

Factors Affecting International Demand And Trade in Organic Food Products

Luanne Lohr¹

Abstract: With increasing presence in supermarkets and a broader base of consumer support among both occasional and regular buyers, organic food markets are expanding worldwide. Taste, freshness, quality, and food safety concerns drive consumer demand for organic foods. Price premiums, the price-quality trade-offs, as well as country of origin, GE content, and other social concerns will likely determine future market expansion.

Introduction

The organic foods market is supported by consumers in nearly every developed country in the world, with International Trade Centre (ITC) data indicating 1997 sales of nearly \$10.5 billion in Europe, the United States, and Japan (ITC 1999). Many of the conclusions previously presented regarding consumer behavior also apply in the organic market. Preferences change in response to income changes (Chapters 1 and 2) and lifestyle decisions (Chapter 3), and are dependent on the age of consumers (Chapter 3). Food safety concerns are also shaping consumer demand (Chapter 7) and spurring interest in organic foods.

Organic foods are distinguished from non-organic foods by the methods used in their production and processing, rather than by observable or testable characteristics. Although there is no single international organic production regulation, all generally accepted organic rules prohibit use of synthetic fertilizers, pesticides, growth regulators, and livestock feed additives, and require long-term soil management, emphasis on animal welfare, and extensive record keeping and planning. Certain activities such as use of genetically modified stock, application of sewage sludge to organic acreage, and food irradiation are also prohibited.

To be **certified organic**, a farm or processing facility must be inspected by a credible third party state or private organization to verify that all requirements of the certifying body are met. **Conventional or non-organic** foods would not meet organic standards, if subjected to certification criteria. Intermediate categories of **eco-labeled** foods, such as certified Integrated Pest Management (IPM) in the United States, Low-Chemical foods in Japan, and some classes of Green Food in China, fall short of the strict requirements of organic certification.

Most studies characterize organic consumers as affluent, well-educated, and concerned about health and product quality (Richter *et al.*, 2000; ITC, 1999; Thompson, 1998; The Hartman Group, 1996; HealthFocus, Inc., 1999; The Packer, 2000a and 2000b, 1998; FAS 2000b). Many are parents of young children or infants. Most regular consumers favor locally grown organic products, when available, in an effort to support local farmers and ensure freshness.

There is some variation in age and gender of purchasers across countries. In the United States, younger aged (18 to 29 years) and middle-aged (40 to 49 years) consumers are more likely to buy organics, but men and women are equally likely to buy organics (Thompson, 1998; Lohr and Semali, 2000). The typical Japanese organic buyer is female and in her 30s or 40s (FAS, 2000b). In the Netherlands, typical purchasers are between 25 and 50 years old and either living alone or in a dual-income household with children (ITC, 1999).

¹Associate professor with the Agricultural and Applied Economics Department, University of Georgia. Research for this paper was supported by Cooperative Agreement 43-3AEK-7-80060 with the ERS-USDA.

This cross-country variation is most likely related to cultural differences regarding household shopping responsibilities as well as respondents' level of commitment to the environment and personal health.

Reasons for purchasing organics are similar across countries. In Europe and the United States, taste, freshness, and quality rank among the top reasons for organic purchases, especially for produce (ITC, 1999; The Packer, 2000 & 1998). The perception that organic foods are healthier is widespread among buyers, even though some countries prohibit advertising that suggests this. Food safety is the top reason driving Japanese interest in organic food, and was listed as the main concern by 80 percent of 1,000 consumers surveyed in 1995 (MAFF, 1996). Secondary factors for Japanese consumers are healthfulness (nutrition) and taste.

Food scares such as mad cow disease, *E. coli* contaminations, and pesticide poisonings, as well as concerns over genetic engineering (GE) in foods, have stimulated interest in organic foods. Until recently, consumer response to such incidents was localized or at most affected a single country. With increased trade, the impact of these events on consumer behavior are more widespread as more sources are utilized for imports.

European retailers have responded by advertising food safety and health aspects of organic foods, with this theme dominating retail messages in 12 countries (Michelsen *et al.*, 1999). Environmental protection is the second most important argument presented by retailers in Europe, although consumers do not consistently select food products according to the environmental impact of the production and processing systems. The ITC (1999) noted inconsistencies in several countries between political views of self-described environmentalists and their shopping habits. Taste and freshness are not important parts of retailer's message in Europe, although consumers rate organics higher in this regard (Michelsen *et al.*, 1999).

Japanese retailers have focused store promotions on food safety issues, touting perceived advantages of organic foods, which corresponds to the greatest concerns of their clientele (FAS, 2000b). Japanese consumers also are very concerned about freshness, which is believed to be linked to the nutritional content and functional value of foods (MAFF, 1996). This is also part of the message that Japanese retailers deliver to promote organic foods. Overall, Japanese

retailers appear to be more attuned to their consumer interests than European retailers.

In the United States, retail managers who demonstrate personal interest in environmental and human health are more likely to offer organics in their stores (Lohr and Semali, 2000). Conflicting data on nutritional, environmental, and human safety qualities of organic foods, coupled with strict truth-in-advertising regulations in the United States, have limited the ability to promote organics on these grounds. Some States even prohibit comparisons that disparage conventional products by suggesting they are inferior in any way to organics. Retailers can educate about production methods, which may be interpreted by consumers as safer, healthier, or better for the environment than conventional production methods.

The current organic market situation in major consuming countries is described in this chapter. Effect on organic food demand of price premiums, price-quality trade-offs, GE content, country of origin, and consumer social goals are explained. Prospects for future market growth in the next decade are also discussed.

Market Status

Worldwide markets for organic foods are expanding, with annual growth rates of 15 to 30 percent in Europe, the United States, and Japan for the past 5 years. Using 1997 sales data and annual growth rates from the ITC (1999), and assuming a linear trend, projected market size in 2010 will be at least \$46 billion in the European Union, \$45 billion in the United States, and \$11 billion in Japan. As many as 20 to 30 percent of consumers surveyed in Europe, North America, and Japan claim to purchase organic foods regularly (Lohr, 1998).

While there is interest in organic foods among higher income, better-educated population segments in nearly every country, consumers in the United States, Europe, and Japan drive demand expansion. The current value of the European organic market is estimated at \$5.255 billion, of which U.S. imports contribute \$200 million to \$300 million, or about 4 to 6 percent (ITC, 1999; FAS, 1999c). The current value of the Japanese organic market is estimated at \$3 billion, of which U.S. imports constitute \$100 million, or about 3 percent (FAS, 2000b).

Few governments keep statistics on sales of organic foods, necessitating reliance on industry estimates collected by the United States Department of Agriculture's (USDA) Foreign Agricultural Service (FAS), the International Trade Centre (ITC, under UNCTAD), and various consultant reports. Estimates of retail value and market shares of organic foods vary considerably depending on the source of information. This lack of consensus is reflected in the data presented in this chapter.

Retail value, market share, import share, and projected market growth rates are typically used to assess a country's organic market. The retail value is the estimated total sales of organics in the country, including both domestically produced and imported foods. The retail share, also referred to as the market share, is the percentage of all food sales composed of organic, again both imported and domestically produced. The import share is the percentage of organic sales that is attributed to imported foods. Market growth is the expected annual percentage change in organic retail sales over the next 5 years. These statistics are related to each other, but are not equivalent measures due to the way they are constructed.

Total retail value indicates the absolute size of the organic market and is the product of price and quantity sold. The retail share is this value divided by the retail value of all food, and suggests how well organic foods sell compared with conventional foods. Import share is the value of imports divided by the total retail value, and is a function of domestic production as well as demand for organics. The annual market growth is a compounding factor over 5 years, based on each previous year's retail sales. From these descriptions, it can be seen that macro- and microeconomic factors do not necessarily result in a uniform change across these statistics. For example, population growth in a market might not result in all organic statistics improving, even if total retail sales are higher.

Growth will occur if organic food demand, whether in terms of volume or variety, is not being currently met, and if there is a means of supplying this demand, whether from domestic or imported sources. Historically, organic foods were first available in raw or lightly processed form—fresh produce, unmilled grains, meats, eggs, dairy, coffee and tea, and spices and herbs. Domestically produced or processed versions of these commodities were most consumers' first exposure to organic foods. Organic production, with its reliance on

local ecology, emphasizes the comparative advantages due to climatic and soil factors that are observed in conventional production. Thus, most countries best produce organically what they best produce conventionally. For example, Western European countries are major producers of milk and dairy products, while Canada, Australia, and the United States are significant producers of grain (ITC, 1999). However, as the sophistication of the market has increased, consumers have demanded more variety, mimicking what is available in conventional form. This demand has greatly expanded organic trade, while further segmenting market share into product categories.

The European Market

Table H-1 shows the extent of European, Pacific, and North American organic markets for which data are available. Many developed and developing countries that produce and consume organic foods were excluded from table H-1 due to their small size, low income, or emphasis on value-added export and tourism markets.

Four countries in Europe account for 63 percent of its total retail value, yet have relatively small shares of organic as a percentage of retail sales. These countries are Germany (\$1.6 billion in sales, 1.2 percent share), Italy (\$750 million, 0.5 percent), France (\$508 million, 0.4 percent), and the United Kingdom (\$445 million, 0.4 percent). The highest organic market shares are in Austria (\$225 million in sales, 2 percent share), Denmark (\$190 million, 2.5 percent), Sweden (\$110 million, 1.8 percent), and Switzerland (\$350 million, 2 percent). Total population has a significant impact on these figures, with higher population countries tending to have larger organic retail value but lower market share.

There is substantial variation in market share across product categories, as documented by Michelsen *et al.*, (1999) and the ITC (1999). Cereals and baked goods, fresh produce, especially vegetables, and milk and dairy products hold the largest organic market shares by product category in Europe, topping 10 percent in some categories. For example, in Denmark, 6 to 10 percent of vegetables, 3.5 percent of cereal and 14.2 percent of milk product sales were organic in 1997 (Michelsen *et al.*, 1999). Rapidly growing sectors include organic meats and seafood, frozen foods, beverages, and home replacement meals (PSC, 1998).

Table H-1—Organic retail sales and import share in world markets¹

Market	Retail value (US\$)	Retail share (% of sales)	Import share (% of organic)	Annual market growth (% of retail value)
Austria	\$225 – \$270 million	2.0 – 2.5	30	10 – 15
Belgium	\$75 – \$94 million	0.3 – 1.0	50	n.a.
Denmark	\$190 – \$300 million	2.5 – 3.0	25	30 – 40
France	\$508 – \$720 million	0.4 – 0.5	10	20
Germany	\$1.6 – \$1.8 billion	1.2 – 1.5	40	5 – 10
Italy	\$750 – \$900 million	0.5 – 3.0	40	20
Netherlands	\$230 – \$350 million	1.0 – 1.5	60	10 – 15
Spain	\$32 – \$35.5 million	1.0	50	n.a.
Sweden	\$110 – \$200 million	0.6 – 3.0	30	30 – 40
Switzerland	\$350 million	2.0	n.a.	20 – 30
United Kingdom	\$445 – \$450 million	0.4 – 2.0	70	25 – 35
Japan	\$3 billion	1.0	10	15
China	\$6 million	n.a.	0	n.a.
Taiwan	\$9.7 million	n.a.	100	200
Australia	\$123 – \$130 million	0.2	10	400
United States	\$6.6 billion	1.0	n.a.	20
Canada	\$200 – \$500 million	1.0	80	15
Mexico	\$12 million	n.a.	0	n.a.

¹ 1997 estimates for European markets, except 1999 estimate for Italy. 1999 estimates for Pacific and North American markets, except 1997 estimate for China. Annual growth rates are projected for the next 5 years, except 3 years for Taiwan and historical for Canada.

Sources: ITC 1999, PSC 1998, FAS GAIN reports 1999 and 2000, US DOC reports 1999, US DOS reports 1999, Masuda 2000.

To the extent that domestic production can meet demand, there is little reason to import foods. Currently, organic acreage accounts for 10 percent of farmland in Austria (30 percent import share), 4 percent in Denmark (25 percent import share), 7 percent in Sweden (30 percent import share), and 8 percent in Switzerland, compared with an average of 2 percent in the European Union (ITC, 1999; FAS, 1999c). These countries are self-sufficient in many staple commodities, but are facing short-term market growth rates of 10 to 40 percent per year. This could place greater pressure on imports in product categories not domestically supplied.

Countries that have a significant presence in the food processing industry, such as Germany, Italy, Sweden, and France, also face greater demand for organic ingredients. European Union regulations require that 70 to 95 percent of a certified organic processed item be composed of organic ingredients. Spices and herbs, nuts, dried and powdered fruits, sugar, cocoa, and sauces are growth categories (PSC, 1998; ITC, 1999). For many countries, this will mean greater reliance on imports to meet demand. For example, Germany and Italy have two of the largest organic food processing sectors in Europe (ITC, 1999), each importing raw and lightly processed ingredients for use in food processing.

In addition to excess domestic demand, institutional factors affect market growth and import shares. National-level demand promotion campaigns initiated and financed by retailers, wholesalers, or processors continually remind consumers of claimed benefits of organic foods. Austria, Denmark, Sweden, and Switzerland have benefited from such campaigns, as have Germany and Italy (Michelsen *et al.*, 1999). Both European Union and national government subsidy programs have aided supply more than demand, especially assisting market development in Belgium and to a lesser extent, France, Germany, Italy, and Sweden (Michelsen *et al.*, 1999). Denmark additionally has aggressively supported market development, and research and development. Except for Germany, all these countries are expected to see short term market growth of 20 to 40 percent.

The unified minimum organic production standard for the European Union established by the EC Council Regulation 2092/91 is perceived to have had the strongest influence on market development (Michelsen *et al.*, 1999). However, despite attempts to harmonize organic regulations internationally, there is substantial variability in ease of import entry. Trade may be impeded across national boundaries within the European Union. Even with a common minimum standard, stricter rules are permitted in individual countries and may give rise to protectionism to ensure integrity

of domestic standards (Michelsen *et al.*, 1999). Organic certification equivalency required for most countries exporting to the European Union is granted by the competent authority in the importing country, and transactions costs vary by country.

Based on an unpublished telephone interview of importers and exporters, Belgium, Denmark, the Netherlands, Sweden, and the United Kingdom were considered to be relatively easy markets to enter.² Of these, several have limited domestic organic production shares of total agricultural land and large import shares - Belgium (0.48 percent acreage share, 50 percent import share) and the United Kingdom (0.34 percent acreage share, 70 percent import share). The Netherlands' 60 percent import share is driven by its role as Europe's major re-exporter, rather than by its relatively low projected annual market growth of 10 to 15 percent (ITC, 1999).

France (10 percent import share) is considered very difficult to enter, reflecting significant cultural differences, particularly strong nationalism, language barriers, and regulatory approaches. However, France's projected growth of 20 percent is unlikely to be supplied by domestic production, which was only 0.4 percent of agricultural land in 1997 (ITC, 1999). Germany's consumers are considered the most discriminating in the world with respect to organic credentials, and apply several "green" political criteria beyond certification to their purchase decisions, which has resulted in a relatively small base of committed consumers. Combined with excess domestic supply for many commodities, this has resulted in projected growth of 5 to 10 percent (ITC, 1999). Yet, as a major food processor, certain organic ingredients that cannot be domestically produced must be purchased abroad to satisfy manufacturing needs.

This discussion illustrates that there is no simple way to characterize the European organic market. It is certain that demand is growing and that a greater variety of organic products is desired. Also, both domestic production and trade in Europe should increase over time to meet consumer demand.

The Pacific and North American Markets

The Pacific (Japan, China, Taiwan, and Australia) and North American (United States, Canada, and Mexico)

markets are even more difficult to describe than the European market. As mentioned, there has been little attempt by government agencies to record statistics for these markets, so private sector organizations provide most of the data. These are less mature markets, where national standards have not yet been fully implemented in many countries. Consumer awareness of organics is also lower in these countries than in Europe.

The lower portion of table H-1 reveals that Japan (\$3 billion, 1 percent retail share) and the United States (\$6.6 billion, 1 percent retail share) dominate markets in the Pacific and North American markets. The Japanese market value includes eco-labeled product classes such as "low chemical" as well as organic. The organic portion of total value may be as low as \$1 billion (ITC, 1999), which can be more accurately measured when products are classified according to strict national organic definitions to be implemented in 2001 (FAS, 2000b).

Seki (1997) estimated that 60 percent of the Japanese organic market is fresh produce and 40 percent processed foods. Japanese organic consumers buy mostly frozen vegetables, dried fruits, vegetable juice, soybeans, and fresh produce (FAS, 2000b). Domestic production in Japan includes acreage devoted to fresh produce, which is primarily sold directly to consumers via a subscription service called *tei-kei* or by home delivery distributors, and rice and soybeans for processing (ITC, 1999). Only 1 percent of vegetable acreage is in organic production (Sidiropoulos and Putland, 1997). The amount in organic rice and soybeans is not known. Japan imports 10 percent of its organic market value in the limited range of products mentioned.

U.S. statistics are collected by retailers and wholesalers, and so are delineated by sales category rather than by commodity, as is done in Europe. In the United States, fresh produce, packaged grocery items (cereal, sauces, etc.) and bulk/packaged items (pasta, grains, beans, etc.) were the top three categories in natural products stores in 1999, accounting for 49 percent of retail sales (Natural Foods Merchandiser, 2000). The Organic Trade Association (1998) projects average annual growth from 1997 through 2002 will be highest for grain snacks and candy (60 percent), cereals (54 percent), dairy (44 percent), and frozen foods (40 percent).

² Lohr and Graf, unpublished survey, 1999.

The United States is a net exporter of many organic commodities, although certified organic acreage and pasture make up less than 0.2 percent of total U.S. farmland (Greene, 2000). By acreage and category, 0.2 percent of grains, 0.1 percent of oilseeds and dry beans (including soybeans), 0.3 percent of hay and silage, 38 percent of herbs, 1.3 percent of vegetables, 0.9 percent of fruits and tree nuts, 0.2 percent of peanuts, and 0.3 percent of potatoes are certified organic. Livestock production is increasing, with the largest gains in milk, egg, and poultry production between 1992 and 1997 (FAS, 2000a), although the organic share of total production is even lower than for crops.

While quantity produced is sufficient to meet U.S. demand for most major organic food items, except for some tropicals such as coffee and bananas, the United States nevertheless imports organic food items. Imports are needed to satisfy food processing needs (flavorings, nuts, fruit concentrates and purees, dried fruits, cocoa, sugar, etc.) as well as to meet off-season demand for fresh fruit and vegetables, and to replace production allocated to foreign contract sales. American tastes for foreign foods also drive demand for imported processed items such as cheeses and wines. No estimate of the import share of the U.S. organic market is available, but it is probably not above 10 percent.

Growth in the U.S. and Japanese markets is anticipated to be strong, at 20 percent and 15 percent, respectively. However, regulatory changes may alter these expectations. Japan's national organic standards will be implemented in April 2001. The United States published its Final Rule for public comment in late December 2000. The rule became effective on February 21, 2001, and will be fully implemented in August 2001. The Japanese rule is expected to impose stricter standards and reduce imports (FAS, 2000b). This could slow Japanese market expansion since organic production in Japan is not anticipated to increase at the same rate as demand. In the United States, final rules are expected to harmonize trade with other countries, and should ease import entry by introducing a simplified certification equivalency process through accreditation of foreign certifiers.³ U.S.

³ As of this writing in February 2001, the Japanese organic standards may be found online at http://www.maff.go.jp/soshiki/syokuhin/hinshitu/organic/eng_yuki_top.htm. The European Union's EC Council Regulation 2092/91 may be found online at <http://europa.eu.int/comm/sg/consolid/en/391r2092/artm.htm>. The Final Rule for the U.S. National Organic Standards may be found at <http://www.ams.usda.gov/nop/nop2000/Final%20Rule/nopfinal.pdf>.

standards are not stricter than many of the individual State regulations that importers had to meet prior to the implementation of national regulation.

Other markets in the region are smaller. China and Mexico both are net exporters, with export values of \$600 million and \$70 million, respectively (ITC, 1999; FAS, 2000c). Depending on development of food processing in these countries, which is currently heavily constrained by lack of capital and infrastructure, their import needs could grow. The China Council for International Cooperation on Environment and Development (CCICED, 1996) suggested that the Chinese retail market could reach \$1.2 billion due to increasing education and affluence of its middle class, but Chinese production capacity should easily meet this growth.

The \$9.7 million retail value of the Taiwanese market is expected to quadruple in the next 3 years (FAS, 2000d), but still represents only a niche for exporters who can recover transportation costs on small shipments. Growth in Australia (\$123 million retail value) and Canada (\$200 million to \$500 million) will be supplied domestically as production capacity is realized. Australia and Canada are both net exporters of organic grains and specialty commodities such as maple syrup, beer (Canada), and fruit juices (Australia). Europe, Japan, and the United States should remain the primary import markets for at least the next 5 to 10 years.

Factors Affecting Demand

Market expansion for organic foods depends on the outcome of a number of evolving issues, which are discussed in this section. Key issues are organic price premiums, the price-quality trade off, country of product origin, GE content, and the integration of social goals into the production process.

Price Premiums

The percentage of consumers who purchase organic foods affects the relationship among the market statistics. Widespread acceptance among consumers stabilizes demand and generates economies of scale, lowering costs. Table H-2 describes demand conditions in Europe, Japan, and the United States in terms of consumer share and price premiums. Consumer share is defined as the percentage of consumers who buy organic food items at least once a week, and price premium is expressed as the percentage by which the

price of the organic product is above the price of a similar conventional product. The percentage of consumers who claim to buy organic foods regularly ranges from lows of 4 percent in Italy and 5 percent in the Netherlands to 32 percent in Denmark and Germany and 40 percent in Switzerland. In Japan and the United States, consumer studies have identified regular buyers by product category, resulting in the ranges of values in table H-2. In Japan, the greatest percentage of regular buyers is for fresh produce. In the United States, the largest percentage in 1998 was for naturally raised meat and poultry products (HealthFocus, Inc., 1999).

More consumers claim to “occasionally” purchase organic foods, where this time period may be “once a month” to “at least once in the last 6 months,” depending on the definition applied by the particular consumer survey. About the same percentage of consumers are occasional buyers as are regular buyers in Denmark (38 percent buy occasionally) and Germany (32 percent) (ITC, 1999). There is a greater percentage of occasional buyers in France (38 percent), the Netherlands (34 percent), Sweden (40 percent), Japan (38 percent), and the United States (50 percent) (ITC, 1999; The Packer, 2000a). No data were available on occasional purchasers in Italy, Switzerland, and the United Kingdom.

These data suggest a slight positive correlation between percentage buying regularly (table H-2) and retail market share for organics (table H-1). A stronger

Table H-2—Consumer share and price premiums in key demand centers

Market	Consumer share	Price premium
	<i>Percent buying regularly¹</i>	<i>Percent above conventional</i>
Austria	20	25 - 30
Denmark	32	20 - 30
France	10	25 - 35
Italy	4	35 - 100
Germany	32	20 - 50
Netherlands	5	15 - 20
Sweden	15	20 - 40
Switzerland	40	10 - 40
United Kingdom	25	30 - 50
Japan	4 - 36 ^{2,3}	10 - 20
United States	9 - 19 ³	10 - 30

¹ “Buying regularly” is defined as at least once a week.

² “Occasional” purchasers; percentage of regular buyers not available.

³ Percentage varies by product category.

Sources: ITC, 1999; FAS GAIN reports, 1999 and 2000; HealthFocus, Inc. 1999.

correlation might be observed if the retail and consumer shares were decomposed into product categories, so that a weighting between higher priced, less frequently purchased items and lower priced, more frequently bought foods could be constructed. If a significant portion of occasional users were to become regular buyers, the retail share and retail values presented in table H-1 would increase dramatically. The market growth predictions in table H-1 assume recruitment of regular users from among current occasional buyers and non-buyers.

Richter *et al.* (2000) surveyed 2,600 consumers in the border region of Switzerland, Germany, and France to determine why frequency of purchase is not higher among occasional buyers. They found that these buyers are more price conscious and mistrust organic labels and enforcement more than regular purchasers. Both regular and occasional buyers use labels and retail sales personnel for information, but regular buyers are more informed about production methods and more concerned about local origin of foods purchased. Nonbuyers are most influenced by price considerations of the three groups.

In the United States, surveys of 1,000 households revealed that 19 percent of organic produce buyers in 2000 rated themselves as very or extremely likely to buy again in the subsequent 6 months, down from 62 percent in 1998 (The Packer, 2000b and 1998). Analysts speculated that an influx of occasional buyers related to greater product availability and consumer awareness made the total number of produce buyers much higher. Without increasing the number of subsequent purchasers, the reported re-purchase rate is much lower. In 2000, 49 percent of nonbuyers in the United States named price as a barrier to purchase compared with 33 percent in 1998.

Retailers in the United States also cite price as a barrier to offering organic foods. In 1999, 13 percent of 90 retailers surveyed in Atlanta, Georgia believed they could not sell organic foods if they charged a price premium and only 17 percent believed they could charge more than 20 percent over conventional prices (Lohr and Semali, 2000). Consumer price observations in 14 conventional groceries in Europe documented price premiums averaging 35 percent in Denmark, 43 percent in Austria, 53 percent in France, 54 percent in the United Kingdom, 64 percent in Italy, and 67 percent in Germany (Schmid and Richter, 2000).

Differences in premiums across product categories reflect both availability and frequency of purchase. In the European example, Schmid and Richter (2000) documented average category price premiums of 20 percent for cheese, 31 percent for cereals, 42 percent for milk, 52 percent for meat, 61 percent for vegetables, and 70 percent for fruits in the 14 retail chains they surveyed. In observations at 75 of the stores surveyed by Lohr and Semali (2000), the price premiums for specific processed goods varied even more widely. Average premiums were 32 percent for coffee, 24 percent for rice cakes, 20 percent for spaghetti sauce, 17 percent for milk, 5 percent for baby food, and -0.5 percent for breakfast cereal. The range could be accounted for by factors such as relative availability, product placement, and branding. For example, 44 of the stores offered organic cereal, but only 5 offered organic coffee. Organic cereal is often offered side-by-side with conventional cereal, so that price-dependent sales are more competitive.

Michelsen *et al.*, (1999) documented that consumer price premiums are lowest in countries with large organic market shares and a high percentage of distribution through supermarkets. The combination of market size and supermarket involvement is thought to reduce distribution costs, exerting downward pressure on consumer price premiums. Due to their large customer base, supermarkets can generate turnover more quickly, thus saving money and maintaining product appearance and quality (Lohr and Semali, 2000; ITC, 1999).

In general, supermarkets are more resistant to charging high premiums than specialty stores. Occasional

buyers of organics are more price-conscious and likely to seek organics in supermarkets (HealthFocus, Inc., 1999; FAS, 2000b; ITC, 1999). Ensuring that organics are available in supermarkets has been argued to be the fastest way to convert occasional to regular users of organic products in major markets (Lohr and Semali, 2000; ITC, 1999).

Table H-3 shows the distribution of sales by market outlet. Comparing these data with information in tables H-1 and H-2 reveals some interesting findings. Those countries with the highest share distributed through supermarkets (Austria, Denmark, Sweden, Switzerland, and the United Kingdom) have the highest retail shares and percentages of regular buyers (except Sweden) but not necessarily the lowest average price premiums. The United States and the Netherlands have the lowest average premiums, but the highest percentage of sales in specialty stores and among the lowest percentage of regular buyers of organics. This supports the hypothesis that supermarket availability, rather than lower price premiums, stimulates consumers to become regular buyers.

Price-Quality Trade Off

Consumers look for the highest affordable quality, given their household budgets and perceptions of product quality. Labels are used as quality cues, to the extent they are understood by consumers. Universal labels, such as national organic certifications, would reduce search costs. Easy identification of quality makes price comparison and choice easier.

Table H-3—Percentage shares of retail market by distribution channel

Market	Supermarkets ¹	Specialty stores ²	Producer direct ³
Austria	77	13	10
Denmark	70	15	15
France	45	45	10
Italy	25 - 33	33	33 - 42
Germany	25	45	20
Netherlands	20	75	5
Sweden	90	5	5
Switzerland	60	30	10
United Kingdom	65	17.5	17.5
Japan ⁴	high-end stores	widely available	widely available
United States	31	62	7

¹ Includes supermarkets and hypermarkets that offer conventionally grown foods.

² Includes organic supermarkets, natural products and health food stores, cooperatives, and other.

³ Includes on-farm sales, farmer markets, box schemes, CSAs, teikei, and other.

⁴ Share data are not available for Japan, but qualitative information suggests the relative availability of product in each category.

Sources: ITC, 1999; FAS GAIN reports, 1999 and 2000.

Organic labels can be confusing to consumers, especially if different labels signify different production standards. Establishment of minimum standards through national or international accreditation of certifiers is expected to clarify the meaning of “organic” in the marketplace. However, most accrediting organizations permit certifiers to affix their own labels in addition to the accreditation label. This may not necessarily improve clarity for the consumer.

Examples of multiple standards and labels are found in some of the largest organic markets. Until 2000, Japan had six grades of reduced chemical foods, including organic, all carrying the same label. China recognizes several classes of “green food” including organic. In Germany and the United States, there are so many regional and local certification agencies that learning about each is burdensome, so consumers choose the most familiar label. This is typically the first one that appeared in their regular shopping place or the one promoted by the most aggressive advertising efforts. Internationally recognized accreditation logos (Japan, U.S., EU, or IFOAM⁴) may reduce this confusion.

Even when a label is well understood, it may lack credibility. Japanese consumers are particularly skeptical of imported products, in part due to an administrative scandal associated with the key exporting certifier in the United States (FAS, 2000b; Mergentime 1997). Michelsen *et al.*, (1999) reported cases of rejected shipments or refusal of traders to handle foreign product, even when both the exporting and importing countries were in the European Union. Many consumers will still view their country’s standards as stricter and “more organic.”

The implications of label recognition and acceptance for international trade are explored by Lohr and Krissoff (2000). They note that consumer perceptions of product homogeneity are critical to product acceptance. Even with harmonization of accreditation standards at the country or market level, consumers may still reject imported organic products. Reassuring foreign consumers of import certification quality and maintaining cost-competitiveness are as important as legal considerations in international marketing.

Not all consumers view the price-quality trade offs in food choices the same way, and not everyone wants

organic foods. Surveys show 10 to 20 percent of consumers in Germany are not willing to pay any premium for organic foods (ITC, 1999). As many as 18 to 35 percent of U.S. consumers would not purchase organics even if there were no price difference between organic and conventional foods (The Hartman Group, 1996). For these consumers, organic foods do not represent a superior product.

Country of Product Origin

Where and how food is produced matters to a significant portion of organic consumers. This local preference incorporates ethical views toward farming and local growers. Interest in supporting regional producers is strong among regular buyers of organic foods (Richter *et al.*, 2000). Many consumers are also troubled by the long distances that food has to travel from farm to table.

Organic fruits and vegetables are in demand partly because they are perceived as fresher than conventionally grown foods. With longer distances between producer and consumer, this advantage declines. Consumers surveyed in the United States and Sweden preferred local conventionally grown products over organic products brought in from outside the region (Burress *et al.*, 2000; Ekelund and Fröman, 1991). In Japan, organic imported soybeans sell for 14 percent less than domestically produced conventional (non-GE) soybeans (FAS, 2000b).

At the national level, fears of food safety problems have prompted country-of-origin labeling requirements. This issue is shaping consumer acceptance of imports in the Japanese and some European markets (FAS, 2000b; ITC 1999). Although a domestic certifier approves an imported product, if country of origin is known to the consumer and is not acceptable, the product may not be marketable (Lohr and Krissoff, 2000).

Programs that support domestic or regional production systems in developed countries have promoted supply of organic products and may have depressed imports (Michelsen *et al.*, 1999). These programs were typically implemented for environmental or for extensification reasons, expanding acreage while reducing input intensity. Direct subsidies have been widely used in the European Union and by individual countries in Europe. In the United States, cost-sharing to assist in transition has been used in Iowa in the State-administered Federally-funded environmental protection

⁴ The IFOAM Basic Standards (updated in 2000) may be found at http://www.ifoam.org/standard/index_neu.html.

program known as EQIP (Iowa Natural Resource Conservation Service, 1997).

Consumers have also taken direct action to support local organic farming by enrolling in subscription programs in which they pay a preseason fee for delivery of fresh produce through the growing season. These programs are known by various names - Community Supported Agriculture (CSA), available in 41 States and the District of Columbia in the United States, *tei-kei* farming in Japan, and vegetable boxes in Great Britain.

GE Content

GE labeling is foremost in many consumers' choice of organic products. Prohibition of GE in organic food production standards is nearly universal. GE is perceived as unacceptable by a vocal segment of consumers in almost every developed country. Market effects are sometimes exhibited in price differentials. In Japan, imported organic soybeans sell for 500 percent more than imported GE-soybeans (FAS, 2000b).

Through low-cost protein testing, most GE modifications can be detected in raw commodities, making it possible to detect organic foods that have been modified through cross-pollination or product mixing. Regardless of whether such commingling occurs, importers may require organic products to be tested and certified as "GE-free" if they are from countries where this is possible. The definition of "GE-free" is currently being debated in the conventional agriculture sector, which could prove instructive to the organic sector.

Social Goals

Consumers who want to advance social goals such as equitable income distribution and sustainable development have the option of supporting Fair Trade labels. The Fair Trade certification is different from organic certification, although 65 percent to 85 percent of Fair Trade imports also carry organic certification (ITC, 1999). One difficulty with Fair Trade certification is that it is process-based, according to local standards for sustainability, and thus all labels do not certify the same production system. Documenting that the principles of sustainability are followed is sufficient to earn a Fair Trade label, without necessarily using the same practices as another certified producer in the same region.

The Fair Trade model operates by direct purchase and import of crafts and tropical food items from small,

democratically organized producers in the Southern Hemisphere (EFTA, 1995). The Northern Hemisphere importer pays producers the cost of production plus a locally competitive wage, typically higher than world commodity prices. The importer is not permitted to cancel its contract with the grower and must pay part of the contract price up front. Usually the importer also contributes to local causes in the producing region, such as a school or health clinic or for cultural preservation. Through the higher wages offered by Fair Trade importers, the producer group is able to reduce reliance on natural resource extractive activities and to ensure fair labor practices and an acceptable standard of living.

Although overhead is minimized by direct importer-producer contacts, the higher wages translate into retail markups that are about the same as for organic foods. The Fair Trade Federation (2000), an umbrella organization for coalitions and foundations that certify products, listed Fair Trade food and nonfood sales totaling \$400 million annually, with \$35 to \$40 million in North America. The Food and Agriculture Organization (FAO, 1999) cited estimates for the European Fair Trade market of \$140 million in food annually, with participation by 70 import organizations, 3,000 world shops dedicated mostly to craft items, and 50 supermarket chains in 14 countries. The primary food product exchanged under this system is coffee. In Germany and the United Kingdom, 4 percent of the coffee market is certified Fair Trade, and in the Netherlands, 3 percent is so designated (ITC, 1999). In 2001, Starbucks Coffee, one of the largest U.S. retail outlets, introduced certified Fair Trade coffee, giving this certification a major presence in North American markets. Among food items currently eligible for Fair Trade labels are tea, bananas, cocoa, and chocolate.

With expansion of Fair Trade certification to other products and increasing awareness for the labels, which should increase dramatically after the Starbucks Coffee adoption, the United States appears to be a prime opportunity for Fair Trade products. With a growing number of eco-labels on the market that are separate from organic labels, the expense of education programs to distinguish the various products will fall on the organic industry (Lohr, 1999). Eco-labeled products benefit by organic advertising, but crowd the market with more labels that are difficult for the consumer to interpret and, hence, costly for the consumer to sort out. Dual certifications could resolve

this problem, but American consumers have not demonstrated a readiness to pay an additional premium for such products.

Projected Market Growth

Many European countries are experiencing a deceleration in growth of organic markets from the last decade, compared with the United States, which projects continued 20 percent growth for the short term. Japan's rate of organic market growth has been projected at only 15 percent due to product availability and wariness about imports' conformity with the new national regulation. The next 5 years should see expanded trade as well as domestic production in an effort to meet rising demand.

The exchange of organic products internationally is increasing dramatically. Import and export figures by product category are provided by the ITC (1999), Michelsen *et al.*, (1999), and FAS (various reports 1999, 2000). The implementation of national standards in the United States and Japan, developed with deliberate consideration of existing standards in Europe, should realign trade flows so that more exchange occurs among Japan, the United States, and Europe, as harmonization among the major markets takes place.

Markets are evolving to demand highly processed organic products as well as raw commodities. In Europe, markets are increasing for ready-to-eat meals, frozen foods, baby food, snacks, and beverages. Ingredients needed for organic food processing include juices, fruit powders, dried fruit, meat, flavorings, essential oils, herbs and spices, and nuts. Sample trade flows into Europe are from Israel (fresh produce), Brazil-Chile-Argentina (fresh produce, soy, wheat), other European countries (baby food, processed foods, cereals, meat), Canada (wheat, soy, canola), Mexico-Central America (bananas, citrus, coffee, cocoa), Sri Lanka-India (tea), and the United States (processed foods of all types, wheat).

In Japan, organic consumer goods in growing demand include fresh produce, frozen foods, juice, baked goods, baby food, chicken, sauces, and ready meals. The organic ingredients market is less extensive, but is growing for fresh vegetables for pickles, fresh fruits and sweeteners for jam, oils and semi-finished produce. Trade flows are not restricted to countries in the Pacific region, but are dominated by them. For example, products are imported from New Zealand (frozen vegetables, fresh fruit), Australia (citrus juice),

China (tea, soybeans, rice), France (jams, coffee, cereal, ice cream), Brazil (soybeans), Canada (beer), Norway (seafood), and the United States (fresh produce, soybeans, rice).

Market options are expanding as well (ITC, 1999). Retailers have more opportunities to introduce store label or own-brand organic products as consumer awareness and market penetration increase. The food service and catering sectors are virtually untouched, although they offer higher wholesale margins than sales to brokers or wholesalers. Vegetarian restaurants, school and institutional programs, and airline (Swiss Air and Lufthansa) and hotel catering are experimenting with wider organic offerings.

Markets for direct sales to consumers could be the best option for opening developing country markets in which volume is low, but a segment of highly educated and high-income consumers are interested in organic products. Subscription and box sales enable farmer and consumer to have direct contact, although consumer buying clubs and electronic or mail order catalogs offer the opportunity to reach more consumers at higher margins. International sales via these outlets must meet all international trade regulations and importing country phytosanitary and organic standards, but with smaller shipments and with time to develop individual reputations, these obstacles may be overcome.

Supply competition is inevitable, particularly in market segments that are widely observed to be growing, and as such are attracting suppliers. Most raw commodities are now available in organic form, as production is widespread. The ITC (1999) reports commercial production in 27 countries in Africa, 7 in the former Soviet states, 20 in Europe, 3 in Australia, 15 in Asia, 25 in Latin America and the Caribbean, and 3 in North America. At the same time, with rising per capita income, increasing awareness of organic benefits as domestic commercial production increases, and greater government and private sector commitment, it is likely that global organic market demand will continue to keep pace with production for the next few decades.

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