

# Consumer Preferences for Western-Style Convenience Foods in China<sup>◇</sup>

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**Abstract:** The demand for western-style convenience foods is growing around the world, especially in the People's Republic of China, a likely result of the modernization of food consumption patterns. Proper targeting of consumers who exhibit preferences for western foods will be essential to companies wishing to successfully enter the Chinese market. Data from a 2002 survey of consumers in Beijing is evaluated using an ordered logit model to determine which consumer characteristics and attitudes influence the probability of consuming three processed potato products. Results show that female gender, higher income levels, younger adults, the existence of children in the home, and positive opinions concerning the taste of western foods have a significant influence on processed potato consumption.

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## 1. Introduction

A population base in excess of one billion combined with rapid and sustained economic growth has made the People's Republic of China (PRC) an obvious target for western companies in search of new customers. The entrance of China into the World Trade Organization (WTO) is another compelling argument for western companies to develop business strategies tailored to Chinese people and markets. To be successful in China, it is necessary for western companies to understand Chinese consumer attitudes and examine how Chinese consumption behavior may change as China integrates into the global economy and faces increased exposure to industrialized countries, cultures, and products.

The changes that have taken place in food consumption patterns and tastes in China over the last two decades are well documented in the literature. The most notable changes are increased consumption of dietary fat, including meats, oils, and dairy products (Guo *et al.*, 2000; Ito, Peterson, & Grant, 1989; Gould, 2002; Fan & Agcaoili-Sombilla, 1997),<sup>1</sup> decreased consumption of grains, including rice, flour, and coarse grains (Ito, Peterson, & Grant, 1989; Guo *et al.*, 2000),<sup>2</sup> and increased consumption of fruit and vegetables (Ahmadi-Esfahani, Fredoun & Stanmore, 1997; Han & Wahl, 1998; Gould, 2002; Guo *et al.*, 2000).<sup>3</sup>

However, in the examination of changing tastes and consumption patterns in China, one change which has only been touched upon, is the increased consumption of convenience foods in China, especially western-style convenience foods, including meals away from home and processed and pre-packaged products for home use (Veeck & Veeck, 2000). The increased consumption of western-style convenience foods in China, especially in urban centers, is likely the result of the modernization of consumer preferences, where the consumption of imported

foods, is viewed as a “sign” of modern living (Yan, 1997). A similar phenomenon to that experienced in other Asian countries, which have taken western products or institutions and localized them for their own use. Western products and restaurants fulfill quite different roles overseas than in their nation of origin. The Chinese situation, where consumers often spend several hours in McDonald’s with friends or family, and view McDonald’s food preparation as clean and scientific, is no exception. Hence, it is no surprise that Shone, Nobuhiro, and Kaiser (2000) concluded that China’s food consumption patterns are moving more toward those of developed Asian countries such as Japan and Korea, rather than the developed western countries of North America and Europe.

As China currently represents a market of 1.3 billion consumers and is likely to reach 1.4 billion by 2050 (Population Reference Bureau, 2002), food manufacturers and retailers are likely to benefit from marketing strategies aimed at consumers who exhibit preferences for western foods. In fact, U.S. exporters have already had success in the Chinese market by exporting fruits, vegetables, red meats, and snack foods with a value of U.S. \$216 million in 2000 (AgExporter, 2001). Corporations such as Quaker Oats, Proctor & Gamble, and Philip Morris, have increased their presence in China and have managed to compete alongside many of the stronger Chinese food companies (Veeck & Veeck, 2000). The U.S. potato industry has especially benefited as frozen potato exports to China increased from 6,600 metric tons to 64,700 metric tons from 1991 to 2000 (FAOStat, 2002).

This study, using the results of a survey of Chinese consumers in the greater Beijing area, completed in August of 2002, evaluates consumer characteristics and attitudes affecting the probability of processed western food consumption, namely processed potatoes, including French fries, mashed potatoes (dehydrated), and potato chips. Processed potato products were

chosen because of their popularity in the United States and their non-traditional use in China. Cutler, Glaeser, and Shapiro (2003) write, “Today, the French fry is the dominant form of potato and America’s favorite vegetable. From 1977 to 1995, total potato consumption increased by 30%, accounted for almost exclusively by increased consumption of potato chips and French fries,” (page 94). This study builds upon previous work by incorporating an analysis of western-style convenience foods as a measurement of “modern” consumption practices in China. Additionally, this study identifies “modern” Chinese consumers by characteristics and attitudes, which is useful in determining potential business and marketing strategies for western foods in the Chinese market.

In the following sections we discuss current trends in the Chinese demand for western-style convenience foods, as well as the rationale behind those trends, previous studies examining modern food consumption in China, and consumer attributes associated with modern food consumption. We detail the data collection and analysis methodology, provide survey statistics, and present relevant econometric results.

## **2. Western-style convenience food consumption in China**

The movement towards the consumption of western-style convenience foods in China is the likely result of increased incomes, lifestyle changes, and the availability of a greater variety of food options. Additionally, western food and culture is fashionable. Chinese consumers use foreign brands as status symbols (Sklair, 1994). Wearing branded imported clothing, being seen in western restaurants, or being able to tell friends and family of a visit to a western restaurant all provide status. Chinese income levels have increased dramatically over the last two decades primarily due to average annual growth rates in per capita GDP of nearly 8% since 1978 (CIA,

2002). The result is an ever broadening middle class, composed primarily of singles and dual-career households, especially in cities where employment opportunities for women are strong. Purchases in China are no longer restricted to basic needs. Consumers now accumulate material possessions and shop for the experience or joy of doing so (Yan, 1997). As rural to urban movement continues in China, consumer preferences are likely to adjust simply due to the increased availability of foods in urban markets (Huang & Rozelle, 1998). As Pollak (1970) noted, consumer demand functions often change when the consumer becomes aware of goods outside of his/her past consumption.

The increased demand for western-style convenience foods has been associated with a higher frequency of dining out, increased patronage of grocery stores (compared to traditional wet markets), and increased consumption of snack foods (Veeck & Veeck, 2000; Jussaume, 2001). The increased frequency of dining away from home at western restaurants derives from the need for clean, reliable, medium-priced restaurants in Beijing (Yan, 1997). Western quick service restaurants, such as McDonalds and Kentucky Fried Chicken (KFC), moved to fill this increased demand for meals away from home. In fact, both McDonalds and KFC now have over 500 locations each in China, primarily in urban areas where population growth is high. These restaurants provide a moderate-cost solution for families looking for a modern dining experience, the new form of entertainment in China.

In grocery stores non-alcoholic beverages, meats, cereals, fruits, and vegetables account for the majority of Chinese expenditures on western-style processed foods (Bhandari & Smith, 2000). Hence, western food retailers, in search of new markets, have turned to China as a solution to future growth concerns stemming from flat markets in the United States and Europe. Western retail chains such as Carrefour SA of France and Walmart Inc. of the United States have

31 and 22 locations, respectively, in China and both plan to double that number by 2004 (*Wall Street Journal*, 2002). Mega stores such as these, as well a large influx of small convenience stores, often open 24 hours a day, provide packaged meal solutions, as well as a large variety of both eastern and western snack foods (Moustakerski, 2002). A recent survey of Chinese consumers in Shanghai by Marr and Hatfield (2001) found that respondents spent on average 9% of their total grocery bill on snacks alone. The western-style snacks available included potato chips, chocolates, crackers, popcorn, hard candy, and ice cream. Pringles brand potato chips were the most popular even though they were sold at a price higher than local brands. The study attributes Pringles' loyal following to the use of in-store displays at every retail outlet, rather than print or television advertising.

### **3. Previous studies examining “modern” food consumption in China**

Two primary studies investigating modern food consumption habits in China include studies by Jussaume (2001) and Veeck and Veeck (2000). Jussaume (2001) identified modern food consumption patterns as increased dietary intake of fruits and meats, other than pork, due to the popular notion that meats and fresh produce are high quality foods, securing a larger share of consumer dietary intake as income rises. This study evaluated data from a 1996 food consumption survey in Qingdao, PRC, of 542 households, including routine demographic characteristics, purchasing habits, and consumer attitudes toward name brand foods, following Sklair's (1994) discussion of the importance of brands in China. Consumers were classified into modern and traditional categories, where higher incomes and the use of supermarkets were associated with higher probabilities of consuming meats and fruits (modern category) and price

elastic demand for foods were associated with lower meat and fruit consumption levels (traditional category).

The second study, by Veeck and Veeck (2000), makes five major assumptions about food consumption patterns in China, including the increased consumption of convenience foods. This study also used survey data, this time a 1993 survey of 150 household primary shoppers in Nanjing, PRC. Cluster analysis was used to group the respondents into convenience shoppers, frequent shoppers, and traditional shoppers. Basic demographic and household characteristics, as well as purchase patterns of 40 widely available convenience foods in Nanjing were examined. Study results show that convenience shoppers are younger single adults, primarily male, still living at home with above average incomes. These consumers purchase more convenience foods than the other two groups and eat out of the house more often. Frequent shoppers include younger adults, primarily married, who still shop for food often and who eat out and purchase food at grocery stores moderately.

One drawback of the Veeck and Veeck (2000) study is the use of increased consumption of traditional Chinese convenience foods as an indicator of “modern” consumption patterns. As these foods have been a part of Asian culture for many centuries this study fails to incorporate standard signs of modernization including consumption of imported foods and name brand products (Sklair, 1994; Watson, 1997). The authors postulate that increased consumption of fast foods, although traditional in nature, is a sign of the consumer need to save time shopping for food, possibly due to busy lifestyles and two-working spouse households. This behavior is typical of consumers in western developed countries, where fast food consumption reduces grocery shopping and meal preparation time. However, this behavior is less likely in China, at

least in the case of western convenience foods, due to the increased entertainment and status value of dining out (Watson, 1997; Yan, 1997).

Interestingly, a study conducted by Hu, Duval, and Wahl (2003) which evaluated food consumption patterns among Chinese nationals living in the United States, found that the consumers surveyed ate an increasing number of convenience products, including pizza and hamburgers, not because they preferred them to traditional Chinese foods, but simply to save time. Nearly half of the survey respondents indicated their consumption of pizza and hamburgers had increased since they moved to the United States and almost 30% of the respondents ate these products at least weekly. This case may provide an interesting analysis of the effect of the traditional role of convenience foods in the United States versus that which has been adopted and localized abroad.

#### **4. Data and methodology**

##### *4.1 Survey description*

The data for this study originate from a convenience survey of consumers in Beijing, PRC, completed in August of 2002. The survey was pre-tested with expatriate Chinese graduate students in the United States before being conducted through in-person interviews by four Chinese nationals in Chinese. The survey was performed in four separate locations, including a supermarket, two outdoor markets, and one shopping area with several western quick service restaurants. These locations were chosen to ensure a cross section sampling of the Chinese population in Beijing. Also, in an effort to better elicit the consumers' true preferences concerning the products in question, data collection was done at the same time and place where actual purchase decisions were made. Interviewers solicited every third consumer that came into

the survey location. Each respondent was given a gift pack of green tea or a bottled soft drink as compensation for participating in the survey.

The survey respondents were asked questions concerning various socioeconomic and demographic factors such as household income<sup>4</sup>, employment status, gender, marital status, education level, age, number of children, and, if married, their spouse's education and employment levels. In a second level of questioning, respondents were asked about their food shopping habits and attitudes. These questions related to identification of the primary shopper for the household, the frequency of food shopping, the number of household members, attitudes toward food safety and the importance of pricing in their buying decisions, as well as preferences for domestic and imported foods.

The third level of questioning related to the respondents' consumption levels of processed potato products and attitudes toward processed foods. Respondents were asked about their consumption frequency of French fries, mashed potatoes, and potato chips both in and away from home, segregated into the levels of never, seldom (less than once a year), monthly, weekly, or daily<sup>5</sup>. Additionally, respondents were asked where they purchased these products, if their purchases of these products had changed in the last two years, how often they frequent quick service restaurants, and if they had seen advertising for these products. Finally, respondents were asked to give their opinion on the taste and health traits of these products over traditional Chinese foods.

#### *4.2 Survey results*

In total, 599 Chinese consumers were surveyed. The majority of the respondents were the primary food buyers of the household (69%) and female (63.3%). Seventy-four percent of those shoppers purchased groceries two or more times per week, for an average of four people.

The majority of the respondents were in their late 30s or early 40s, with a mean age of 38.8 years, which is slightly higher than the overall average age in China of 30 years. (The average age of respondents should be higher than the overall national average, since only adults were surveyed). The average household income ranged from 10,000 RMB (\$1,200 USD) to 25,000 RMB (\$3,038 USD),<sup>6</sup> which contains the average income in 2000 of 10,612 RMB (\$1,290 USD). The average education level of the respondents was equivalent to a high school graduate, which is above the Chinese average of a middle school education. Of the 599 consumers surveyed, 41% had seen an increase in their annual household income in the previous two years, 76% were married, 65% were employed, and 53% had a spouse who was also employed. Complete summary statistics on socioeconomic and demographic variable descriptions are presented in Table 1.

Concerning consumption levels of processed potato products, 26% of the respondents had increased their consumption of processed potato products in the last year, while 58% had level consumption of processed potato products. Fifty-one percent of the respondents purchased processed potato products only in grocery stores, 8.3% purchased them only in restaurants, and 31.7% purchased them in both grocery stores and restaurants. Eighty percent of the respondents had eaten at a McDonalds or KFC restaurant in the last year. Forty-one percent of the respondents ate French fries at least monthly, 23.4% ate mashed potatoes at least monthly, and 48.4% ate potato chips at least monthly. The lower levels of mashed potato consumption may be due to a ban on imports of the mashed potato powder used by KFC due to its higher than acceptable (by Chinese standards) sulfite levels in 2001. Additionally, 65% had seen advertising (television, newspaper, billboards) for various western convenience potato products. Interestingly, only 15.5% of those surveyed preferred imported foods to domestic foods, 31% felt

that western foods tasted better or the same as traditional Chinese foods and 44.1% felt that western foods were equally healthy or healthier than traditional Chinese foods. Given the previous literature on the “trendy” demand for imported foods this is an interesting result. The taste factor is not surprising, as Chinese often consume western-style foods for the experience rather than the taste (Yan, 1997). Full summary statistics on preference and opinion variables are presented in Table 2.

As in all surveys, it is of concern that the sample is representative of the population under study. The use of a convenience survey requires some discretion when making generalizations about consumer food preferences and attitudes in China. The potential bias here is the population choice bias, in which the population chosen does not adequately correspond to the general population. As this survey was conducted in Beijing, it is likely more appropriate for examination of consumers in large eastern Chinese cities. As noted above, the average education level achieved by our respondents is greater from national averages. However, this is representative of Beijing, which has a relatively higher educational level than that of other regions. Additionally, the large consumer base and level of economic development in Beijing has made it a target for western companies and food imports, increasing resident exposure to these products. Given the preceding concerns, we acknowledge that the extent to which the findings can be fully generalized to the broader populations is uncertain.

#### *4.3 Research analysis*

Given the discrete, ordered, and multinomial-choice nature of the survey data, the consumption of processed potato products is modeled using an ordered logit model. Further, this model is used to evaluate the factors that influence the probability of consuming processed

western foods. The qualitative choices of the processed potato products may be modeled as a linear function of the observable explanatory variables,  $x_i$ , and the unobservable variables,  $\varepsilon_i$  (Green, 2003).

$$y_i^* = x_i\beta + \varepsilon_i \quad (1)$$

The respondent's consumption behavior can be segregated into thresholds,  $\alpha_j$  where  $j = \{1, 2, 3\}$ , comparable to censoring the data. Each respondent classified his/her consumption as seldom/never<sup>7</sup>, monthly, weekly, or daily. Hence we observe

$$\begin{aligned} y_i = 0 \text{ (seldom/never)} & \quad \text{if } y_i^* \leq \alpha_1 = 0 \\ y_i = 1 \text{ (monthly)} & \quad \text{if } \alpha_1 < y_i^* \leq \alpha_2 \\ y_i = 2 \text{ (weekly)} & \quad \text{if } \alpha_2 < y_i^* \leq \alpha_3 \\ y_i = 3 \text{ (daily)} & \quad \text{if } \alpha_3 > y_i^* \end{aligned} \quad (2)$$

where the unknown  $\alpha_j$ 's are estimated along with the  $\beta$ 's. The  $\alpha_j$ 's are restricted such that  $\alpha_1 < \alpha_2 < \alpha_3$ , which is required for positive probability estimates. Assuming that the  $\varepsilon_i$ 's are independently and identically distributed the ordered-multinomial maximum likelihood estimator results. The probabilities are:

$$\begin{aligned} \text{Prob}(y_i = 0|x_i) &= F_{\varepsilon_i}(\alpha_1 - x_i\beta) \\ \text{Prob}(y_i = 1|x_i) &= F_{\varepsilon_i}(\alpha_2 - x_i\beta) - F_{\varepsilon_i}(\alpha_1 - x_i\beta) \\ \text{Prob}(y_i = 2|x_i) &= F_{\varepsilon_i}(\alpha_3 - x_i\beta) - F_{\varepsilon_i}(\alpha_2 - x_i\beta) \\ \text{Prob}(y_i = 3|x_i) &= 1 - F_{\varepsilon_i}(\alpha_3 - x_i\beta). \end{aligned} \quad (3)$$

In the empirical implementation of the model, we define  $F(\cdot)$  to be the standard logistic distribution with mean zero and standard deviation  $\sigma = \pi / \sqrt{3}$ . The solution can be characterized by an optimal estimating function represented by the first-order conditions of the maximum of the log likelihood function,

$$L = \sum_i \left\{ \begin{array}{l} I_{D_i=1} \ln(F_{\varepsilon_i}(\alpha_1 - x_i\beta)) + I_{D_i=2} \ln[F_{\varepsilon_i}(\alpha_2 - x_i\beta) - F_{\varepsilon_i}(\alpha_1 - x_i\beta)] + \\ I_{D_i=3} \ln[F_{\varepsilon_i}(\alpha_3 - x_i\beta) - F_{\varepsilon_i}(\alpha_2 - x_i\beta)] + I_{D_i=4} \ln[1 - F_{\varepsilon_i}(\alpha_3 - x_i\beta)] \end{array} \right\} \quad (4)$$

where  $I_K$  is an indicator function for the event  $K$ ,  $D_i = j$  denotes that the  $j^{\text{th}}$  alternative occurred, and  $i$  denotes individual  $i$ . As is the case with binary models, the marginal effects of the exogenous variables on the probabilities are not equal to the coefficients, only the signs are unambiguous. Marginal effects are computed by taking the first derivative of the probabilities in (3) with respect to  $x_i$ .

As the motivation for consumption of each type of processed potato product may be different, or virtually unrelated, we have estimated each product separately rather than as a system. For example, potato chips, due to their new availability in grocery stores are likely to be consumed at home, while French fries are most commonly consumed as part of a meal away from home. Hence, these products may be consumed in the home or away from home and are not specifically related to any one type of retail environment.

#### 4.4 Independent variable overview

The following vector of explanatory variables was considered for their effect on the probability of consuming each of the processed potato alternatives:

$$x_i = \{GD, INC, EDU, AGE, EMP, MS, TWHH, CHI, RTU, ADV, DVSI, TST, HL\} \quad (5)$$

The first eight variables are standard demographics such as the respondent's gender ( $GD$ ), annual household income ( $INC$ ), level of education ( $EDU$ ), current age ( $AGE$ ), stated employment level ( $EMP$ ), indicating working or not working, current marital status ( $MS$ ), dual working-spouse household ( $TWHH$ ), and finally if there are children in the respondent's household ( $CHI$ ). The

dual working-spouse household variable was included to measure the potential impact of time constraints in terms of food shopping and/or preparation. The existence of children in the household has been associated with increased concern with food safety and nutrition among parents in previous research. These demographic variables will help to distinguish or group consumers, thus aiding in the identification of “modern” type consumers.

The last five variables represent the respondent’s attitudes towards western-style convenience foods, motivated by status and taste/health concerns. *RTU* is a variable indicating the respondent moved from a rural to urban area in the previous two years. This variable represents the importance of the new availability of foods in the consumption decision. Theory predicts that as population growth expands in urban areas where western convenience foods are more readily available, especially in supermarkets, consumers will become more familiar with these foods and add them to their consumption history (Jussaume, 2001). The World Bank predicts continued urbanization in China, with 42% of the population, or upwards of 600 million people, living in urban areas by the year 2020 (Wu, Gottlieb, & Davis, 1998-99). *ADV* represents whether or not the respondent has seen advertising for the processed potato products in question. *DVSI* represents the respondents’ preferences for domestic foods over imported foods, and *TST* represents their responses to whether or not they feel western foods taste better than traditional Chinese foods. Finally, *HL* represents whether or not they feel western foods are equally healthy or healthier than traditional Chinese foods.

The discrete or continuous nature of the explanatory variables is noted in Tables 1 and 2. The grouping of discrete variable responses for estimation purposes can be found under the “coding” column in Tables 1 and 2 as well.

## 5. Discussion of results and applications

The model represented in (1) was estimated for each processed potato alternative: French fries, potato chips, and mashed potatoes. Tests for heteroscedasticity indicated that corrections were necessary for one to two variables in each model. Hence, corrected coefficients and marginal effects are provided in Tables 3 and 4. The variables which had a statistically significant effect on French fry consumption included female gender, higher income levels, lower age levels, single marital status, existence of children in the household, an opinion that western foods are equally healthy or healthier than traditional Chinese foods, and the opinion that western foods taste just as good as or better than traditional Chinese foods. As younger people tend to be more open to trying new foods, are influenced by the latest fashion or fad, and are often targeted by advertising, it seems plausible that young people would consider new-to-market products, including western-style foods. In contrast, older people tend to stick with traditional foods and preparation methods. In other words, they have formed habits in which current preferences depend on past consumption patterns (Pollak, 1970).

The probability of consuming mashed potatoes is significantly influenced by younger age levels, male gender, a single wage earner (unmarried or with unemployed spouse), and the opinion that western foods taste just as good or better than traditional Chinese foods. The variables which significantly influenced potato chip consumption included female gender, higher income levels, existence of children in the household, and the opinion that western foods taste just as good as or better than traditional Chinese foods. The existence of children in the household may influence food preferences for two primary reasons. First, as French fries and potato chips are often popular foods for children, who also like to eat at restaurants such as McDonald's, children are likely to encourage their parents to purchase these products and eat at

such restaurants. Even parents who dislike the food will eat at McDonalds if their children wish because they can't say no, a result of China's one child policy and treatment of children as little "emperors" or "empresses" (Yan, 1997). Additionally, many western restaurants in China promote themselves as excellent places for family gatherings and birthday parties, often providing small gifts to birthday party attendees.

It is worth noting from the above discussion that gender and positive opinions concerning taste characteristics of western foods significantly influenced increased consumption of all three processed potato products. These two variables provide a backbone for relevant factors in western-style convenience food consumption. Female gender, significant for both French fry and potato chip consumption, is not surprising. Watson (1997) noted that western quick service restaurants in China have become a sanctuary for women looking to avoid male-dominated restaurants.

Additionally, higher income levels, younger ages, and the existence of children in the household influenced increased consumption of at least two of the three products. Obviously, Chinese consumers who are indeed realizing income increases can afford to take advantage of the new products and restaurant options available and those consumers who have familiarity with western convenience foods and/or who have previously consumed these products are more likely to continue doing so. These consumers may be more open to trying new products; they are less engrained into the idea that traditional foods taste better and/or are healthier. As Pollak (1976) points out, consumer demand functions shift over time as contractually fixed commitments, such as housing, expire, consumers become aware of goods outside their range of past consumption, and change their habits, which were based on past consumption patterns. Perhaps, future

research might consider analyzing the income elasticities of western-style convenience foods in China.

Interestingly, the level of the respondents' education was not a significant indicator of processed potato consumption. This is contrary to previous studies which have shown a definite link between education and consumption patterns, or education, income and consumption patterns (Bhandari and Smith, 2000). Additionally, education tends to reduce people's dependence on the continuation of the status quo, which increases the elasticity of substitution between goods (von Weizsacher, 1971), which may be a factor for why younger adults are willing to try new products. For our sample, the majority of the respondents had a similar education level (65% secondary school), which limits the variation across consumers. Also, the status symbolized by western foods and the view of western restaurants as "clean and scientific" may make them popular with consumers of all educational levels.

Two additional variables which were found to be insignificant indicators of processed potato consumption include awareness of product advertising and rural to urban movement. Such results would indicate that advertising has little or no effect on consumption patterns, at least for this cross section of the Beijing population. Interestingly, as Chinese television commercials appear only between programs and are unlikely to be seen due to channel switching, McDonald's does not advertise on television (Yan, 1997). Studies in China have shown that magazines are effective vehicles for foreign companies hoping to reach status-seeking consumers (Hung, Gu, & Tse, 2005).

Additionally, the literature has shown that rural to urban movement is likely to change food consumption patterns. Its insignificance in this study may be a result of two separate issues. First, rural residence may be of no consequence, as consuming western food, especially

American, has become a common tourist event for rural dwellers visiting Beijing (Yan, 1997). Secondly, the majority of new urban residents in China are surplus farmers and laid-off employees from state-owned enterprises (*China Daily*, 2004). These residents are actively seeking work and are likely unable to purchase more expensive western foods. Chinese urban poverty rates have recently outpaced rural rates, due largely to rural to urban movement (*People's Daily Online*, 2006).

## **6. Summary and conclusions**

This study examines modernization trends among Chinese consumers in Beijing, PRC by identifying the characteristics and attitudes of consumers more likely to favor western-style convenience foods. We find that consumers with higher income levels, favorable opinions of the taste characteristics of western foods, younger adults, primarily of the female gender, and the existence of children in the home are more likely to consume western-style processed potato products. Obviously, younger people who are open to trying new products and have the disposable income to do so, and in many cases have young children, are the primary demographic target for western-style convenience foods.

The market potential for western-style convenience foods in China is substantial. Although 50-60% (depending on product) of the consumers in this study had no previous processed potato consumption experience, these products are currently priced much higher than traditional Chinese snack or home-prepared foods. It is not uncommon for low income consumers to spend a large income share on food products and have a high price elasticity of demand. In China, the average consumer still dedicates a large portion of his/her expenditures to food items, 60% of disposable income versus 11.3% of disposable income in the U.S. (Kohls &

Uhl, 1998). As real income continues to rise in China, consumer food expenditures as a proportion of income will likely decrease, but price elasticities may also fall as consumers choose higher priced western restaurants and products for such reasons as convenience and status.

An understanding of the modernization trends in Chinese consumption patterns, including the move towards western-style convenience foods and the consumer characteristics favoring these foods, will undoubtedly provide assistance to both domestic Chinese and international food suppliers looking to expand their markets in China. Suppliers should also consider new and unique products that cater to consumers who do not favor western foods, but have chosen to “modernize” in differing ways. Interestingly, media advertising has little or no effect on increasing consumption, at least for the western-style convenience foods included in our sample. Magazine ads targeted at young status conscious consumers or store displays, which familiarize consumers with new products at the point of purchase, would likely be more effective based on the results of this study and previous studies.

In conclusion, this study may shed some light on the modernization process and its link to western-style convenience food consumption behaviors world-wide. Mintz (1997), in a discussion of the American hamburger and French fry meal, writes, “A small number of foods, representative of a single modern society, prepared in highly standardized ways, can apparently find enthusiastic consumers nearly everywhere,” (page 184). The popularity, especially among younger adults and those with families, of the standardized food-delivery environment Mintz mentions, found in McDonald’s, KFC, and Pizza Hut, although localized and perceived differently in many countries, seem to represent a pattern of modernization among consumers in Asia, if not world-wide. For example, Starbucks Coffee Company, a successful American firm

gone multinational, offers western-style coffee drinks and snacks. Starbucks currently has 9,200 locations in 22 countries world-wide and has also capitalized on the standardized food-delivery environment. At each location, Starbucks replicates a style and atmosphere, in addition to its beverage/food service, in which customers are free to spend time reading, talking with friends, and participating in clubs<sup>8</sup>, the very same activities now found in western quick service restaurants in Asia.

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**Table 1: Demographic summary statistics (N=599)**

| Variable                   | Description   | Distribution %  | Coding  |
|----------------------------|---|---|---|
| Age                        | Reported age  |   | As described.<br>Mean = 38.8<br>Std. dev. = 13.9  |
| Gender                     | 0 if male<br>1 if female  | 36.7<br>63.3  | As described.   |
| Education                  | 1. Primary school or illiteracy<br>2. Junior secondary school<br>3. Senior secondary school<br>4. Technical school<br>5. 2-year college<br>6. 4-year university<br>7. Graduate<br>8. Refused    | 7.2<br>26.2<br>38.7<br>16.0<br>9.2<br>1.7<br>0.7<br>0.3 | 0 if primary school, illiteracy, or refuse;<br>1 if Junior/Senior secondary school, or technical school;<br>2 if 2-year college, 4-year university or graduate. |
| Household Income           | 1. <10,000 yuan<br>2. 10,000-25,000 yuan<br>3. 25,000-40,000 yuan<br>4. 40,000-55,000 yuan<br>5. 55,000-70,000 yuan<br>6. >70,000 yuan<br>7. Refused  | 12.2<br>38.2<br>24.9<br>12.7<br>4.7<br>3.2<br>4.1       | As described.   |
| Children                   | 1 if yes<br>0 if otherwise  | 61.1<br>38.9  | As described.   |
| Employment Status          | 1. Full time employed<br>2. Part time employed<br>3. Unemployed<br>4. Housemaker<br>5. Retired<br>6. Refused<br>7. Student  | 49.7<br>15.7<br>5.2<br>2.8<br>18.2<br>2.0<br>6.4        | 1 if full or part-time employed;<br>0 if otherwise.   |
| Marital Status             | 1 if married<br>0 if single   | 76.3<br>23.7  | As described.   |
| Spouse's Employment Status | 1. Full time employed<br>2. Part time employed<br>3. Unemployed<br>4. Housemaker<br>5. Retired<br>6. Refused<br>7. Student  | 44.2<br>7.5<br>5.8<br>3.0<br>14.7<br>.9<br>.2           | 1 if full or part-time employed;<br>0 if otherwise.   |
| Spouse's Education         | 1. Primary school or illiteracy<br>2. Junior secondary school<br>3. Senior secondary/secondary<br>4. Technical school<br>5. 2-year college<br>6. 4-year university<br>7. Graduate<br>8. Refused | 5.0<br>21.4<br>27.9<br>12.5<br>7.5<br>1.0<br>.7<br>.3   | 0 if primary school, illiteracy, or refuse;<br>1 if Junior/Senior secondary school, or technical school;<br>2 if 2-year college, 4-year university or graduate. |
| Dual-Career Household      | 1 if yes<br>0 if otherwise  | 53<br>47  | As described.   |
| Rural to Urban             | Moved in last two years<br>1 if rural to urban<br>0 if otherwise  | 31.7<br>8.9<br>22.8                                     | As described.   |

**Table 2: Preference and opinion summary statistics (N=599)**

| <b>Variable</b>            | <b>Description</b>  | <b>Distribution %</b>  | <b>Coding</b>  |
|----------------------------|---|--|--|
| Shopper                    | 1 if main shopper<br>0 if otherwise   | 68.8<br>31.2   | As described.  |
| Consumption Levels         | French Fries<br>1. Never<br>2. Seldom<br>3. Monthly<br>4. Weekly<br>5. Daily<br>Mashed Potatoes<br>1. Never<br>2. Seldom<br>3. Monthly<br>4. Weekly<br>5. Daily<br>Potato Chips<br>1. Never<br>2. Seldom<br>3. Monthly<br>4. Weekly<br>5. Daily | 21.3<br>37.6<br>12.5<br>26.7<br>1.9<br>43.9<br>32.6<br>8.7<br>13.4<br>1.4<br>20.5<br>30.9<br>13.3<br>29.7<br>5.6 | Coding for estimation:<br>0 if never or seldom; 1 if monthly; 2 if weekly; 3 if daily.   |
| Purchase Area              | 1. Grocery store<br>2. Restaurant<br>3. Other<br>4. Both grocery and restaurant<br>5. Never buy   | 51.4<br>8.3<br>2.5<br>31.7<br>6.1  | Coding for estimation:<br>0 if never; 1 if other; 2 if grocery store; 3 if restaurant; 4 if both grocery store and restaurant. |
| Advertising                | 1 if seen advertising<br>0 if otherwise   | 64.6<br>35.4   | As described.  |
| Taste                      | 0 if western foods taste worse than traditional Chinese foods<br>1 if western foods taste the same or better than traditional Chinese foods   | 68.8<br>31.2   | As described.  |
| Health                     | 0 if western foods are less healthy than traditional Chinese foods<br>1 if western foods are equally healthy or healthier than traditional Chinese foods  | 55.9<br>44.1   | As described.  |
| Domestic vs. Imported Food | 0 if prefers domestic to imported foods<br>1 if prefers imported to domestic foods  | 84.5<br>15.5   | As described.  |

**Table 3. Explanatory variable coefficient values**

| Explanatory Variables        | French Fries          | Mashed Potatoes    | Potato Chips      |
|------------------------------|-----------------------|--------------------|-------------------|
| Constant                     | -1.7606 (.4955)***    | -1.6775 (.3775)*** | -1.103 (.3309)*** |
| Gender (GD)                  | .6707 (.2198)***      | -.4518 (.2086)**   | .6875 (.1604)**   |
| Income (INC)                 | .2837 (.9041)***      | .7471 (.0649)      | .1000 (.05919)*   |
| Age (AGE)                    | -.0009344 (.0005483)* | .000926 (.00121)*  | .00017 (.000389)  |
| Employment (EMP)             | .0004238 (.1899)      | .3369 (.2233)      | .1113 (.20314)    |
| Two Worker HH (TWHH)         | .2406 (.2894)         | -.4257 (.2509)*    | -.0723 (.2288)    |
| Children (CHI)               | .3332 (.1502)**       | .1077 (.1531)      | .2709 (.1409)**   |
| Rural to Urban (RTU)         | -.4586 (.3820)        | -                  | -                 |
| Education (EDU)              | .09657 (.2560)        | .00383 (.1844)     | .04457 (.1620)    |
| Advertising (ADV)            | .2734 (.2270)         | .1900 (.1570)      | .17113 (.1431)    |
| Domestic vs. Imported (DVSJ) | .00136 (.00152)       | .000289 (.00081)   | .00120 (.000808)  |
| Marital Status (MS)          | -.5126 (.2850)*       | .06224 (.2148)     | -.2389 (.1969)    |
| Taste (TST)                  | .6745 (.6745)***      | .3758 (.1560)**    | .52119 (.1479)*** |
| Health (HL)                  | .00102 (.000905)      | .000166 (.000730)  | .000802 (.00070)  |
| Log likelihood function      | -567.3772             | -433.2797          | -646.3965         |

(.): Standard error.

\*\*\*: Significant at 1%; \*\*: Significant at 5%; \*: Significant at 10%.

**Table 4. Marginal effects of significant variables at means**

| Explanatory Variables        | French Fries |         | Mashed Potatoes |         | Potato Chips |        |
|------------------------------|--------------|---------|-----------------|---------|--------------|--------|
|                              | Y=2          | Y=3     | Y=2             | Y=3     | Y=2          | Y=3    |
| Gender (GD)                  | .0105        | .00041  | -.04652         | -.00481 | .01111       | .00134 |
| Income (INC)                 | .00443       | .00018  | -               | -       | .00162       | .00020 |
| Age (AGE)                    | -.00001      | .0000   | .0081           | .00084  | -            | -      |
| Employment (EMP)             | -            | -       | -               | -       | -            | -      |
| Two Worker HH (TWHH)         | -            | -       | -.00322         | -.00021 | -            | -      |
| Children (CHI)               | -.12624      | -.00959 | -               | -       | .00438       | .00053 |
| Rural to Urban (RTU)         | -            | -       | -               | -       | -            | -      |
| Education (EDU)              | -            | -       | -               | -       | -            | -      |
| Advertising (ADV)            | -            | -       | -               | -       | -            | -      |
| Domestic vs. Imported (DVSJ) | -            | -       | -               | -       | -            | -      |
| Marital Status (MS)          | -.00801      | -.00032 | -               | -       | -            | -      |
| Taste (TST)                  | .01054       | .00042  | .00284          | .00018  | .00842       | .00102 |
| Health (HL)                  | -            | -       | -               | -       | -            | -      |

Y=2: Weekly consumption; Y=3: Daily consumption.

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<sup>1</sup> Authors found significantly positive income elasticities for these products in China. Guo et al. (2000) show that from 1989 to 1993 dietary fat went from 19% to 26% of total daily caloric intake in China.

<sup>2</sup> Authors found significant negative income elasticities for these products in China.

<sup>3</sup> Authors found significantly positive income elasticities for these products in China.

<sup>4</sup> Respondents were asked to choose categories of income due to reluctance to give specific income values in test groups.

<sup>5</sup> Consumption literature focuses on the frequency of consumption rather than a continuous measure of quantity consumed (See Hu, Duval, & Wahl, 2003; Veeck & Veeck, 2000; and Jussaume, 2001).

<sup>6</sup> At an exchange rate of \$1 USD = 8.23 RMB.

<sup>7</sup> We have chosen to combine the never and seldom responses for processed potato consumption, as the difference between the two is insignificant.

<sup>8</sup> See Starbucks Coffee Company Spain (Noestros Locales) Website at [http://www.starbucks.es/es-es/\\_Our+Stores/](http://www.starbucks.es/es-es/_Our+Stores/), where the promotion of the atmosphere described, and popular in the U.S. as well, is mentioned.