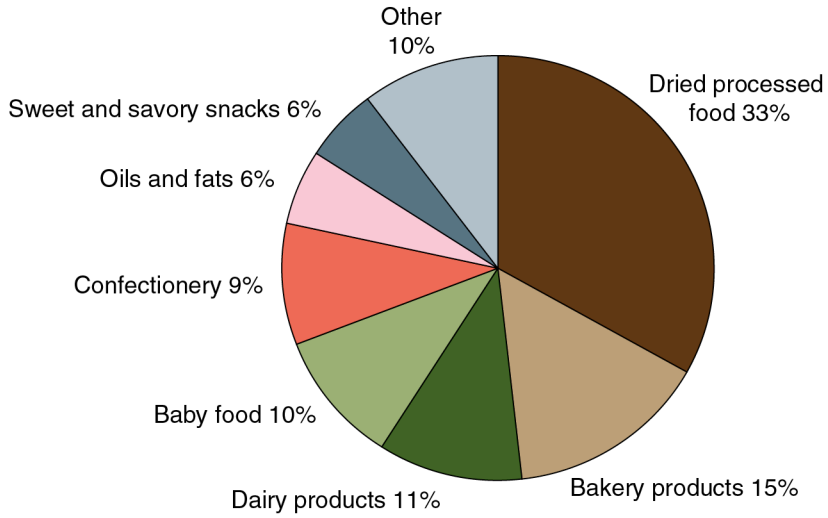
Figure 7
Indonesia packaged food retail sales



Note: Index calculated from data in trillion rupiah, deflated to a 2010 base.

Source: USDA, Economic Research Service calculations using Euromonitor data.

Figure 8
Packaged food sales in Indonesia, 2009



Source: USDA, Economic Research Service calculations using Euromonitor data.

Traditional Food Retailing

Despite the rise of the packaged and prepared foods segment of the food retail market, the traditional Indonesian diet still is the main source of food consumption. Similarly, long-established food systems continue to dominate food retailing, although growth has been mostly in new retail venues. Traditionally, urban food purchases, both ready-to-eat and for in-home preparation, have been made at *pasars* (traditional wet markets), *warungs* (small shops, often stalls), and *kaki limas* (street carts). These outlets carry fresh produce, staple foods such as bulk rice and locally produced packaged foods, and sometimes imported packaged foods. Like U.S. general- and grocery-store shopkeepers in the early 20th century, food vendors in the traditional markets are usually self-employed, focusing on customer service. Consumers—typically repeat customers—may have built longstanding relationships with the food vendors, and rely on these relationships to assure food quality and safety. Sales in traditional outlets are cash and carry, with other individual arrangements, such as credit, sometimes made for long-time customers.[4]

[4]Indonesia interviews (see Data and Interviews section for more information).

Pasars are the largest of the traditional outlets, housing many independent vendors who offer freshly butchered meat, fruits, vegetables, rice, unpackaged snack products, and other items. Pasars are predominantly owned and maintained by municipalities. In such cases, the local Office of Market Management (OMM) appoints a market manager (Suryadarma et al., 2007). The OMM sets an annual market service fee based on an income target for the market. The market manager is held accountable for vendors collectively reaching this income target as measured by service fee collection. In this organizational structure, there is a strong incentive for the manager to focus efforts on fee collection. However, recently, management of a few pasars has been privatized in an effort to increase efficiency.

Warungs and kaki limas are privately owned and have a much smaller selection than pasars, focusing on fruits, vegetables, fish, meat, chicken, and snack products. Warungs are small shops and kaki limas are mobile carts that sell within and around neighborhoods. Owners may lease out warungs and kaki limas and provide small-scale operating capital to individual lessees. Kaki limas historically provide convenience for household servants charged with meal preparation; such servants are common in middle- and upper-class households in Indonesia.

Growth of Modern Food Retailing in Indonesia

The first modern retail formats in Indonesia were supermarkets built in the 1970s. Hypermarkets entered in the late 1990s (see box "Definitions of Retail Formats").

Foreign investment in Indonesia's food retailing also began in the 1990s, and in 1998 Indonesia enacted legislation allowing foreign investors to fully own retail companies (Smith and Dawson; Natawidjaja et al., October 2007). Within the modern retail food sector, the fastest growth in recent years has been among hypermarkets, linked to car use, and minimarkets, or "minimarts," which serve a neighborhood, usually catering to foot traffic, rather than shoppers with cars. Across the three modern formats (hypermarket, supermarket, and minimart/convenience store), sales per outlet fell between 2004 and 2009 (table 2). (For information on supermarkets/1970s, see: Natawidjaja, 2005; Chowdhury et al.; Smith and Dawson; and Suryadarma et al. For information on hypermarkets/1990s, see: Suryadarma et al.; and Natawidjaja et al., October 2007.)

In 1977, there was only one supermarket in Indonesia (Natawidjaja, 2005). In 2009, with 1,300 supermarkets and hypermarkets, and 10,000 minimarts and convenience stores, the modern grocery retail segment was a US$5.6-billion market in terms of retail sales (Euromonitor data, 2009). By 2009, the share of the modern sector (supermarkets, hypermarkets, convenience stores, and minimarts) in total grocery retail sales had reached 11 percent, up from 5 percent in 1999. Within urban areas, modern grocery retailers of various kinds have become quite visible, and are no longer patronized only by upscale households.

However, in a global context, modern-format penetration of Indonesia's food retailing has been rather modest. Although it is difficult to measure food retail sales, and data should be treated with caution, the international market-research firm Euromonitor has made estimates. According to these estimates, the relative importance of modern food outlets is much greater in China, Russia, and Brazil than in Indonesia, and, within ASEAN, Indonesia lags behind the Philippines and is close to the level of Vietnam, a poorer country (fig. 9). (See Tandon et al. (2011b) for a discussion of the status of modern food retailing in Brazil, China, India, and Russia.)

Definitions of Retail Formats

Modern grocery retail formats are primarily categorized by physical size and products offered.

Hypermarkets are chain or independent retail outlets that are larger than 27,000 square feet and primarily focus on selling food, beverages, tobacco, and other groceries. Hypermarkets also sell nongrocery items such as clothing and household goods.

Supermarkets are outlets that are between 4,300 and 27,000 square feet that focus on grocery sales, but may carry a limited amount of nongrocery items.

Convenience stores and minimarts are smaller outlets of less than 4,300 square feet. They carry a variety of staple foods and prepared foods, as well as nonfood items such as newspapers and household goods.

Table 2

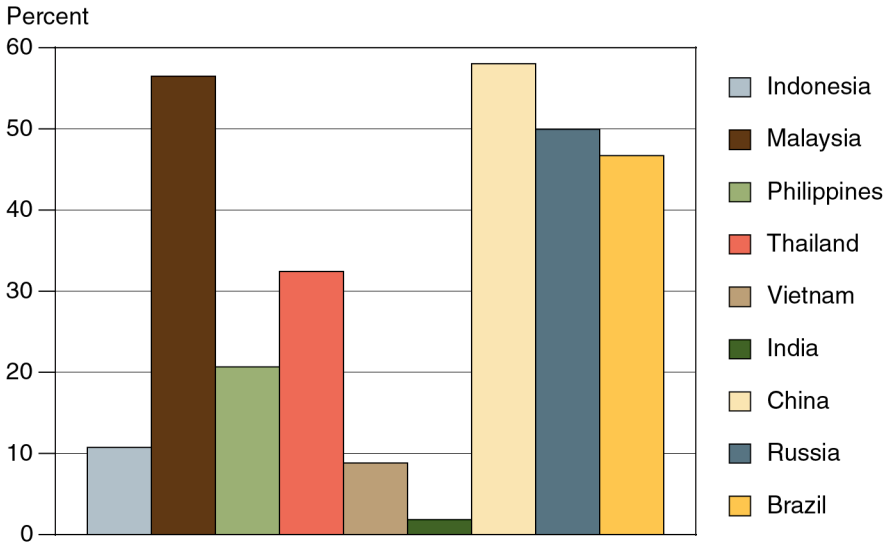
Indonesia's food retail sales

Retail sector	1999		2004		2009	
	Sales	Outlets	Sales	Outlets	Sales	Outlets
	Million US$	*Number*	*Million US$*	*Number*	*Million US$*	*Number*
Total food retail	31,905	2,138,217	46,238	2,353,134	53,049	2,573,573
Modern grocery retail						
Hypermarkets	256	18	940	34	1,897	141
Supermarkets	1,235	636	1,852	695	2,068	1,162
Convenience stores and minimarts	69	522	520	1,435	1,676	10,039
Modern total	1,560	1,176	3,312	2,164	5,640	11,342
Modern share of total sales (percent)	5		7		11	
Traditional grocery retail						
Traditional markets	13,350	88,700	17,173	93,525	16,756	106,038
Warungs/kiosks	16,556	2,045,016	25,200	2,112,050	29,987	2,451,099
Traditional total	29,906	2,133,716	42,374	2,205,575	46,743	2,557,137
Traditional share of total sales (percent)	94		92		88	
Other specialized stores (food sales only)	439	3,325	552	3,475	666	5,094

Source: USDA, Economic Research Service calculations using Euromonitor data.

Figure 9

Modern food retailer shares, 2009



Note: Sum of sales by hypermarkets, supermarkets, and convenience stores, divided by total food retail sales.

Source: USDA, Economic Research Service calculations using Euromonitor data.

Supermarkets were at first primarily one-store businesses owned by Indonesians or Indonesian companies (Natawidjaja, 2005; Chowdhury et al., 2005). Today, chains are important in the supermarket segment. The top two supermarket chains are joint ventures of multinational companies (Delhaize and Dairy Farm) and Indonesian companies, and the third is owned by a large domestic firm (Matahari) (table 3). However, the supermarket segment is still

Table 3

Indonesia market share concentration across modern retail outlets, 2009

Hypermarket			Supermarket			Convenience store		
Brand	Company	Market share	Brand	Company	Market share	Brand	Company	Market share
		Percent			*Percent*			*Percent*
1) Carrefour	Carrefour	54.3	1) Super Indo	Delhaize Group	8.3	1) Alfamart	Sigman-tara Alfindo	40.3
2) Hypermart	Matahari Putra Prima	25.8	2) Giant	Dairy Farm International Holdings Ltd.	6.6	2) Indomaret	Indofood Sukses Makmur	34
3) Giant	Dairy Farm International Holdings Ltd	19.4	3) Foodmart	Matahari Putra Prima	2.7	3) Alfa Midi	Midi Utama Indonesia	4.7
4) Grand Lucky	Lucky Strategies	0.5	4) Macan Yaohan Supermarket	Macan Yaohan Indonesia	1.9	4) Circle K	Alimentation Couche-Tard Inc.	2
			5) Carrefour Express	Carrefour	1	5) Yomart	Yomart	0.8
			5) Hero	Dairy Farm International Holdings Ltd.	1			
Top 5 total market share (CR5*)		100			21.5			81.8

*CR5 is the percentage of market share held by the five largest firms in the sector.

Source: USDA, Economic Research Service calculations using Euromonitor data, 2009.

not highly concentrated, with the top 5 companies holding only a 21-percent market share of supermarket sales.

In the last 10 years, hypermarket and convenience stores, rather than supermarkets, have driven the modern food-retail industry's growth in Indonesia. Overall, hypermarkets had US$1.9 billion in 2009 total sales, double the level in 2004 (see table 2). French-owned Carrefour and Continent opened their first hypermarkets in 1998. Continent's operation was taken over by Carrefour in 2000 (Suryadarma et al., 2007). The Carrefour brand continues to be the leader among hypermarkets, with 54.3 percent of the segment's retail turnover value in 2009. Subsequently, Carrefour announced a sale of 40 percent of its Indonesian business to the Para Group, an Indonesian firm (Carrefour, 2010).

Hypermart, owned by Indonesian investors, and Giant, part-owned by Southeast Asia's Dairy Farm group (headquartered in Hong Kong), follow Carrefour in market share. The U.S. retailer Wal-Mart entered into a franchise agreement with an Indonesian firm that led to the establishment of a hypermart in 1996. The franchise agreement was ended in 1998. Wal-Mart has not returned to Indonesia (*Businessweek*, 1998). Over time, Indonesian capital investment appears to have surpassed foreign investment in the sector.

Romo et al., 2009, note that foreign investment in the Philippine food retail sector was largely absent even after liberalization of investment rules in 2000.

They speculate that lack of "access of retail space by foreign retailers" may be "an important constraint" (p. 41). Philippine income levels and geographic circumstances are similar to those in Indonesia. Reardon et al., 2003, posited that "the supermarket sector in these regions [Africa, Asia, and Latin America] is increasingly and overwhelmingly multinationalized (foreign-owned) and consolidated." Indonesia's situation no longer reflects this.

Since 1999, the minimart/convenience store presence has grown rapidly. In 2009, sales in the modern small-format store market were US$1.7 billion (see table 2). This segment is highly concentrated, dominated by the domestically owned firms Alfamart and Indomaret (see table 3). About the size of a convenience store, the minimart concentrates on a broad selection of food items. From 1999 to 2009, the number of convenience stores and minimarts grew from 522 to 10,039, according to Euromonitor estimates, while sales per outlet fell from $362,000 per year in 2004 to $167,000 in 2009. In smaller formats, it may be easier to blend the traditional and modern stores. Existing traditional or independent merchants have opportunities to transform themselves into managers or franchisees of small, modern-format stores. Some traditional merchants may also be able to invest in refrigeration and air conditioning, updating their stores into independently owned modern formats.

Consumer Motivations for Shopping in Modern Stores

In the cities studied for this project—Jakarta and Bandung (both in western Java)—modern retail food outlets do not necessarily offer the lowest prices for foods, according to industry observers.

This was the consensus expressed by market experts, retail firm representatives, and wholesale suppliers during interviews conducted in Jakarta and Bandung, September 2008 (see "Data and Interviews" section for more information). Further anecdotal evidence is found in Suryadarma et al., 2007. Using detailed surveys conducted in 2006 of various marketing chains, Natawidjaja et al. (June 2007) found that supermarkets sold tomatoes for 4,900-5,200 rupiah per kilogram (kg), while traditional retailers sold tomatoes for 3,100-3,400 rupiah/kg. However, supermarket tomatoes were graded, and traditional ones were not, so that the produce was not strictly comparable. A 2007 study reported on a survey of 1,300 urban housewives, finding that, for packaged foods, equal numbers of housewives expected to find the lowest prices in modern-format stores and in traditional stores. However, for fresh and staple goods (e.g., rice) most housewives expected to find the lowest prices in traditional stores (ACNielsen, 2007). Tandon et al. (2011a, 2011b) examined cross-country Euromonitor data for 103 countries, and their results suggest that consumers' demand for convenience may be a more important driver for modern retail growth than cost-saving efficiencies that lead to lower prices. Monteiro et al. (2012) find that smaller stores charge lower prices than large ones in Brazil.

Modern stores in Indonesia can offer consistent prices that are competitive with the traditional sector, although not necessarily lower. The modern stores can bundle products together with a number of services that the traditional sector usually cannot include. In this way, customers may get more value for their money (Timmer, 2009). In other words, Indonesia's modern retail

formats compete with the traditional sector primarily on services. These services include:

- **Food safety assurance**. Because of refrigeration throughout their supply chain, modern outlets can protect perishable foods from deterioration better than the unintegrated supply chains of the traditional sector. Take-away foods are likely to be kept at a constant temperature and in a sanitary, brightly lit setting in the modern outlets, in contrast to some traditional outlets. Additionally, modern integrated supply chains facilitate traceability by reducing the number of times the product is bought and sold and by requiring documentation of those transactions and products' origins. This practice likely discourages suppliers from slipping unsafe food into such chains. Receipt in hand, shoppers at modern outlets are able to show where a food was bought, perhaps providing an incentive to the retailers to give greater attention to food safety. In a survey for the World Bank, the most frequent disadvantage of shopping in traditional outlets cited by Indonesian housewives was that shops were dirty (ACNielsen, 2007).
- **Convenience.** Large, modern-format stores offer more hours of operation than do traditional outlets, especially the pasars. In addition, the modern stores offer secure, free customer parking for cars and motorbikes, and the option of using credit cards; such services save urban, middle-class shoppers time. Hypermarts in Jakarta and Bandung are surrounded by large parking areas and lanes for cars to pick up shoppers and their purchases. Shopping with a car and shopping in the larger modern outlets are phenomena that mutually strengthen each other. The rise of car ownership in the urban middle class enables large-scale food purchases that can take place once a week, replacing frequent, even daily shopping trips on foot to a traditional or smaller modern outlet.[5]
- **Information.** In modern stores, all items are labeled with fixed prices, and shoppers themselves select the food items. In traditional markets, vendors sometimes select the item to be purchased, and price bargaining is common. Modern chain advertising provides information on sale prices and product variety (Rangkuti and Slette, 2010).
- **Variety.** While a large traditional outlet, such as a pasar, offers a large variety of products, large modern outlets can match or surpass this variety, while also offering the convenience of buying from only one vendor. Modern chains may have particular strength in maximizing variety because of their national and international linkages, which provide them with information about and access to items previously unfamiliar in the marketplace. Since modern outlets use scanner technology, it is also likely that modern outlets can more easily track sales to match variety with demand (ACNielsen, 2007; Timmer, 2009; Rangkuti and Slette, 2010).
- **Comfort**. An enclosed environment and air conditioning are important attributes in Indonesia's moist, warm climate (ACNielsen, 2007). Modern outlets also provide security precautions, which, together with lighting and less crowded passageways, add to customers' feeling of comfort (Rangkuti and Slette, 2010).

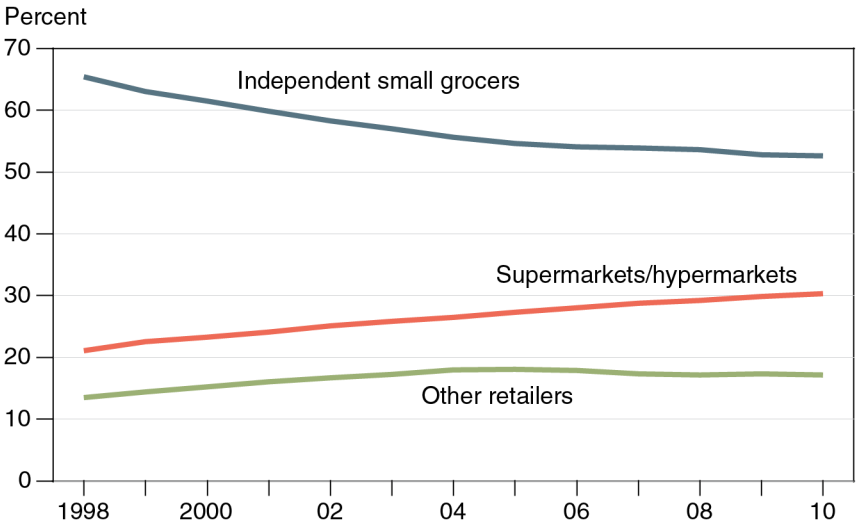
[5]Euromonitor reports over 7 percent (i.e., about 5 million) of Indonesian households owned a car in 2010. "Convenience is cited as the most important factor in determining shopping place" according to survey results (ACNielsen, 2007, p. ix).

Differences Between Modern and Traditional Retail Formats

The amenities provided by the modern format stores come at a cost, and some costs associated with the larger modern formats are lower for the traditional sector. Real estate in major urban centers is often very expensive (Natawidjaja et al., June 2007). Businesses occupying prime locations must generate rents that pay for the owners' land investments. In contrast, rents for traditional outlets are much lower. The spacious, clean, air-conditioned buildings housing the supermarkets and hypermarkets, and the parking associated with them, are costly to construct and maintain. Smaller modern-format stores (convenience stores and minimarts) have more modest land rents, lower construction costs, and less need for parking. However, they still require refrigeration and good lighting, which depend on a constant electric supply. This need is a constraint in Indonesia, where the demands on the electric system often overwhelm supply (Pekerti and Slette, 2010). A uniformed, educated staff of hired employees, even in the convenience stores and minimarts, also may be more expensive than the labor hired in the traditional formats. Thus, a number of extra costs facing modern food stores are lower or nonexistent for traditional stores. These costs must be covered by cost-saving efficiencies in other parts of the modern operations, or by higher prices to consumers.

Modern food retail establishments have advantages over traditional establishments in selling the food categories that have shown strong consumption growth in recent years (such as packaged goods and dairy and meat products). Few traditional-format stores can stock the variety of prepared foods and packaged foods and beverages that a supermarket or hypermarket can. Modern chains may also have advantages in accessing supplies of these products, whether from foreign or domestic sources. Modern food stores provide an increasing share of the packaged foods sold in Indonesia (fig. 10).[6]

Figure 10
Packaged food share in Indonesia, by retail channel



Source: USDA, Economic Research Service calculations using Euromonitor data.

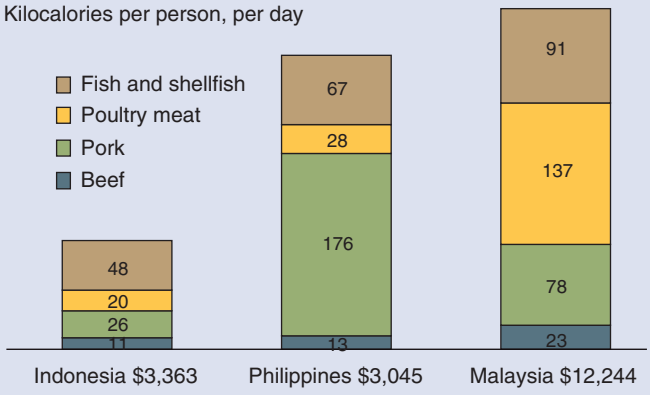
[6]A 2007 World Bank study, using Nielsen data, also reported a high share of packaged food spending taking place in the modern format stores: 29 percent (World Bank, Jakarta, July 2007).

Refrigeration is available in all modern formats, but it can be unavailable or unreliable in traditional formats. Refrigeration allows longer shelf life and greater food safety for fresh, chilled, and frozen meats; dairy products; and eggs. Modern retail markets generally are more consistent than traditional markets in keeping raw meats and vegetables separate to avoid bacterial contamination. In traditional markets, slaughtering may occur onsite close to retail offerings (see box, "Indonesia Poultry Meat: How Retail Structure Can Affect Food Consumption") (Indonesia interviews).

Indonesia Poultry Meat: How Retail Structure Can Affect Food Consumption

Traditional sources of protein in Indonesia have been soy foods (tofu, tempe) and fish. The country's large Muslim population shuns pork (although non-Muslim minorities raise pigs and eat pork). Indonesians enjoy beef, but consume more poultry meat than beef. As in the rest of Asia, traditional chickens, often raised on a small scale in back yards, then sold alive or freshly killed to consumers, are the preferred poultry meat. However, modern broiler production can provide chilled and frozen whole broilers and cuts at prices below those of traditional chickens. Indonesia has several large broiler integrators that provide feed and chicks to farmers, and then process and market the broiler meat, some owned by investors from Thailand and Taiwan (Rangkuti, 2003). Demand for broilers and broiler parts produced and marketed through modern production and sales channels is expected to grow with rising income and increased urbanization. However, Indonesia's poultry meat consumption per person is among the lowest in Asia, and meat consumption in general is much lower than in the country's closest neighbors, Malaysia and the Philippines. Philippine consumers, with income per person comparable to that in Indonesia, buy more meat than Indonesians do. Consumers in Southeast Asia's other Muslim-majority country, Malaysia, purchase much more meat (chiefly poultry meat) than Indonesians.

Meat and fish food supply in Indonesia and its neighbors; average for 2005-07



Dollar values = average gross domestic product (GDP) per person, in 2005 U.S. dollars, at purchasing power parity.

Source: USDA, Economic Research Service calculations using food supply data from United Nations, Food and Agriculture Organization, FAOSTAT.

The difficulties of delivering chilled or frozen broiler meat to consumers appear to be a major constraint to higher consumption. Lack of a cold chain from production site to the household is likely to continue to be a major factor in limiting purchases. Indonesia has serious deficiencies in its transport grid, which makes travel by truck slow, and in its electrical grid, which makes cold storage at all points in the supply chain either uncertain, expensive (if using gas generators), or both (Perry, 2004; Rangkuti and Slette, 2011).

Modern retail chains can help resolve cold chain issues in their stores and in the distribution centers that supply the stores. The retail chains, together with the large integrators, are well-positioned to solve the linkage problems between rural broiler production and urban consumers. These large firms can use generators to back up electric supply and can plan how to deliver and store large shipments most efficiently. But the deficient road network and inadequate refrigeration in urban households remain major problems.[1] Even more difficult is creating efficient means of access to the country's large rural population, which may have the income to purchase broilers but not the opportunity. Nevertheless, the main way in which Indonesian meat consumption will grow is likely to be through chilled and frozen broiler sales in the modern retail stores.

[1]Rangkuti and Slette, 2011, report that only 33.7 percent of urban households and 8.1 percent of rural households had a refrigerator in 2005.

Development of Modern Food Supply Chains

Food has long moved from Indonesian farms to urban consumers via diverse and sometimes intricate routes that involve rural middlemen, wholesale markets, and traditional urban merchants. This supply network remains very important, especially to the traditional retail sector (see, for example, Natawidjaja et al., June 2007). However, largely because of the rise of modern retail firms, other systems have been developed that simplify the supply chain. Modern chains have established corporate distribution centers, where food arrives from the countryside or from food manufacturers to be readied for distribution to the chain's retail outlets (Natawidjaja et al., June 2007). When necessary, the supply chains of the modern firms provide refrigeration from the farmgate through the retail store. Although the distribution centers (and individual modern stores) sometimes purchase from wholesale markets or from traditional traders, they focus on building efficient, simple links to farmers. Supply contracts with wholesale firms, farmer groups, or even individual farmers spell out agreements on pricing and specify delivery details and quality standards. This is especially common for vegetables and fruits (Natawidjaja et al., June 2007).

Chowdhury et al. (2005) found that vegetable farmers received a lower share of the retail value of vegetables in the modern supply chain than in the traditional supply chain. However, absolute prices that farmers received for the vegetables were higher in the modern chain, possibly because of higher quality of the produce being traded (Chowdhury et al., 2005). A World Bank study found that farmers participating in a modern supply chain obtained a higher profit on their produce than those in traditional chains, but also found evidence that the share of retail value captured by farmers could be lower in modern channels (Natawidjaja et al., June 2007).

The large-scale wholesale cash-and-carry store has also emerged in Indonesia, as elsewhere, as a bridge between small, traditional retailers and a modern, efficient supply chain from domestic and international sources. The Makro chain developed large centers in which merchants could shop in a modern environment for supplies to resell in their retail stores and restaurants. Makro (now Lotte) has its own distribution center and contracts with suppliers, but differs from other modern formats by serving as a wholesaler, rather than a retailer (Natawidjaja et al., June 2007).

Food manufacturers in Indonesia sell both to modern and traditional sectors. Frozen foods and food products requiring refrigeration, such as some dairy products, are easy to place in modern outlets, but often cannot be sold in traditional markets. The expansion of the modern outlets thus has expanded the sales potential of products needing a cold chain. As in the rest of the world, modern retail chains in Indonesia have been increasing their offerings of own-label (private label) manufactured foods (Euromonitor, 2009). These own-label products are only available in the modern chains, in contrast to the brands produced by food manufacturers for the general market.

In addition to domestic farm and food processing output, Indonesia's food retailers purchase imported agricultural products. Imports of all foods (not just higher valued items) have grown in value, but not as a proportion of food spending. According to Euromonitor and Global Trade Information Service

data, food import value as a share of consumer expenditures on food from 1996-2009 has stayed between 3 and 6 percent, exhibiting a slight upward trend since 2000.[7]

Indonesia, with its large internal market and geographic isolation from some major food-exporting regions, may be an advantageous site for domestic production of goods that substitute for imports. Regmi and Gehlhar, 2005, suggest that "a global market may only exist for limited food products" and that "growth in food trade may not keep pace with growth in global food demand." The existence of local preferences, the cost savings that can sometimes be achieved from local manufacturing, and the effects of trade barriers are among the reasons they cite. All may apply to the Indonesian case.

Nevertheless, imports of higher valued foods (chiefly meats, fish, dairy products, vegetables, fruits, oils, and highly processed foods [i.e., chapters 2, 3, 4, 7, 8, 15, and 21 of the Harmonized System]) grew by 150 percent in value in the last decade, adjusted for inflation (table 4).

Highly processed food imports have increased relatively quickly, quadrupling in real value since 1996 (highly processed foods are defined as products in chapter 21 of the Harmonized System). Some of the highly processed food imports are packaged foods, which is consistent with the growth in packaged food sales in Indonesia. The growth suggests that Indonesia's urban population increasingly seeks a greater variety of convenient food sources. The international market offers varieties not produced domestically.

Indonesia's climate makes production of fruits normally grown in temperate areas difficult (e.g., apples and pears). Dairy and meat production is not adequate, even for the low level of demand. Therefore, Indonesia imports large quantities of such products. There are also large imports of some unprocessed foods that compete on price with domestic production (e.g., onions and garlic). In part, this is because internal transport in Indonesia is often

Table 4
Indonesia's high-value food product imports: growth in average value, 2008-10 compared to 1998-2000

	From World	From United States
	Percent growth	
Vegetables	94	33
Other	111	77
Dairy	128	634
Fruits	253	48
Meat	273	-18
Highly processed	362	339
Total, high-value	157	154

Note: Gain, 2008-10 over 1998-2000, divided by 1998-2000 value. All values deflated to 2007 rupiah levels.

Source: USDA, Economic Research Service calculations based on Government of Indonesia, official import data (Global Trade Information Services) and International Monetary Fund, World Economic Outlook Database consumer price indexes.

[7]Food imports were defined as HS chapters 2-21, less chapters 3 and 5, and not including agriculturally derived nonfood products such as waxes. (The Harmonized System (HS) is an international product nomenclature developed by the intergovernmental World Customs Organization. The HS comprises about 5,000 commodity groups, each identified by a 6-digit code.)

slow, and sometimes perishable foods can be obtained more cheaply through imports than domestically (Natawidjaja et al., June 2007).

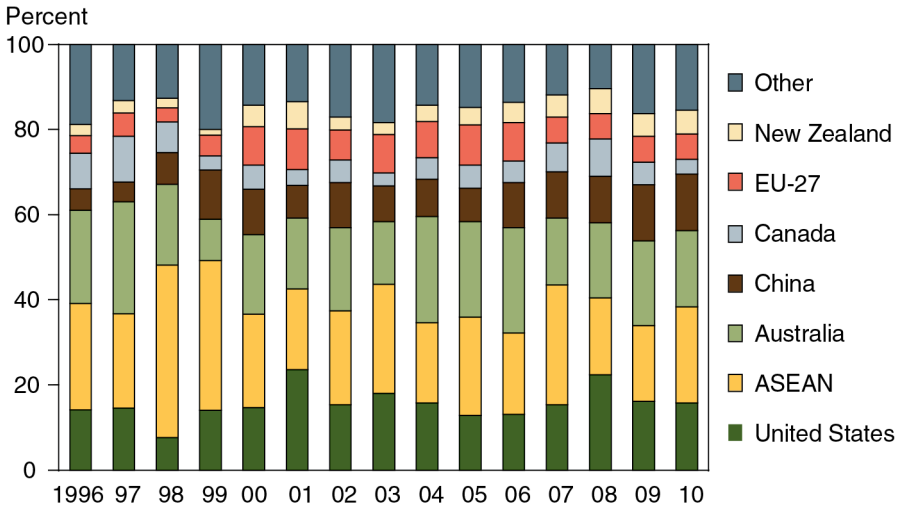
A modern food retail chain has an interest in exploiting global supplies of foods unavailable in Indonesia or lower priced than domestic production, and has the advantage of being able to place large orders, which can often be filled at a lower per-unit price. Traditional food merchants are at a disadvantage when dealing with global markets. They have less experience in finding foreign supplies and less ability to place large orders.

Food imports have grown from all major sources, with the shares of the largest exporting countries showing no significant trend since 2000 (fig. 11).[8] The EU share fell despite this being a period when the French-based firm Carrefour dominated hypermarket retailing, the Belgian-based Delhaize firm owned a large stake in the largest operator of supermarkets, and the German-owned firm, Makro, was the dominant cash-and-carry firm (Smith and Dawson, 2004). Ownership of the modern retail chains does not appear to have translated into an increased tendency to source from the home market in this case. Similarly, the share from ASEAN did not rise, despite the activity of the Southeast Asia-oriented Dairy Farm group in Indonesia.

Food imports from the United States grew over the last 15 years, but not faster than from other sources. Imports of U.S. meats have been hurt by Indonesia's de facto ban on imports of frozen chicken legs and leg quarters, so that imports actually declined between 1998-2000 and 2008-10 (table 4). Imports require import permits from the Ministry of Trade, which were not issued for chicken meat in 2010 and 2011 (USDA/FAS, 2011; GTIS, 2011). Imports of U.S. poultry meat peaked in 2000, at over 12,000 tons (GTIS, 2011). Imports of U.S. vegetables and fruits grew relatively slowly, as Indonesia increasingly imported these commodities from China. However,

[8]There have been important changes within more narrowly defined import groups. For instance, the U.S. share of Indonesia's concentrated milk imports (HS 0402) grew from 6 percent in 1998-2000 to 21 percent in 2008-10.

Figure 11
Share of Indonesia's market for imported foods



NZ = New Zealand; ASEAN = Association of Southeast Asian Nations.

Note: Food imports defined in Harmonized System chapters 2-4, 7-13. and 15-21, less feedgrains (corn and sorghum) and certain inedible products.

Source: USDA, Economic Research Service calculations, using Indonesia's trade data from the World Trade Atlas (Global Trade Inforamtion Services).

imports of U.S. dairy products soared, exceeding import growth from traditional suppliers in Oceania and Europe—a phenomenon observed throughout Asia as high world prices made U.S. exports competitive. In the market for highly processed foods, the United States almost held its share as imports in general quadrupled.

Regional trade agreements involving Indonesia and the rest of ASEAN, China, Australia, New Zealand, and India have lowered tariff barriers to imports from those areas while leaving barriers intact for the remaining major competitors, the United States and the EU. ASEAN, China, and Oceania have obvious advantages in shipping to Indonesia in a more timely way than can U.S. exporters. On the other hand, U.S. advantages include the strength of its branded products in the eyes of consumers and the vast size and diversity of U.S. food production. Despite the distance separating the United States from Indonesia, modern Indonesian food retail firms can benefit from accessing U.S. products, especially processed and packaged foods and meats. However, several difficulties constrain such access.

Constraints on Future Growth of Modern Food Retailing

Modern food retail sales are likely to continue to grow in Indonesia, and could one day dominate the urban markets. However, constraints are apparent that may slow the future pace of growth. Weak infrastructure—especially in transportation and power supply—and traffic congestion are major constraints (Smith and Dawson, 2004). Other challenges to growth in the modern retail sector center are political and institutional reactions to the modern retail supply chain and to the competition that modern retail brings to traditional markets and that food imports bring to domestic production.

Efforts to boost efficiency and cut costs in modern supply chains have met some resistance from suppliers. Wholesalers have protested when their role has been supplanted by distribution centers and the purchasing networks of the modern chains, or when they have been instructed to cut prices in return for continued business from the chains (*Jakarta Post*, April 9 and 13, 2005; *Jakarta Globe*, 2009; Suryadarma et al., 2007).

Suppliers to the modern firms usually are not paid immediately for their sales but required to wait, often up to 20 days, for payment (Indonesia interviews; Natawidjaja (2005) writes of a 10-20 day wait). Opposition from such groups to increased buying power of modern retailers and to efforts to streamline the marketing chain is likely felt both at the commercial and the political level, and can hurt the image of the modern chains.

The *Jakarta Post* quoted Haniwar Syarif, executive director of the National Meat Processor Association as saying: "Aside from listing fees and promotion discounts, some retailers have added new product support to the trading terms … It's a mandatory cost every time we introduce a new product … Some of my members have complained they're paying rupiah (Rp) 10 million for trading term costs, up from the Rp 3 million they were paying last year." The *Jakarta Post* further quoted, "Susanto, president of the Indonesian Modern Retailers Suppliers Association, said Carrefour, which bought local retail chain Alfa Mart last year, for example, had been charging Alfa's existing suppliers a "grand-opening" fee every time they placed their goods in a new Alfa store." Further, the *Post* cited Gunaryo, the Trade Ministry's director for market management, as saying these "reports were true" (*Jakarta Post*, 6/24/2008). Subsequently, the Indonesian Government's business Competition Supervisory Commission (KPPU) held hearings on a Commission report that "alleged [Carrefour's] dominant position [was] leading to monopolistic practices and unfair bargaining power vis a vis suppliers" (*Jakarta Post*, 4/14/2009).

Global supply chains may be quick to bring out new products and can have a large scale of operation with low unit costs. However, it can be difficult for Indonesian retail firms to take advantage of global supply chains.[9] Indonesia has often voiced support for free trade in goods, and in the wake of the financial crisis in 1997-98, it removed many formal barriers to trade. Nevertheless, the Government often encourages food self-sufficiency, and agricultural producers and food manufacturers sometimes wish to slow or stop competition from imports. Sofjan Wanandi, chairman of the Indonesian

[9]While the Organization for Economic Cooperation and Development (OECD) characterizes Indonesia's tariffs as low compared to other major developing countries, the OECD scores Indonesia worse than other major developing countries for discriminatory procedures affecting trade and investment (OECD, 2011).

Employers Union, was quoted by the *Jakarta Post*: "The import of agricultural products such as rice…has affected millions of farmers and companies in Indonesia, and we are now facing a disaster because the value of imports is higher than that of exports" (*Jakarta Post*, 10/13/2011). Trade Minister Gita Wirjawan has advocated reduced rice consumption in Indonesia as a way to achieve self-sufficiency (*Jakarta Post*, 12/14/2011). Rusman Heriawan, Deputy Agriculture Minister, spoke of his Government's target to produce a 10-million ton surplus of rice in Indonesia by 2014 (*Jakarta Post*, 12/13/2011).

One of the main requirements confronting foods imported into Indonesia (whether the ultimate retailer is a modern chain or a traditional dealer) is registration with the National Agency for Drug and Food Control (Badan Pengawas Obat dan Makanan, or BPOM). Importing agents and modern retail management characterize this registration as a "long process" that needs to be done in advance of a shipment (Indonesia interviews). Each imported product receives a registration number (ML) from BPOM. For any goods packaged for sale to consumers, a label, in Indonesian, must be attached that displays the ML number as well as information about the product's ingredients, country of origin, and shelf life (Rangkuti, 2009). BPOM registration prior to distribution also applies to domestically processed foods (USDA/FAS, Jakarta, 2011).

Firms exporting to Indonesia cannot register a product with the BPOM; only an importing firm can do so (Ibid). Successful registration is not always achieved, even after the often lengthy BPOM review (Rangkuti, 2009; Rangkuti and Slette, 2011; USDA/FAS Jakarta, 2011). This complicates, or prevents, the ability of multinational firms to bring products into Indonesia efficiently. For example, a multinational food retail company cannot quickly decide to bring in a food procured by that company's global supply chain; before unloading, prior approval and labeling, in Indonesian are needed (Ibid). Because of Indonesia's import labeling procedures, a foreign manufacturer of food products is also limited in its ability to quickly bring in even "globally" labeled and packaged items, designed to satisfy language and regulatory requirements in many countries. If importing company services are retained, transaction costs are added. Importing also entails other costs. Indonesia's tariffs, while relatively low compared to many developing countries, are usually 5 to 10 percent of imported value. All imported goods are charged a 10-percent value-added tax (VAT; this also applies to domestically produced goods). The VAT is applied at port to the landed value of the imported product, including the tariff (Rangkuti, 2008).[10]

In December 2007, Indonesia began to implement the National Single Window (NSW), requiring "all related government institutions to coordinate the process to clear exported and imported goods through an electronic system." Thus, BPOM registration and other regulations would all be included within the NSW framework. The NSW was supposed to link to the ASEAN Single Window in 2009 (Rangkuti, 2008). The NSW is meant to increase transparency and efficiency in trade at the border. However, according to a recent report, this initiative has yet to improve trade efficiency (Rangkuti and Slette, 2011).

[10]For example, if the tariff on an item is 5 percent, then the total levy at the port would be 15.5 percent of the value (5 plus 10 plus .5).

The BPOM has also tightened its control over many imported foods. "In March 2008…BPOM released a regulation that stated all imported processed food, food raw materials, food additives, processing aids, food ingredients, and other must obtain import approval from the head of BPOM for every shipment" (USDA/FAS Jakarta, 2011).

All meat imports require an import permit from Indonesia's Ministry of Trade, which requires an import recommendation approval from Directorate General for Livestock Animal Health Service (DGLAHS) in the Ministry of Agriculture. Under this system, recent imports from the United States have been largely restricted to frozen beef hearts. Foreign meat manufacturing plants must be certified both by the DGLAHS and Islamic authorities. For meat and poultry products, halal precertification is required. Halal certification is a declaration by Islamic authorities that a product has been produced in accordance with Islamic dietary rules.[11] These foods must come "from slaughterhouses that have been approved by Indonesian veterinary and religious authorities" (Rangkuti and Slette, 2011). In addition, the Ministry of Agriculture must also give prior approval to a shipment of imported meat (Ibid). These requirements have severely limited imports of poultry meat cuts into Indonesia (Ibid). Satisfying the import requirements also adds costs.

[11]Indonesia has designated four approved certifiers for poultry meat and six for beef. Rules and institutions for halal certification differ among importing countries. Thus, satisfying Indonesia's requirements does not facilitate entry into other markets.

Recent Indonesian Government decisions appear to put new restrictions on imports of fresh fruits and vegetables. A new regulation of the Ministry of Agriculture, to take effect in March 2012, restricts import of fresh fruits and vegetables to four Indonesian ports, rather than eight as in the past. The only port allowed in Jakarta, the largest city, is the Jakarta airport. Air freight is typically more expensive than freight using refrigerated containers. Other new regulations increase the number of horticultural items that must undergo phytosanitary inspection and the number of diseases that will be monitored, while reducing the number of sites where inspection can occur (Government of Indonesia, 2011). These regulations could reduce current import levels.

While traditional retailers have lost share to the modern chains, they have not experienced an absolute loss of sales because Indonesia's urban food market has grown in size (see table 2). Traditional retailers may not feel much competitive pressure from modern chains. A 2007 study found that traditional retailers ascribed weak sales first to economic conditions (especially high fuel prices) that kept their lower income customers from buying what they had in the past (World Bank, Jakarta, 2007). A second perceived cause of weaker sales was the increasing presence of street vendors around the perimeters of the pasars, where they competed for customers, hindered entry and exit, and took parking places. The rise of the modern retail stores was only the third-most important factor. The World Bank surveyed over 400 traditional traders in a sampling procedure that allowed comparison of traditional markets close to and distant from modern food retail venues. Analysis did not reveal negative effects of proximity to modern stores on the sales and profitability of traditional retailers. The study did find that traditional merchants hired fewer assistants when modern stores were in the vicinity than when they were not (World Bank, Jakarta, 2007; see also Suryadarma et al., 2007).

Nevertheless, concern for the welfare of the traditional merchants and the political influence of merchants may be the reasons for Government regu-

lations that require special procedures for establishing new modern retail venues (Suryadarma et al., 2007). These regulations try to keep new modern stores a certain distance from traditional ones or require that investors in new stores consult with existing traditional storekeepers. In practice, these regulations may not always prevent expansion by the modern chains. New development in the cities changes the market environment and opens opportunities for new sites. Also, increasing traffic congestion may limit new locations more than regulations do—especially for hypermarkets and supermarkets.

In recent years, the modern retail sector has opened many small-format stores (see table 2). This may increase the potential for traditional storekeepers to switch to a modern franchise, or to invest in changing to a modern format independently. Even among the largest modern stores, space is sometimes rented to traditional-style merchants to operate at the margins of the store. Over time, such interchanges may soften the opposition of the traditional sector to new investments by modern chains.

Finally, Government concern about market concentration may also constrain opportunities for modern food retail firms. Indonesia's antitrust agency protested the 2009 purchase by Carrefour, the largest hypermarket operator, of Alfamart, the largest minimart/convenience store chain.[12] Although the Government decree that Carrefour divest itself of the purchase was successfully challenged in the first round of court hearings, Carrefour sold its stake in Alfamart to the Para group, which subsequently announced that it would acquire a large minority stake in Carrefour Indonesia (Carrefour, 2010; Bisnis Indonesia, May 14, 2010).

[12]According to one source, foreign firms are not allowed to invest in stores with less than 400 square meters (Bisnis Indonesia, May 14, 2010).

Prospects and Conclusions

Indonesian food consumption patterns are likely to continue to change as incomes increase. In particular, consumption of animal products, now low compared to some other Asian countries, is likely to grow. Prospects for growth in broiler meat and dairy product consumption are strong if incomes continue to rise. These foods benefit from refrigeration, and large-scale supply chains may be able to offer such products at lower prices. Thus, further consumer shifts to animal products are likely to present an opportunity that modern food retail chains will pursue.

Indonesia's economic growth in the next decade is expected to be about 5 percent per year, adjusted for inflation (USDA/ERS, 2012). Because such growth is likely to spur further urbanization, the population and buying power of urban households will grow faster than the nation as a whole will grow. In this environment, it is likely that modern food retailers will gain additional market share and perhaps also compete effectively for retail sales now made by the traditional sector.

In Indonesia, as elsewhere, food safety concerns may continue to push consumers toward modern stores that promise greater accountability and traceability because they manage their stores and supply chains tightly. As Indonesia's cities grow and lifestyles change, preferences and needs for time-saving convenience are expected to increase. This should bolster convenient shopping venues, preparation of food away from home—in stores as well as in restaurants—and sales of packaged and processed foods and beverages. Together with concerns about food safety, the desire for greater convenience and other amenities is likely to lead to continued modernization of Indonesia's retail food sector in the future.

Global investment does not dominate Indonesia's retail food sector. Indonesia has allowed full foreign ownership of supermarkets and hypermarkets since 1998. So far, this has not sustained a high level of foreign ownership. Only the cash-and-carry stores of the recently arrived Lotte group, from South Korea, remain wholly foreign-owned.[13]

In Indonesia, the modernization of food retailing has not been fully integrated with global food trade. In a very large country like Indonesia, the heavy reliance on domestic sources may be explained in part by the presence of domestic capital resources that can invest in food manufacturing and distribution. Rather than importing goods, it may be most cost-effective to produce them in-country, where large labor supplies and a huge local market both exist. Food imports continue to face slow, uncertain, and costly hurdles at the border. Indonesia's National Single Window for imports may offer the promise of faster, more transparent trade in the future but has not yet streamlined importing. Resistance from traditional retailers, middlemen, and small-scale producers to large-scale, modern retailing and its drive to cut supply chain costs may have slowed the growth of modern retailing, which is a major driver of food imports. Expansion of the modern food retail sector and diminished border barriers may contribute to greater integration with global markets in the future and to increased agricultural imports, if current constraints are eased.

[13] A 2011 news article ("Retailers scramble for piece of Indonesia") speculated that there is renewed interest in foreign investment in Indonesian food retailing (*Nikkei Weekly*, 2011).

Indonesia's large population and strong economic growth make its market important for U.S. goods in the coming decade. In recent years, Indonesia has ranked among the top ten U.S. agricultural markets. U.S. agricultural exports to Indonesia consist in part of bulk commodities, which are indirectly affected by changes in the retail structure. As Indonesia's diet shifts toward animal products (regardless of what kind of store sells the animal products), import demand for feedstuffs will increase, benefitting U.S. corn and soymeal producers.

The United States is also a major producer and exporter of consumer-ready, high-valued agricultural products. If Indonesia allows imports, chicken meat could become a major U.S. export to Indonesia. Recent growth in U.S. dairy exports to Asia suggests that the United States may emerge as a long-term exporter of powdered milk and other dairy products. Indonesia could be a large, growing destination for these exports, if import regulations allow growing access. High-valued product exports will likely benefit from expansion of the modern retail sector, which has sold an increasing share of such goods in Indonesia, and is well-positioned to market greater volumes of existing products and to introduce new products.

However, Indonesia's food retail market has so far proved slower to embrace frozen broiler meat, dairy products, and modern stores than some of the countries with which it is logically compared. Border measures, infrastructure deficiencies, and domestic political concern for the traditional food system make dietary and retailing changes difficult. India also appears to be slower than other developing economies in shifting its diet and retailing to Western norms. India, the world's second-largest country, and Indonesia, the fourth-largest country, may be studied further to see whether they should be regarded as outliers or as examples of a different path in food sector development.

References

ACNielsen. 2007. *Survey of Consumers' Shopping Behavior and Perceptions Toward Modern and Traditional Trade Channels in Indonesia*. Report to the World Bank, Jakarta, Indonesia.

Badan Pusat Statistik (BPS–Statistics Indonesia). Accessed February 2011 at: http://www.bps.go.id/.

Bisnis Indonesia. Various issues. Available at: http://www.bisnis.com/.

Businessweek, February, 25, 1998. Available at: http://www.businessweek.com/bwdaily/dnflash/feb1998/nf80225b.htm/.

Carrefour. April 15, 2010. Available at: http://www.carrefour.com/cdc/group/current-news/carrefour-and-trans-corp-partnership.html/.

Chowdhury, Shyamal, Ashok Gulati, and E. Gumbira-Said. March 2005. *High Value Products, Supermarkets and Vertical Arrangements in Indonesia,* International Food Policy Research Institute, MTID (Markets, Trade, and Institutions Division) Discussion Paper No. 83.

Euromonitor. October 2009. *Consumer Lifestyles in Indonesia* report.

Global Trade Information Services, Inc. 2011. *World Trade Atlas*. Data product.

Government of Indonesia. 2011. Press Release: *Quarantine agency tightens technical requirements for import of agricultural products*.

International Monetary Fund, World Economic Outlook Database. 2011. Available at: http://www.imf.org/external/pubs/ft/weo/2011/02/weodata/index.aspx/.

Jakarta Globe. July 10, 2009.

Jakarta Post, various issues. Available at: http://www.thejakartapost.com/.

Monteiro, Guilherme, Elizabeth Farina, and Rubens Nunes. 2012. "Food-Retail Development and the Myth of Everyday Low Prices: The Case of Brazil," *Development Policy Review*, Vol. 30, Issue 1, pp. 49-66.

Natawidjaja, R., E. Rasmikayati, B. Kharisma, Kusnandar, and D. Purwanto. October 2007. *Restructuring of Agrifood Chains in Indonesia: National and Local Meso Study Report*, International Institute for Environment and Development, Regoverning Markets Agrifood Sector Studies, London.

Natawidjaja, Ronnie, Thomas Reardon, and Shobha Shetty. June 2007. *Horticultural Producers and Supermarket Development in Indonesia*, World Bank Report No. 38543f-ID.

Natawidjaja, Ronnie S. May 2005. *Modern Market Growth and Changing Map of Retail Food Sector in Indonesia*, paper presented at the Pacific

Food System Outlook 9th Annual Forecasters Meeting, May 10-13, 2005, in Kunming, China.

Nikkei Weekly, May 2, 2011, p. 14.

Organisation for Economic Co-operation and Development (OECD), 2011. *Indicators of Product Market Regulation (PMR)*. Available at: http://www.oecd.org/document/36/0,3746,en_2649_37443_35790244_1_1_1_37443,00.html/.

Pekerti, Sativa, and John Slette. March 2010. *Indonesia Hotel, Restaurant and Food Service Sector Update*, USDA, Foreign Agricultural Service, Global Agricultural Information Network Report ID1006.

Perry, Allyson. 2004. *From the Farm to the Table: ACDI/VOCA Strengthens the Cold Chain in Indonesia*, Agricultural Cooperative Development International and Volunteers in Overseas Cooperative Assistance. Available at: http://www.acdivoca.org/site/Lookup/WRFall04-Page7-FarmtoTable/$file/WRFall04-Page7-FarmtoTable.pdf/.

Rada, Nicholas, and Anita Regmi. May 2010. *Trade and Food Security Implications From the Indonesian Agricultural Experience*. USDA, Economic Research Service, WRS-10-01. http://www.ers.usda.gov/publications/WRS1001/WRS1001.pdf

Rangkuti, Fahwani Y. 2003. *Indonesia Poultry and Products, 2003*, USDA, Foreign Agricultural Service, Global Agricultural Information Network Report ID 3018.

Rangkuti, Fahwani. November 2008. *Indonesia Exporter Guide Update, 2008*, USDA, Foreign Agricultural Service, Global Agricultural Information Network Report ID 8032.

Rangkuti, Fahwani. March 2009. *Import Requirement and Procedures for Processed Food*, USDA, Foreign Agricultural Service, Global Agricultural Information Network Report ID 9004.

Rangkuti, Fahwani, and John Slette. January 2010. *Retail Food Sector Report*, USDA, Foreign Agricultural Service, Global Agricultural Information Network Report ID 1001.

Rangkuti, Fahwani, and John Slette. January 2011. *Indonesia Exporter Guide Update*, USDA, Foreign Agricultural Service, Global Agricultural Information Network Report ID 1043.

Reardon, Thomas, C. Peter Timmer, Christopher B. Barrett, and Julio Berdegue. 2003. "The Rise of Supermarkets in Africa, Asia, and Latin America," *American Journal of Agricultural Economics*, Vol. 85, No. 5, pp. 1140-46.

Regmi, Anita, and Mark Gehlhar, editors. February 2005. *New Directions in Global Food Markets*. USDA, Economic Research Service, AIB-794.

Regmi, Anita, Hiroyuki Takeshima, and Laurian Unnevehr. March 2008. *Convergence in Global Food Demand and Delivery*, USDA, Economic Research Service, ERR-56.

Romo, Glory Dee, Larry Digal, and Thomas Reardon. 2009. The Transformation of Food Retail in the Philippines. *Asian Journal of Agricultural Development*. Vol. 6, No. 2, Dec. 2009.

Smith, L., and P. Dawson. 2004. *Food Exporters' Guide to Indonesia.* Australian Government Department of Agriculture, Fisheries and Forestry.

Stewart, Alan D. May 2005. *Indonesia Food Retailing Perspective*, paper presented at the Pacific Food System Outlook Meeting, May 10-13, 2005, in Kunming, China.

Suryadarma, Daniel, Adri Poesoro, Sri Budiyati, Akhmadi, and Meuthia Rosfadhilla. August 2007. *Impact of Supermarkets on Traditional Markets and Retailers in Indonesia's Urban Centers*. Jakarta: SMERU Research Institute.

Tandon, Sharad, Andrea E. Woolverton, and Maurice R. Landes. 2011a. "Analyzing Modern Food Retailing Expansion Drivers in Developing Countries," *Agribusiness*, Vol. 27, Issue 3, pp. 327-43.

Tandon, Sharad, Maurice R. Landes, and Andrea Woolverton. 2011b. *The Expansion of Modern Grocery Retailing and Trade in Developing Countries*, USDA, Economic Research Service, ERR-122.

Timmer, Peter. March 2009. *Supermarkets, Modern Supply Chains, and the Changing Food Policy Agenda,* Center for Global Development, Working Paper Number 162.

Timmer, C. Peter. November 2004. *Food Security in Indonesia: Current Challenges and the Long-Run Outlook*, Center for Global Development, Working Paper Number 48.

United Nations, Food and Agriculture Organization. FAOSTAT. Food Supply domain, accessed March 2011 at: http://faostat.fao.org/default.aspx/.

U.S. Department of Agriculture, Economic Research Service. 2012. Baseline data files, 2012. Available at: http://www.ers.usda.gov/data/macroeconomics/#BaselineMacroTables/.

U.S. Department of Agriculture, Foreign Agricultural Service. December 2011. *Food and Agricultural Import Regulations and Standards–Narrative.* Global Agricultural Information Network Report ID 1150.

World Bank, Jakarta. July 2007. *Impact of Supermarkets on Traditional Markets and Retailers in Indonesia's Urban Centers*.

World Bank. 2010. *World Development Indicators, 2010*. Data product.

Data and Interviews

Euromonitor data

a) "Indonesia Fresh Food." Accessed January 2010.

b) "Indonesia Packaged Food." Accessed February 2011.

c) "Indonesia Country Profile." Accessed January 2010.

d) "Indonesia Income and Expenditure." Accessed February 2011.

The Euromonitor database is assembled by analysis using "National statistics offices; governmental and official sources; national and international trade press; national and international trade associations; industry study groups and other semi-official sources; company financials and annual reports; broker reports; online databases; and the financial, business and mainstream press." Available at: http://www.euromonitor.com/.

Indonesia interviews

Interviews in Jakarta and Bandung (Dyck and Woolverton and FAS researchers Rangkuti and Elisa Wagner), September 2008. Interviews were conducted with three store managers; an official of a modern retail association; officials of a farmers' wholesale cooperative; an official of a wholesale food association; senior officials of three large modern food retail firms; Government officials overseeing food retailing; a food importer; representatives of U.S. exporters; and a university researcher.