## Income, Demographic Shifts, and Consumer Perceptions Are Changing Global Food Consumption Patterns and Trade

Higher income, urbanization, other demographic shifts, improved transportation, and consumer perceptions regarding quality and safety are changing global food consumption patterns. Shifts in food consumption have led to increased trade and changes in the composition of world agricultural trade. Grain trade, which once accounted for most of world agricultural trade, represents less than 30 percent of current agricultural trade.

Among the determinants affecting trade patterns, income growth and its impact on food consumption are one of the most important in explaining changes over time. The effect of income growth in changing trade patterns differs among developed and developing countries. Diet diversification and increasing demand for better quality and labor-saving products have increased imports of high-value and processed food products in developed countries. In developing countries, higher income results in increased demand for meat products, often leading to the expansion of livestock production. This in turn may result in increased imports of intermediate products such as animal feed.

Given different diets, food expenditure and food budget responses to income and price changes vary between developing and developed countries. Low-income countries spend a greater portion of their budget on staple food products such as cereals and are generally more responsive to food price and income changes. The magnitude of a country's response to income and price change also differs across food items. For example, in poorer countries, greater budget adjustments are made to higher value food items such as dairy and meat, and staple food budgets undergo little change. Middle-income countries are the most responsive to staple food price changes.

Urbanization has played a significant role in changing global food consumption patterns. Given different lifestyles of urban and rural residents, greater demand for urban residents' time, increased food availability, and higher purchasing power in urban areas, urban and rural diets tend to differ significantly. Since the urban population in developing countries is expected to double to nearly 4 billion by 2020, urbanization is a phenomenon that will in the future primarily affect developing countries. With increased urbanization and higher disposable income among urban residents, the demand for meat, horticultural, and processed products is expected to increase among developing countries. Increased demand for meat is expected to result in increased demand for feed grains and protein meals as well, resulting in greater trade in these products.

Demand for quality and convenience and increased awareness regarding safety and health have significantly changed food consumption patterns among developed countries. In the United States, the red meat share of total meat consumption declined from 79 percent in 1970 to 62 percent 30 years later, while the poultry share increased from 21 to 38 percent during the same period. Similarly, per capita fruit and vegetable consumption in the United States increased 25 percent between 1977 and 1999. Facilitated by improvements in shipping technology, trade in horticultural and high value processed products has grown to meet the rising global demand, mainly driven by developed countries.

As consumers become wealthier and the basic demand for a well-balanced meal are met, consumers tend to demand other 'quality attributes' in their food. Accordingly, during the last 20 years, mainly in developed countries, consumer groups have increasingly brought attention to organic production of food and the topic of animal welfare. Most studies characterize these consumers as affluent, well-educated, and concerned about health and product quality. Reasons for purchasing organic and humanely raised animal products are similar across countries. The perception that organic foods are healthier is widespread among buyers, even though some countries prohibit advertising that suggests this. Along with food safety, taste, freshness, and overall quality are often indicated as important attributes determining consumer preference for organic products. Another factor influencing consumer choice, although not directly affecting product quality, is consumer concern for environmental protection and animal welfare.

Consumer demand for special quality attributes and safety varies across countries. Countries also vary in how they perceive and handle risks from disease-causing organisms, generally based on access to and use of advances in science, detection technology, and mitigation methods. Accordingly, wealthier countries with more information about food safety risks tend to demand more stringent food safety standards on both domestically produced and imported food. They are also generally willing to pay more for these higher levels of food safety. Major food safety incidents have greatly increased consumer concerns in recent years, leading to changes in consumer perceptions and food purchasing patterns in certain developed countries.

One way in which the public and private sectors have responded to consumer demand for 'quality' has been by developing and implementing mandatory and voluntary quality control, management, and assurance schemes. These schemes are causing changes in the way food products are produced, marketed, and traded in Europe and to some extent in the United States. Quality assurance schemes develop standards for producing, processing, and transporting, and may include standards for environmental management practices.

Differences in what food products countries want and what they will accept in imported food affect patterns of food demand and global trade, and complicate the development of workable trade rules that are acceptable to different trading partners. Adhering to set standards, whether voluntary or nationally mandated, may increase production costs. In general, any policy that imposes costs on a domestic firm that foreign firms do not face can potentially put domestic firms at a disadvantage. Domestic firms understand this consequence of differences in regulation. Thus, when a country passes legislation that increases costs for domestic producers, the producers sometimes apply political pressure to offset these costs or to block imports from countries that do not have similar regulations. Consumer demand for quality attributes can therefore impact trade flows and lead to disputes between trading partners.

Countries are responding to arbitrage pressures and other trade-related tensions by adopting multilateral coordination mechanisms such as mutual recognition, coordination, and harmonization of standards and rules. In general, the greater the coordination of multilateral mechanisms and private approaches among firms and nations, the more they will be able to provide verifiable and valuable information to trading partners and facilitate global agricultural trade.