Customer Profiles of Retail Food Outlets In the Emerging Market Economy of Bulgaria

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The objective of this study was to identify profiles of consumers frequenting three types of food retail outlets—grocery stores, farmer markets, and street stalls—to purchase food in a transition economy in Bulgaria. This study estimated two-stage decision models to distinguish between the two decisions of choosing to shop at a particular outlet and how often to shop. Retail-outlet selection and shopping frequency were affected by different sets of sociodemographic characteristics. In particular, household income was a major factor influencing the selection of farmer markets and street stands, but had no effect on the selection of and shopping frequency at grocery stores.

The objective of this study is to determine profiles of consumers frequenting three major types of retail food outlets—grocery stores, farmer markets, and street stands—in the transition economy of Bulgaria. Patronage of each type of retail outlet is assumed to reflect the purchasing behavior of consumers and other socioeconomic characteristics. However, in Bulgaria the existence of many types of retail food outlets remains essential to the well-being of consumers. Therefore, we investigate whether or not there are differences in profiles of consumers patronizing several types of retail food outlets and specify three separate relationships, corresponding to shopping frequency at grocery stores, farmer markets, and street stands.

The centrally planned economic systems in Eastern European countries placed little emphasis on consumer goods, and their investments in the retail food sector were limited. In Bulgaria, a large portion of the urban retail infrastructure remained unchanged for decades, and the construction of new retail shops also lagged. Since 1990 the privatization process has been proceeding at a slow pace except for land restitution and the return of real estate property to previous owners. The return of land and real estate property was socially acceptable and supported by the majority of Bulgarians (Doinev 1995). Real property restitution enabled individuals to open retail businesses. The transition to a market-oriented economy established economic incentives for development of the retail sector. Rapid privatization of the retail sector was stimulated at the beginning of transition by those linked to political structures, who could secure favorable long-term leases (Panov 1994). Spontaneous takeovers by store management (Levinson 1995) also took place in response to the void resulting from the collapse of government-controlled retail organizations. Store management continued to operate stores although the central system of distribution, accounting, and technical support disintegrated. Some private owners rented repossessed property or took over the management of retail stores in their buildings.

The trade sector accounted for 60 percent of privatized property (Panov 1994) and 75 percent of private-sector revenues in 1993 (Hillman, Mitov, and Peters 1995). By the mid-1990s, 90 percent of retail trade was municipal or private. Bulgarians showed entrepreneurial spirit as mirrored in the number of new retail businesses, estimated at 210,000 in 1992. The vast majority of these firms were small, employing fewer than five persons. Many retail stores were operated by owner families, providing employment and reducing costs. Undercapitalization has been less critical in retailing than other sectors because new owner-operators could forego the rent. Funds were initially

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needed primarily to purchase inventories to fill the shelves, and favorable tax laws reduced tax obligations by writing off all investments (Hillman, Mitov, and Peters, 1995).

The private retail sector evolved rapidly while the population was struggling with the question of how to adjust to emerging economic conditions. Macroeconomic policy reforms aimed at stabilizing the government budget led to a decline in real household incomes. The relative importance of food purchases increased and private retailers focused on sales of groceries. In 1993 food expenditures of a Bulgarian household averaged about 40 percent of its budget (Strong, Reiner, and Szyrmer 1996). The importance of food shopping, rapid privatization of food retailing, and the continuing adoption of market-economy mechanisms call for an investigation of consumer food-purchasing behavior in terms of retail outlet selection and use.

Furthermore, we distinguish between decisions to shop at a particular retail outlet and how often to shop at each market. We use consumer-panel survey data which report food-shopping frequency in five categories: 'Almost never,' 'Once a month,' 'Every other week,' 'Once a week,' 'More than once a week.' The respondents who chose the category 'Almost never' correspond to the group of non-shoppers at a particular outlet. The distinction between shoppers and non-shoppers required the use of a two-stage model to identify consumer and household characteristics influencing shopping behavior in an economy in transition. Knowledge of customer profiles would enable managers to select the optimal range of food products to lower inventory costs while maintaining and expanding sales. Food manufacturers, distributors, and wholesalers equipped with the knowledge of consumer profiles can adjust supplied product mix to match the type of outlet. Point-of-purchase promotions and consumer education will be enhanced because knowledge of consumer profiles helps improve the content and the delivery of promotion programs. Finally, investment and location decisions can take into account emerging consumer segments characterized by incomes, other socioeconomic variables, and regional shopping preferences.

Food Retailing in Bulgaria

The past food-consumption patterns in Bulgaria were largely determined by central planners (Buckwell et al. 1994) and food prices were deliberately set low, but the government budget could not sustain the consumption level. Although the share of food in total expenditures increased between 1990 and 1996 (Mergos et al. 2001), quantities of various foods consumed changed. The resulting transition to a market-oriented economy forced changes in household food-expenditure patterns. For example, the consumption of meat and meat products declined, while the consumption of staples, including many starchy products (e.g., bread and corn meal), increased. In 1992 the government stopped monitoring the majority of retail food prices, including sunflower oil, sugar, wheat flour, and pasta (Davidova 1994), and the share of goods with prices free of any form of government control represented 84 percent of retail turnover (Bogetić 1995). Recently, retail prices of only 14 food items have been subject to government pricing guidelines.

The retail food sector in Bulgaria includes grocery stores formerly owned or operated by cooperatives or government agencies (Hobbs et al. 1997). Grocery stores co-existed with farmer markets. Reinstatement of land ownership stimulated food production for immediate home use but also encouraged the sale of surplus home-processed foods—e.g., pickled vegetables and shelled nuts—at farmer markets. Farmer markets thrived and new open-air markets are being established in residential areas lacking adequate density for retail grocery outlets. However, the number of street vendors grew most rapidly among retail food outlets. Low capital requirements, portability, lack of licensing laws or enforcement, unemployment, and cultural traditions seem to have contributed to the proliferation of street vendors. Street vendors exploited the flow of pedestrian traffic, locating at intersections of major streets, near transportation depots, and near major shopping areas. The development of street trade reflects the attitude of Bulgarians, who displayed an active strategy as a way to improve their prosperity (Doinev 1995). The young in particular perceive working in non-traditional areas, such as trade, to be prestigious.

Property restitution and its conversion into re-

tail stores, together with price liberalization and the termination of government monopolies on international trade, stimulated entrepreneurial activity in Bulgaria (Levinson 1995). Currently, the retail sector consists of many independent small operators, and consumers have access to a considerably wider selection of domestic and imported foods than under the old centrally planned system.

The physical layout varies across types of retail outlets, but variation within each type is fairly limited. A typical grocery store is small by Western standards, with a single queue where the salesperson selects individual items from shelves behind the counter. Farmer markets vary mostly by size (i.e., the number of stalls) rather than by the type of food products offered. Street stands selling food products tend to occupy a small space and carry a limited inventory in comparison to other outlets.

The Conceptual Framework

In this study we use the utility-maximization model as a conceptual framework to study food-shopping behavior of consumers in a transition economy. We assume that the individuals' utility depends on the consumption of food products they purchase from grocery stores, farmer markets, and street stands, but not on the time they spend on the trip and shopping.[1] A consumer's utility-maximization model is given by the equation

$$(1) \qquad U = U [D_G \cdot G, D_F \cdot F, D_S \cdot S, NF]$$

where G, F, and S are the volumes of food products purchased in three outlets, respectively; NF denotes the volume of nonfood composite good; $D_G = 1$ if a consumer shops at grocery store and 0 otherwise; $D_F = 1$ if a consumer shops at farmer markets and 0 otherwise; $D_S = 1$ if a consumer shops at street market and 0 otherwise; and budget constraint is given by

$$(2) \quad Y = P_G \cdot D_G \cdot G + P_F \cdot D_F \cdot F + P_S \cdot D_S \cdot S + P_{NF} \cdot NF$$

where P_G, P_F, and P_S are price indices of the food products purchased at grocery stores, farmer markets, and street stands, respectively, and P_{NF} is the price index of nonfood composite good.

This constrained maximization model distinguishes non-shoppers from shoppers for each retail outlet, requiring the use of a two-stage decision model. In the first-stage, consumers make decisions to shop in a particular type of retail outlet, given their budget and price indices. Conditional on the decision to shop, consumers determine how often to shop in the second-stage (the quantity of food products purchased in each retail outlet is assumed to be proportional to the shopping frequency). Resulting binary demand equations representing the first-stage decision and conditional demand equations for the three retail outlets are given by,[2]

$$(3) \qquad D_G = Z\theta_G + \nu_G \quad G^* = Z\beta_G + \epsilon_G$$
$$G = G^* \text{ if } D_G(Z) > 0$$
$$= 0 \text{ otherwise}$$

$$(4) \qquad D_F = Z\theta_F + \nu_F \; F^* = Z\beta_F + \epsilon_F$$
$$F = F^* \text{ if } D_F(Z) > 0$$
$$= 0 \text{ otherwise}$$

$$(5) \qquad D_S = Z\theta_S + \nu_S \; S^* = Z\beta_S + \epsilon_S$$
$$S = S^* \text{ if } D_S(Z) > 0$$
$$= 0 \text{ otherwise,}$$

where $Z = [Y, P_G, P_F, P_S]$ and G^*, F^*, and S^* are optimal shopping frequencies for each retail outlet. These models indicate that once a consumer decides to shop at a particular type of retail outlet, optimal solutions are always positive. Given the ordinal nature of the shopping-frequency data, equations (3) through (5) are estimated with the ordered probit model. Since McKelvey and Zavoina (1975) developed the ordered probit model and applied it to the analysis of Congressional voting

[1] Refer to Doti and Sharir (1981) and Blaylock (1989) for the full household-production model incorporating utility associated with time spent on household activities and leisure.

[2] This model corresponds essentially to the first-hurdle dominance model which can be empirically represented by the sample-selection model (Jones 1989). A characteristic of this model is that the first-stage decision dominates the conditional-demand decision, implying that consumers not shopping in a particular outlet provide no restrictions on the shopping-frequency decision. When the error terms are not correlated between the two stages, the first-hurdle dominance model is reduced to complete-dominance model.

behavior, it has often been used in modeling stated preferences about food safety (e.g., Misra, Huang and Ott 1991; Huang, Kan, and Fu 1999). To accommodate potential two-step shopping behavior in Bulgaria, we estimate the ordered probit model with sample selection (Greene 1995). The log likelihood function for the sample-selection ordered probit model, which assumes that error terms are correlated between the first and second stages within each system, is given by

$$(6)\quad \ln L = \Sigma_{d=0} \ln\Phi(-\theta'Z) + \Sigma_{d=1} \ln\{\Phi_2[\mu_j - \beta'Z, \theta'Z, \rho] - \Phi_2[\mu_{j-1} - \beta'Z, \theta'Z, \rho]\}$$

where $\Phi(.)$ = standard normal CDF, $\Phi_2(.,.,.,.)$ = bivariate standard normal CDF, and ρ = correlation coefficient. When the correlation coefficient (ρ) is not statistically different from zero, the model can be separated into the probit for the decision of whether or not to shop and the ordered probit for the shopping frequency decision.

Data and the Shopping-Frequency Summary

A paucity of accurate data concerning the Bulgarian economy frustrated applied research efforts. Macroeconomic data collection has been supported by international organizations (Jones and Miller 1997) but microeconomic data are scarce. Consequently, researchers have been forced to collect their own data. Data used in this study focused on consumers and were collected from a representative sample of the Bulgarian population. Data were collected with the help of the National Statistical Office from every district in Bulgaria in the summer of 1997. The surveyed households were members of a national household panel who were delivered the survey instrument by enumerators. Four weeks later enumerators collected the completed questionnaires. A total of 2,133 questionnaires were returned from the 2,500 copies initially distributed, a return rate of 85 percent. Careful preparation of the survey instrument, including its design, translation into Bulgarian, and a pretest, helped to avoid misinterpretations in self-administering the questionnaire. The survey instrument consisted of a series of questions concerning shopping and eating habits, and household and consumer characteristics.

Table 1 shows the characteristics of respondents who provided information about shopping frequency in various types of outlets. Respondents represented a high average level of education corresponding to reports of highly educated population for middle-income countries (Walton 1995). A substantial portion of Bulgarians received technical education to manage industrial plants. The transition to a market economy revealed poor competitiveness of many industrial products, causing foreclosures and downsizing. Respondents were divided into 'employed' and 'not employed' where the latter category includes unemployed, pensioners, and students. Labor availability, elimination of production subsidies, trimming of welfare programs, and a reduction of transfers caused the compression of incomes. The majority of respondents reported income in the two lowest income categories. Such income distribution determines the type and quantities of foods purchased by households. Staples were likely the most important to the vast majority of households, while intermittent purchases of other foods allowed for some diversity of daily diets. Snacks and sweets, sold mostly by street vendors, could be considered treats reserved for special occasions.

Figure 1 shows food-purchase frequencies in three types of retail outlets. Grocery shops were visited more than once a week by nearly 52 percent of respondents, considerably more often than any other retail outlet. Only about 23 percent of survey participants indicated they shopped at grocery stores once or twice a month. Furthermore, 53 percent of consumers reported that they frequented farmer markets at least once a week. This type of outlet was the second most important source of food purchases. Just over 14 percent of respondents reported buying food at least once a week from street stands, a figure considerably smaller than the corresponding frequency for the other two types of outlets. Furthermore, more than two-thirds of respondents reported "almost never" buying food from street vendors, compared to about 16 percent reporting this purchase frequency at farmer markets and 6.3 percent in grocery stores.

The distribution of shopping frequency across the three type of outlets reflects the ability of each type to meet the needs of shoppers in Bulgaria. Dry goods and bread can be found in grocery stores. The decrease in real incomes resulted in increased consumption of staples, especially starches

Table 1. Description and Summary Statistics of Variables Used in Empirical-Model Estimation.

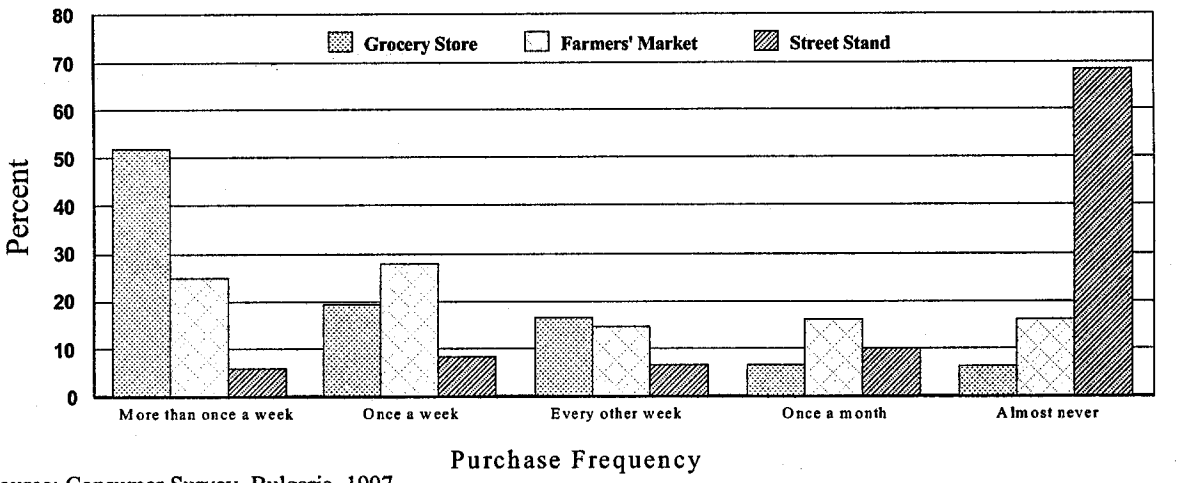
Variable	Measurement units	Mean
Demographic and Socioeconomic Profile		
Household income (in leva)	1=10,000 or less; 2=10,001-20,000; 3=20,001-30,000; 4=30,001-40,000; 5=40,001-50,000; 6=50,001 or more	1.68
Education	1=4 years; 2=7 years; 3=Vocations; 4=High school; 5=Technical; 6=Junior; 7=Univ.; 8=Postgraduate	3.84
Gender	1=Female; 0=Male	0.67[a]
Age	Years	52.11
Employment status	1=Employed; 0=Not employed	0.40
Household size	Number of household members	2.86
Marital status	1=Married; 0=Not married	0.63[a]
Garden ownership	1=Owns a garden; 0=Otherwise	0.53[a]
Price perception	1=Not important; 2= Somewhat important; 3=Important; 4= Very important	3.32
Geographic Area[b]		
Coastal Region	1=Coastal; 0=Otherwise	0.29 [a]
Northern Region	1=Northern; 0=Otherwise	0.18 [a]
Metropolitan Region	1=Metropolitan; 0=Otherwise	0.23 [a]

[a] For binary variables the mean represents the share of responses coded as 1 among all collected answers.

[b] Southern region was used as a base in the empirical-model estimation; the share of this region residents in the total sample is .30.

Source: Consumer Survey, Bulgaria, 1997.

Figure 1. Food-Purchase Frequency in Three Types of Retail Outlets, Bulgaria, 1997.



Source: Consumer Survey, Bulgaria, 1997.

(Buckwell et al. 1994). Farmer markets supplied mainly produce to urban dwellers and about one-third of respondents visited farmer markets no more often than once each month. Street stands seemed to attract a relatively small number of respondents who shopped there on a regular basis; about two-thirds "almost never" purchased food there. Rural respondents could shop at farmer markets and street stands only during a visit to a city, but many raised their own produce on household plots.

Empirical Model

A rationally behaving Bulgarian consumer selects a retail outlet that supplies foods maximizing his or her satisfaction. Assortment is a major factor differentiating the three types of retail outlets in Bulgaria. Grocery stores carry dry goods, candy, baked goods, and sometimes a limited selection of fresh produce and dairy or meat products. Farmer market stalls typically offer fresh produce, herbs (both fresh and dry), and home-processed produce, e.g., pickles and honey. Street stands tend to offer a wider selection of lower-inventory produce than a single stall at farmer markets, which generally do not carry dry goods but carry an assortment of snacks, sweets, and beverages. The frequency of food shopping at three types of outlets (Figure 1) suggests that customers patronizing each type may differ. Therefore, purchase frequency ought to be modeled separately for each type of outlet.

We defined earlier the vector of explanatory variables (**Z**) to include income and prices. Here, the prices refer to indices representing average prices of each outlet. While we do not have such price data, the survey included a question measuring consumer perceptions about price importance in food shopping. We include the perceived price importance in empirical models in an effort to investigate the significance of prices in the consumer selection of a retail outlet and shopping frequency. The vector **Z** is now expanded to include demographic and socioeconomic profiles which are expected to influence the decisions of whether or not to shop and how often to shop. Given the severe budget constraint, it can be expected that household income is a major factor influencing total food consumption, but its influence on shopping frequency may differ across various outlets. Other factors may play an important role in influencing shopping frequency. Age influences food preferences and also appears to be a valid proxy reflecting the accessability to an outlet. Population growth in Bulgaria has been negative in the 1990s (Strong, Reiner, and Szyrmer 1996) and more than one-fifth of Bulgarians are 60 years old or older. Advanced age may limit the mobility of consumers, influencing their choice of an outlet. Pensioners represent a large portion of the total population because the mandatory retirement age for some professions was as low as 50 years for women and 55 years for men (Walton 1995; Strong, Reiner, and Szyrmer 1996). Low retirement age under the centrally planned system resulted from the ideologically motivated policy to guarantee employment to all able adults, while the transition to the market economy encouraged the implementation of an early-retirement program. However, the recreational value of shopping may encourage elderly to shop more often than younger consumers. Ultimately, the direction of age effect on shopping will be tested empirically.

Household size may increase shopping frequency because staples are consumed in larger quantity and some—e.g., bread—do not maintain sensory qualities when stored at home over a long period. Preference for freshness, especially of perishables such as produce, is expected to be associated with the level of education of the respondent. Education level is used as a proxy for knowledge and exposure to information about food which influences shopping decisions and frequencies. The division of tasks among genders in Bulgarian households and a different product mix offered at the three outlet types support the observation that women may shop at different places than do their male counterparts. Also, women who are primary meal preparers are likely to be more concerned about purchasing basic food items, leading to a patronage of a specific type of outlet. Marital status may be an influential factor in determining shopping frequency in various types of outlets. Many married couples live in three-generation households, which include children and one or both parents of one of the spouses. Family celebrations tend to be more frequent in such households than in households of single adults. Multiple-generation households create division-of-labor patterns shifting food shopping away from the middle generation to older children or grandparents.

According to survey results, price was impor-

tant to Bulgarian consumers in determining their food purchases. The importance of price is a logical consequence of the steep decline in real incomes in the early 1990s. Price sensitivity may influence shopping frequency and the number of outlets visited in search of the best value. People with more income may devote less time to comparison shopping and pay less attention to the type of outlet in their food purchases, while spending time on activities other than food buying.

Concerns about maintaining food consumption at a level higher than strictly permitted by the budget constraint led to the re-emergence of self-supply of food. Many households which operated small plots of land under the centrally planned system were joined by those who were returned titles to land taken over by state and cooperative farms. Consequently, a number of households have become engaged in production of fruit, vegetables, and small livestock. For example, vegetable farming has increased in the Metropolitan region (Levinson 1995). Garden ownership provides a good measure of the ability of a household to produce food for own use, which could lower the shopping frequency. In particular, home-grown foods compete directly with foods sold at farmer markets and are expected to decrease the number of visits to markets.

Regional differences reflect the density of retail outlets associated with the urban nature of farmer markets and street vendors. Among transition economies of Central and Eastern Europe, Bulgaria has the highest level of urbanization except for the Czech Republic (Levinson 1995). To investigate the link between the region where a respondent resided and the frequency of shopping, four regions were established: Southern, Coastal, Northern, and Metropolitan; the Metropolitan region encompassed the capital, Sofia, and its suburbs. Boundaries of each region were delineated along major geographical features such as mountain ranges, rivers, or sea coast. The Southern region was omitted from the empirical model and provided the basis for comparisons of regional effects.

Estimation and Results

An ordered probit model with sample selection represented by equation (6) was estimated for each of the three retail outlets. Estimated correlation coefficients ( ) were not statistically different from zero in all three models, indicating that the decision of whether or not to shop at a particular outlet is independent from the shopping-frequency decision. The independence leads to the complete-dominance model and separate estimation of the first and second stage equations (Jones 1989). In this study the first-stage decision was estimated by a probit model while the shopping frequency decisions were estimated by an ordered probit model using only positive observations. Estimated coefficients and t-statistics are reported in Table 2. Also shown are χ^2-statistics which reject the hypotheses that all coefficients in each of the three models are equal to zero simultaneously at the α=0.01-significance level.

The decision to shop in the three types of outlets was in general affected by different variables. Gender (female), age, and price perception all positively influenced the choice of grocery stores as a source of food purchases. In Bulgaria, females traditionally shop for food, while the elderly prefer shopping in grocery stores because of their accessability and a reliable supply of basic and inexpensive staples. This plausible explanation is further supported by the effect of price perception, suggesting that those who thought that food is expensive chose to shop at grocery stores.

The decision to shop at farmer markets was positively influenced by household income, size, education level of respondent, employment status, marital status, gender, and the food-price perception. Respondents from higher-income households likely preferred fresh foods offered by farmer markets, and although lower-income households could have similar preferences, the budget constraint did not allow them to exercise this choice of food purchases. Also, respondents with more education were more likely to choose farmer markets as a source of food because fresher foods may appeal as more nutritious and expand the variety of consumed foods sought by respondents with more education. Respondents from larger households or married households were more likely to shop at farmer markets than were those from smaller or unmarried households. Large households may demand a greater variety of foods, especially if they consist of two or three generations. Farmer markets carry a distinct range of foods typically unavailable at com-

Table 2. Estimation Results of the Participation Decision and Food-Shopping Frequency for Three Types of Retail Outlets in Bulgaria.

	Grocery stores		Farmer markets		Street stand	
	Participation	Shopping frequency	Participation	Shopping frequency	Participation	Shopping frequency
Constant	-0.2821	0.6956	-0.4278	0.7595	-0.0121	0.4129
	(-0.606)	(2.044)**	(-1.074)	(2.327)***	(-0.036)	(0.864)
Income	0.0483	-0.0300	0.0798	0.0370	0.0869	-0.0002
	(1.011)	(-1.065)	(1.965)**	(3.089)***	(2.844)***	(-0.005)
Education	0.0238	0.0026	0.1118	0.0870	0.0308	0.0687
	(0.795)	(0.150)	(4.661)***	(5.064)***	(1.660)*	(2.458)***
Household size	0.0101	0.0493	0.0563	0.0237	0.0420	0.0106
	(0.244)	(2.069)**	(1.739)*	(0.947)	(1.552)	(0.248)
Gender	0.4379	0.0949	0.2001	0.0277	0.0767	-0.0680
	(4.618)***	(1.609)*	(2.586)***	(0.467)	(1.177)	(-0.712)
Employment	0.0205	-0.0091	0.2254	-0.0583	-0.0056	0.0669
	(0.187)	(-0.132)	(2.416)***	(-0.886)	(-0.077)	(0.661)
Married	0.0545	0.1366	0.1300	0.1076	-0.0579	-0.1001
	(0.482)	(2.122)**	(1.632)*	(1.632)*	(-0.808)	(-0.969)
Age	0.0102	0.0043	-0.0006	-0.0004	-0.0029	0.0028
	(2.974)***	(1.845)*	(0.212)	(-0.156)	(-1.223)	(0.807)
Price importance	0.2000	0.1180	0.1597	-0.0173	-0.1535	-0.0643
	(2.203)**	(1.788)*	(2.050)**	(-0.260)	(-2.289)**	(-0.713)
Garden ownership	0.0401	-0.0984	-0.5653	-0.5187	-0.3844	-0.3252
	(-0.394)	(-1.659)*	(-6.874)***	(-8.795)***	(-5.935)***	(-3.307)***
Coastal region	0.2103	0.1360	0.1252	-0.1838	-0.0498	0.1077
	(1.281)	(1.501)	(1.302)	(-2.031)**	(-0.486)	(0.695)
Northern region	0.1770	-0.0603	0.1935	-0.1972	-0.1260	-0.1071
	(1.417)	(-0.836)	(2.057)**	(-2.699)***	(-1.510)	(-0.811)
Metropolitan region	0.1042	-0.0330	.4142	0.1626	0.2689	0.1156
	(0.863)	(-0.447)	(4.065)***	(2.246)**	(3.384)***	(1.006)
μ^1		0.8306		0.5730		0.5738
		(19.571)		(18.429)		(12.835)
μ^2		1.4056		1.5096		1.3727
		(29.864)		(34.840)		(21.107)
-Log L	425.3	2127.8	775.8	2180.5	1189.1	1534.1
-Log L (β=0)	446.0	2239.0	881.1	2454.6	1255.9	15968.2
χ^2- statistics	43.07***	233.5***	210.5***	546.9***	133.0***	128.2***

* $\alpha = .10$
** $\alpha = .05$
*** $\alpha = .01$

parable quality and selection in grocery stores. The perception that food prices were high led to choosing farmer markets as a source of purchase because seasonal produce can be purchased there at a relatively low price or high quality, offering an exceptional value for the money. As expected, households owning a garden and assumed to raise their produce were less likely to be interested in shopping at farmer markets. Residents in Northern and Metropolitan regions were more likely to choose farmer markets to shop for food than were residents in the Southern or Coastal regions. However, the choice of this outlet by residents of Metropolitan region could be influenced by the degree of urbanization and concentration of farmer markets, while the less dense network of grocery stores may be responsible for the Northerners' decision to shop at farmer markets more than in the remaining two regions.

Household income was influential in selecting street stands as a source of food purchases. Street stands offer convenience by occupying areas of high pedestrian traffic but charge a premium for the same or similar products sold in grocery stores or farmer markets. Respondents with more education were more likely to choose street stands as a place of shopping than were those with less education because of the exposure to some non-essential food products and the search for variety. The stronger the perception that food prices were high, the less likely were the respondents to shop at street stands. Similarly, garden ownership lowered the probability of shopping at street stands, in part because street stands offered similar products, such as produce, which can be raised by households, and in part because garden ownership may also reflect a greater degree of household self-reliance than households not owning a garden. Respondents in the Metropolitan area were more likely to shop at street stands because these outlets are concentrated in urban areas and are easily accessible in the capital city, Sofia.

The frequency of shopping at farmer markets was positively influenced by the level of household income. This is indicative of the particular stage of transition where it appears that income gains lead to greater demand for freshness and food variety. According to earlier observations in Bulgaria (Buckwell et al. 1994) and other transition economies (Foster and Liefert 1997), households with less income increase the consumption of staples, limiting the variety of purchased foods. The effect of income is supported by the effect of garden ownership on purchase frequency: households owning a garden were less likely to visit all three types of retail outlets because they produced similar foods in their gardens or substituted foods produced on their own for purchased goods.

Gender (Female = 1, Male = 0) positively and significantly affected shopping frequency in grocery stores. This is consistent with expectations based on empirical observations that women play an essential role in food shopping and shopping for food provides an opportunity for social interaction. The observed result was likely lower opportunity cost of time for women than men. Although prior to transition a large percentage of women were employed, women were more frequently laid-off than men. Cultural factors also place the responsibility of shopping for food on women.

Older consumers shopped for food in grocery stores more often than did younger consumers. This behavior reflects the importance of staples in the diets of older Bulgarians. Blaylock (1989) also suggested the recreational benefits of shopping as the reason behind frequent shopping by older consumers. The perceived food-price levels had a significant effect on the purchase frequency in grocery stores. This is consistent with expectations suggesting that staples and many dry goods were part of the selection offered in grocery stores, which dominate food retailing. Street vendors offer foods such as candy bars, roasted nuts, cookies, and chewing gum, which are priced relatively higher than staples. A price-conscious consumer is less likely to shop at street stands because these goods may also be purchased at some grocery stores at lower prices.

Interestingly, respondents from the Metropolitan region more often bought food at farmer markets than did consumers in other regions. This statistical relationship is consistent with the spatial distribution of the population. About 14 percent of the total population lived in greater Sofia in 1992. Consumers in the Coastal and Northern regions purchased food less often at farmer markets than did those residing in the Southern region. This may indicate a higher density of farmer markets in the latter region.

Concluding Remarks

Consumer preferences were largely ignored under the centrally planned system in Bulgaria. The transition to a market economy repositions consumers and emphasizes the importance of the retailer-customer interface as the crucial source of information along the supply chain. Suppliers now bear the responsibility and risk of making decisions. Risk can be reduced and efficiency enhanced by knowledge of consumer groups patronizing the various retail outlets.

The importance of income in the selection of retail outlet and the frequency of shopping indicates that as incomes grow, Bulgarian consumers may be expected to make more frequent purchases. On the other hand, grocery store operators may anticipate these developments and adjust the product mix offered at their stores, thus remaining competitive. The large relative share of food expenditures in household budgets may decline with increasing incomes, but the absolute expenditures will continue to rise along with consumer expectations regarding food selection, quality, and service.

Farmer markets will likely maintain their customer base. Observations from industrialized countries of Western Europe suggest that such markets fill a niche and are popular with a specific group of food shoppers. In Bulgaria, shopping at farmer markets also increased as household income increased. Street vendors will be forced to constantly adjust to evolving market conditions. Those who undertook this activity for the purpose of accumulating enough capital to establish a permanent business will withdraw from the sector. According to statistical results, high-income or well-educated Metropolitan residents were the most likely to shop at street stands. Street vendors will have to continually meet expectations of product selection and quality if they want to maintain their sales. Snack foods and beverages, already a part of street vendors' offering, may become even more pre-eminent because they attract impulse purchases.

The Bulgarian retail sector is the driving force of entrepreneurship essential to successfully privatize the economy and generate growth. If the past is indicative of the speed of future changes, one can expect that retailing will continue to see dramatic advances in the transition economy of Bulgaria, leading to greater concentration of sales. Major international supermarkets have been expanding their presence in Central Europe and likewise will evaluate opportunities to enter the Bulgarian market.

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