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Demand for Food Quantity and Quality in China

Fred Gale and Kuo Huang

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Abstract

As their incomes rise, Chinese consumers are changing their diets and demanding greater quality, convenience, and safety in food. Food expenditures grow faster than quantities purchased as income rises, suggesting that consumers with higher incomes purchase more expensive foods. The top-earning Chinese households appear to have reached a point where the income elasticity of demand for quantity of most foods is near zero. China's food market is becoming segmented. The demand for quality by high-income households has fueled recent growth in modern food retail and sales of premium-priced food and beverage products. Food expenditures and incomes have grown much more slowly for rural and low-income urban households.

Keywords: China, food, consumption, demand, income, elasticities, Engel curve, households, rural, urban

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Summary

Rapid income growth is changing the structure of Chinese food expenditure, a development that has important implications for China's agricultural and food sector and for international trade in agricultural products. As household incomes rise, consumers demand not only a greater quantity of food, but also higher quality. The demand for quantity diminishes as income rises, and the top tier of Chinese households appear to have reached a saturation point in quantity consumed of most food items. Most additional food spending high-income consumers is spent on higher quality or processed foods and meals in restaurants.

What Is the Issue?

Past studies have indicated that demand for many foods—especially, meat, poultry, fish, and dairy products—is responsive to income growth. However, there have been many changes in China's food landscape in recent years, including the emergence of a new class of high-income consumers, the rise of supermarkets, restaurants, and other modern retailers, and expanded availability of food products. Most food demand studies were based on data from time periods before these structural changes had taken hold.

Given the responsiveness of food demand to income growth, China's rapid growth of 9-10 percent per year suggests that its demand for food is growing faster than its production capacity. While China has become a major importer of soybeans and vegetable oils, it has remained surprisingly self-sufficient in most food products. Do conventional studies of food demand overstate the potential for demand growth in China? The rapid change in food markets and surprisingly slow growth of food imports warrants a new assessment of food demand in China.

What Did the Study Find?

A disproportionate share of China's income growth accrues to high income households that are purchasing mainly greater value added in food consumption rather than increased quantity. High-income consumers devote expenditures to higher quality food: better cuts of meat, processed and packaged food, meals away from home, and food that is safer, more convenient, or healthier. The demand for quality has been a factor driving the rapid growth in supermarkets, convenience stores, and restaurants—outlets that offer greater convenience and quality in food purchases.

The top tier of urban households in China appear to have reached a saturation point in quantity of food consumed at income levels that would be well below the poverty line in the United States. The top 10 percent of Chinese urban households had average household incomes of just $7,000 in 2003, still poor by developed country standards. For most food items, the quantity consumed by Chinese households is highly responsive to income growth at low income levels.

Rural households (about 60 percent of the population) and low-income urban households (20 percent) are at income levels where they demand increased quantities of many foods as their income rises. Low-income consumers' demand for items like meat, dairy products, and beer is much more responsive to income increases than is demand by consumers with higher income. However, low-income households are experiencing less income growth and their food spending has been sluggish as well. Income for rural and low-income urban households has grown at less than half of China's 10-percent GDP growth rate while income growth for the top 10 percent of urban households has exceeded 15 percent per year.

These food consumption and income growth patterns may explain how China has been able to remain self-sufficient in most food items. A large proportion of China's income growth has been devoted to greater value added in food processing and marketing rather than increased quantity.

There is a growing segmentation of the China market linked to the emerging demand for food quality. Chinese food retailers offer a wide range of food products appealing to demands for safety, quality, and health attributes demanded by high-income urban consumers. However, the majority of Chinese consumers—those with less discretionary income—consume less expensive generic food items.

How Was the Study Conducted?

The study analyzed tabulations of income, food expenditure, and food consumption data from China's national household income and expenditure surveys for 2002 and 2003. National averages by income class were analyzed for both urban and rural households. The analysis included estimation of regression models explaining per capita quantity consumed and expenditure for detail food categories. The study estimated elasticities of food quantity and quality with respect to household income. The study used a model that allows elasticities to vary over different income levels. Quantity data included only food consumed at home. An analysis of expenditures on food away from home indicated that most food is still consumed at home.