Volume 3, Issue 4: April 2024

CONSUMER FOOD INSIGHTS

Center for Food Demand Analysis and Sustainability
College of Agriculture, Purdue University
Joseph Balagtas, Caitlinn Hubbell and Elijah Bryant

TABLE OF CONTENTS

INTRODUCTION

Consumer Food Insights (CFI) is a monthly survey of more than 1,200 Americans from across the country. Since January 2022, the Center for Food Demand Analysis and Sustainability (CFDAS) at Purdue University has used this survey to track trends and changes in consumer food demand and food sustainability behaviors.[1] Visit purdue.ag/CFDAS or contact cfdas@purdue.edu for more details.

In this issue, we look closer at how respondents living in rural vs. urban geographies have answered our survey. We aggregated 28 months of data (January 2022 - April 2024) and applied the Rural-Urban Commuting Area (RUCA) Codes[2] to respondents' ZIP codes to classify rural (n=4,317) and urban (n=30,529) households (RUCA 1-3: urban; RUCA 4-10: rural).[3] Additional questions, created in collaboration with Caitlinn Hubbell, CFDAS market research analyst, explore consumer store choice and the attributes shoppers consider most important when choosing where to purchase their groceries.

KEY INSIGHTS FROM APRIL

- Grocery stores and superstores are the most commonly available types of food stores as reported by consumers (82%).
- A larger share of rural consumers shop for groceries at the dollar or discount stores available to them.
- Rural shoppers take more grocery shopping trips directly from work compared to urban consumers.
- Across all store formats, purchasing in-store is by far the most common way that consumers shop for groceries.
- Food selection, fresh produce and price are the most important considerations for consumers' store choice.

FOOD HAPPINESS	FOOD INSECURITY	FOOD SPENDING	GROCERY STOCKOUTS
+6%	-1%	+$12	+1%
87%	11%	$202/WEEK	9%

STORE CHOICE

Where are consumers shopping?

Additional questions this month explore consumer store choice. Over 93% of respondents reported doing 50% or more of their household's grocery shopping. Consumers were first asked to select the types of food stores available to them and their household (**Figure 1**).[4] Over 80% of consumers indicated that they have access to a superstore or grocery store. A minority of consumers indicated that there is a farmers market or specialty foods store available to them.

We followed up by asking consumers whether or not they shopped at the stores they reported as available food shopping options in the last 30 days. **Figure 2** takes the groups of respondents who selected each store type in the previous question and summarizes the share of each group that reported shopping at that available store type in the past month. Group size is given right of the bar chart. Of those who said they had a grocery store available to them, 85% said they shopped at a grocery store in the last 30 days. We also observe a large share of those who have access to a club store or superstore shopping at them (71% and 77%, respectively).

Figure 1. *'Which of the following types of food stores are available to you and your household when shopping for groceries?'*, Apr. 2024

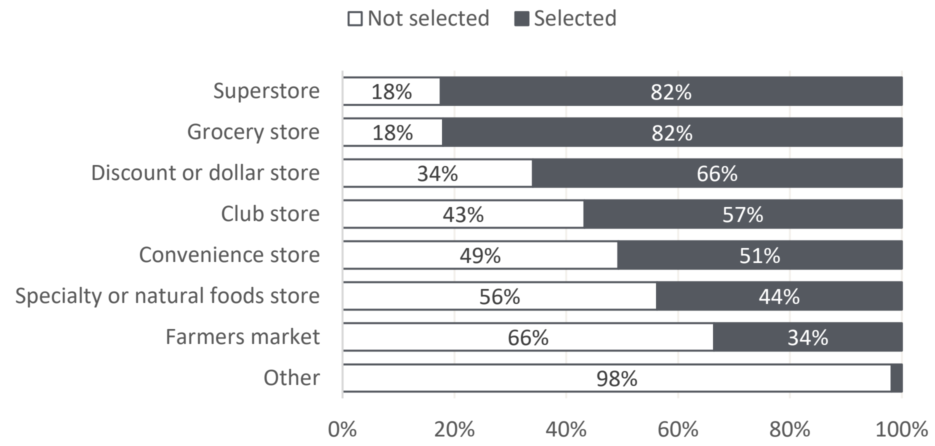
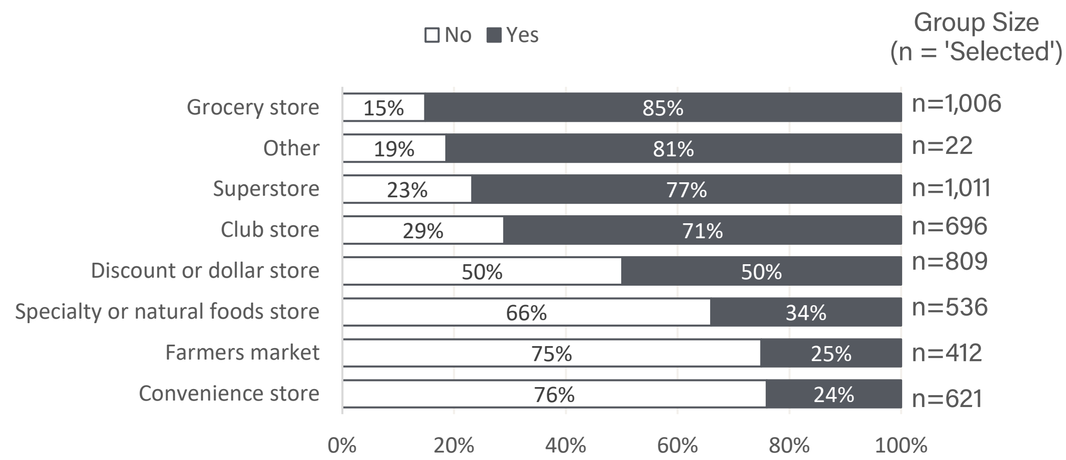


Figure 2. *'Did you shop at an available ________ for food in the LAST 30 DAYS?'*, Apr. 2024



STORE CHOICE

Where are consumers shopping?

Disaggregating the previous results by rural-urban classification reveals some differences (urban: n=1,061, rural: n=165). A larger share of rural households (78%) indicate they have a discount or dollar store available to them when shopping for groceries relative to urban households (64%). Conversely, fewer rural households said they have a club store or specialty store available to them compared to urban households (**Figure 3**).

Rural consumers are more likely to shop for groceries at an available discount or dollar store, superstore, specialty store or convenience store compared to urban consumers who have the same types of stores available to them. Interestingly, a much larger share of urban consumers who have access to a farmers market also shopped at one in the last 30 days (27%) relative to just 8% of rural consumers who have access to a farmers market (**Figure 4**).

Figure 3. *'Which of the following types of food stores are available to you and your household when shopping for groceries?'* by Rural-Urban, Apr. 2024

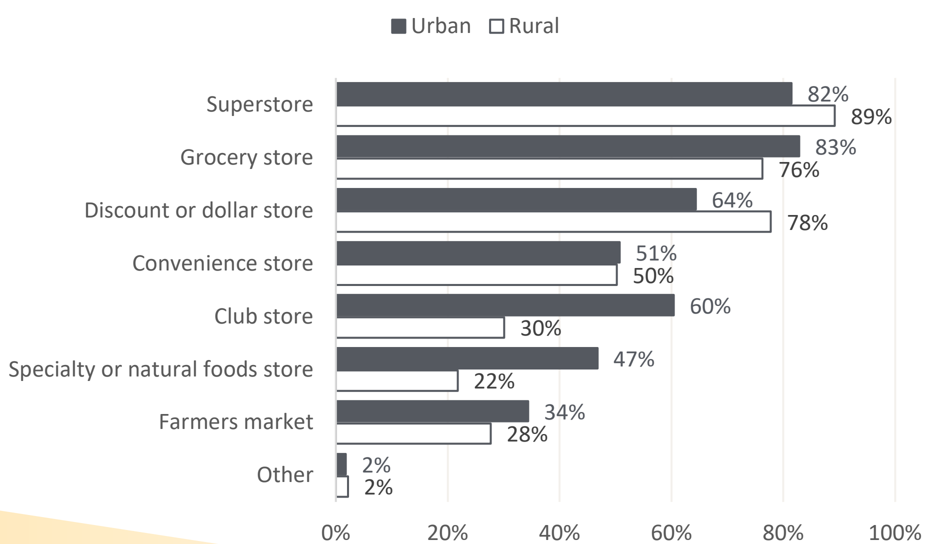
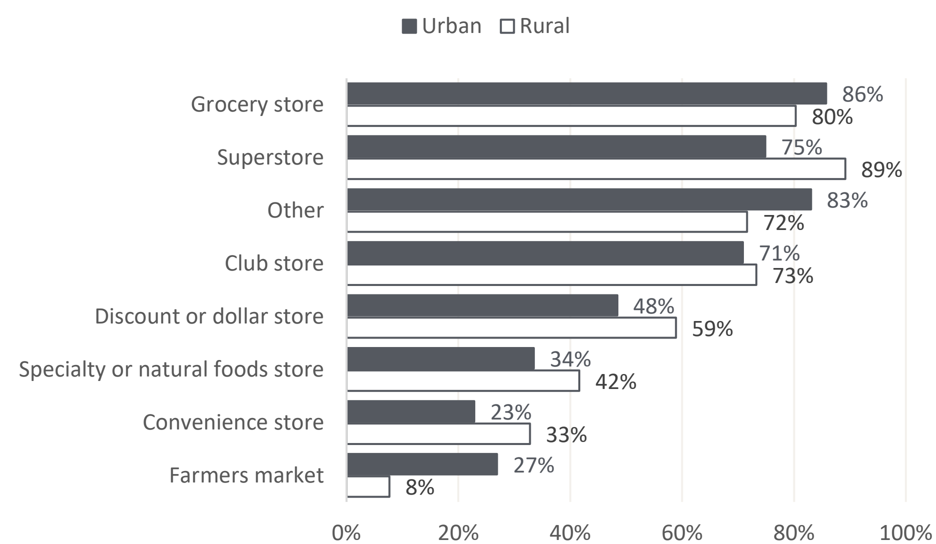


Figure 4. *'Did you shop at an available ________ for food in the LAST 30 DAYS? YES'* by Rural-Urban, Apr. 2024



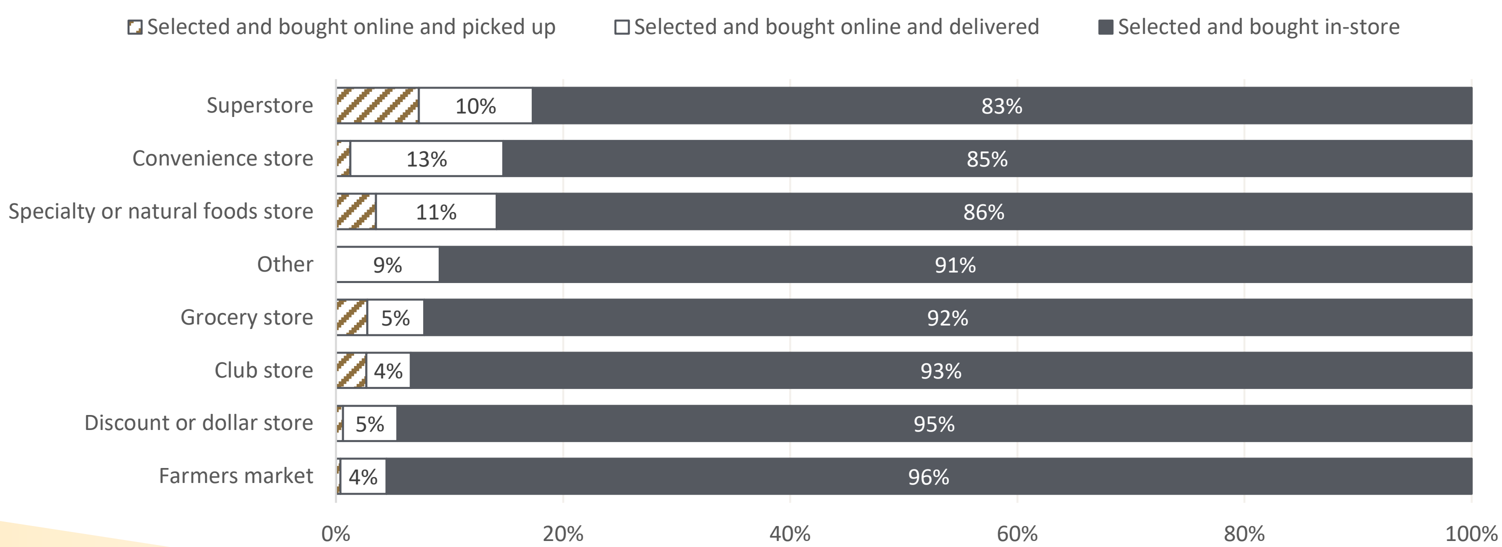
STORE CHOICE

How do consumers purchase their groceries and how often do they shop at each location?

Figure 5 displays the shopping methods reported by those who shopped at the store type in the last 30 days. In-store shopping is the primary method used by consumers for all store types. However, around 17% of consumers who shopped at superstores reported primarily shopping for their groceries from the superstore online.

Figures 6 & 7 show the average number of shopping trips for each store type in the last 30 days. Those who shopped at a convenience, grocery or superstore made over three trips to these stores. Conversely, club store and farmers market shoppers made fewer trips, which is unsurprising given the reported average travel time for getting to these food providers (see **Figure 11**). Urban consumers generally made more grocery trips than rural consumers over the past month (**Figure 7**). Most shoppers made direct trips from home to the store for each type of store (>70%) (**Figure 8**). However, shoppers from households classified as rural were more likely to make indirect grocery trips from either the office, while running errands or from another location to the store in the last 30 days (**Figure 9**).

Figure 5. Share of Consumers: Reported Primary Shopping Method by Store Type, Apr. 2024



STORE CHOICE

Figure 6. Average Number of Shopping Trips Reported in the Last 30 Days by Store Type, Apr. 2024

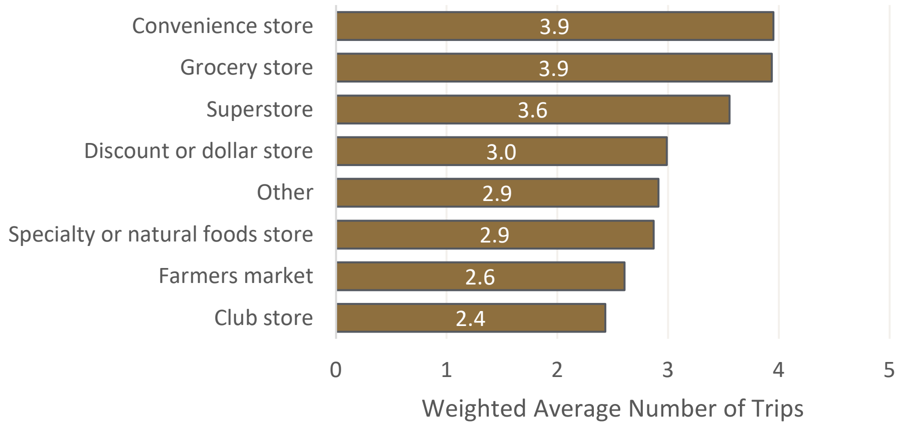


Figure 7. Average Number of Shopping Trips Reported in the Last 30 Days by Store Type and Rural-Urban, Apr. 2024

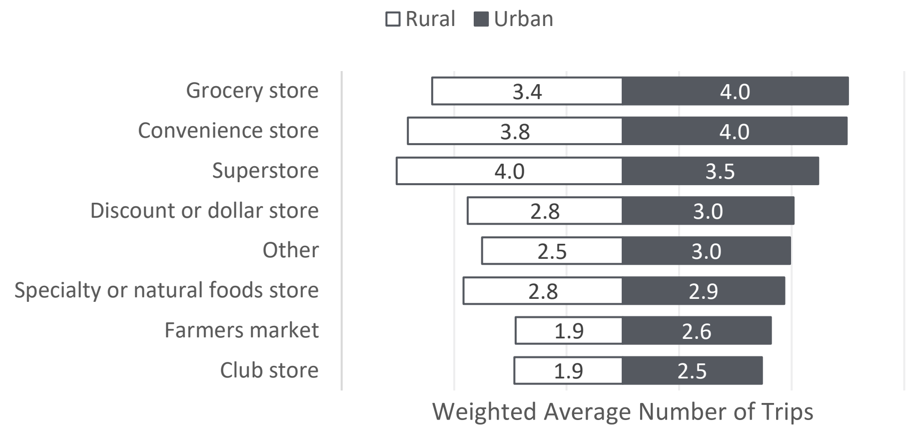


Figure 8. Share of Consumers: Reported Primary Trip Type by Store Type, Apr. 2024

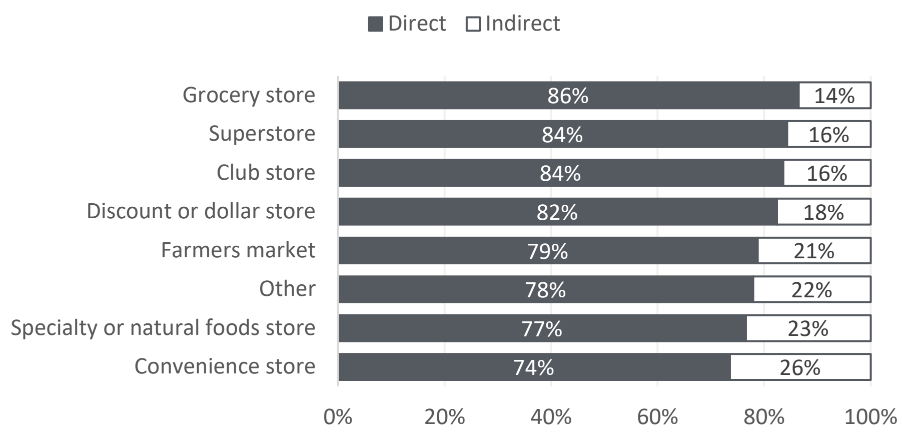
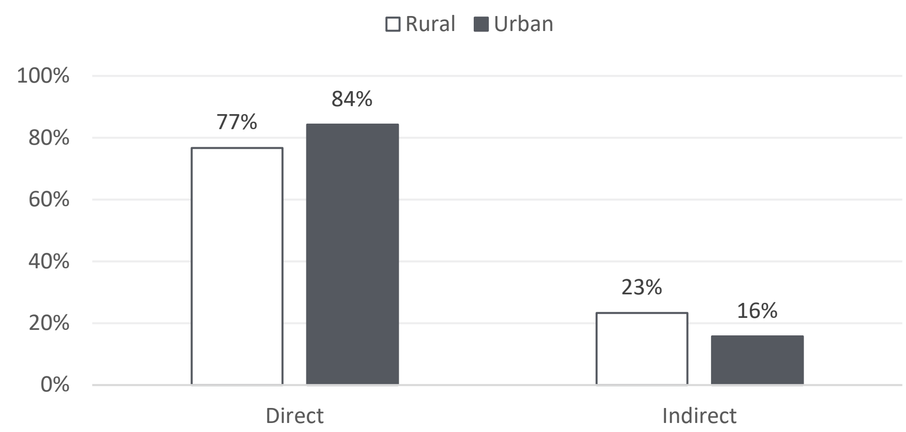


Figure 9. Share of Consumers: Reported Primary Trip Type by Rural-Urban, Apr. 2024



STORE CHOICE

How do consumers travel to go grocery shopping?

At least 70% of shoppers primarily used a car to travel to the store when shopping for groceries, regardless of store type. Club store, superstore and grocery store shoppers are heavily car-dependent. A sizeable proportion of those who shopped at convenience stores and farmers markets also reported walking as their primary mode of transportation to these places, 28% and 21%, respectively (**Figure 10**).

The longest average travel time is 24 minutes for club store shoppers while convenience stores shoppers report shorter travel times to such stores (**Figure 11**). These results suggests differences in the geographic density of these store types. We also observe rural club store shoppers traveling longer for their groceries compared to urban club shoppers (**Figure 12**).

Figure 10. Share of Consumers: Reported Primary Shopping Transport by Store Type, Apr. 2024

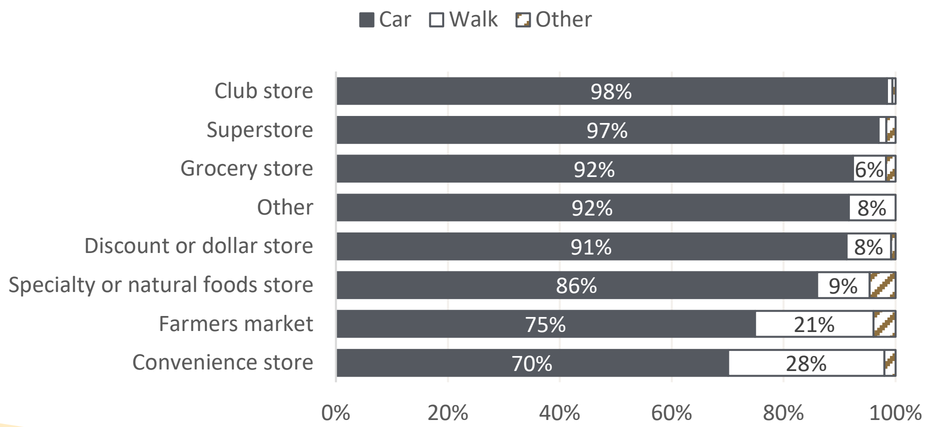


Figure 11. Average Travel Time by Store Type, Apr. 2024

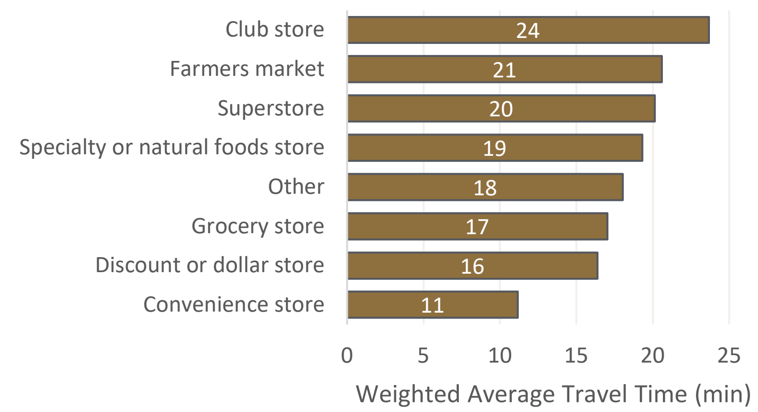
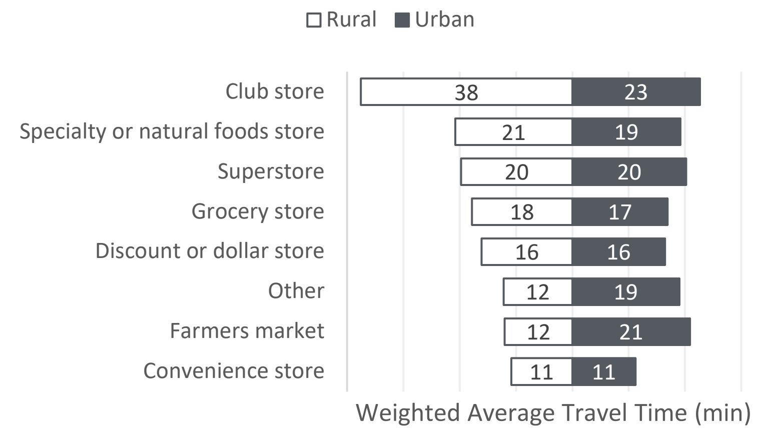


Figure 12. Average Travel Time by Store Type and Rural-Urban, Apr. 2024



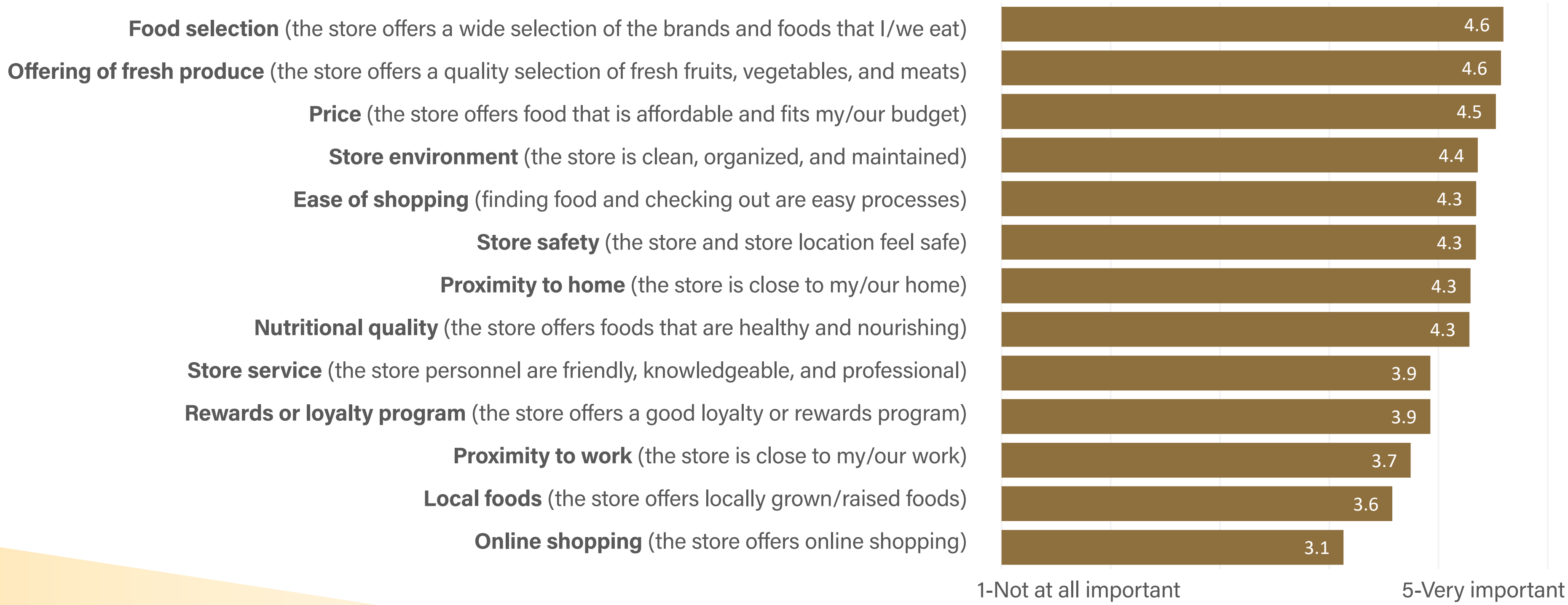
STORE CHOICE

What attributes do consumers consider important when choosing where to buy groceries?

We further evaluate store choice by assessing the importance of a range of store attributes to the shopper. The list of attributes was created and narrowed down based on existing literature on the topic of store choice.[5] Respondents rated each attribute on a 5-point Likert scale from 1-'Not at all important' to 5-'Very important'.

Figure 13 summarizes the response distribution. We see that all attributes received an average rating above 3. Food selection, offering of fresh produce and price received the highest ratings, while online shopping received the lowest average rating. **Figure 14** disaggregates the ratings based on rural-urban classification.

Figure 13. Weighted Average Rating: Store Attribute Importance, Apr. 2024

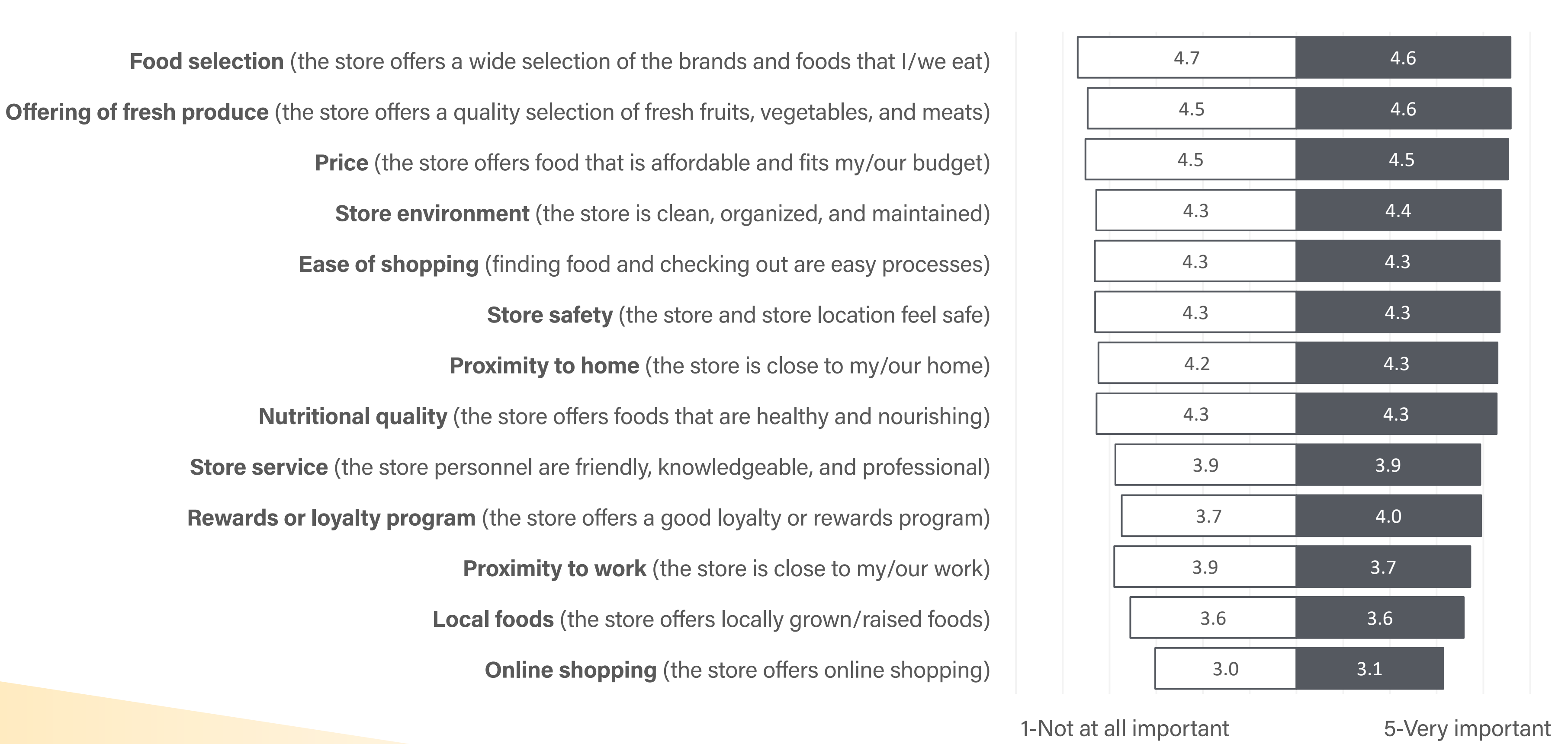


STORE CHOICE

What attributes do consumers consider important when choosing where to buy groceries?

Rural consumers rate the importance of proximity to work slightly higher than urban consumers, which is logical given the larger proportion of these consumers making indirect grocery trips. Urban consumers rate rewards and loyalty programs higher on average. Most attributes received relatively consistent ratings regardless of rural-urban classification. Food selection, fresh produce options and price remain the highest rated attributes.

Figure 14. Weighted Average Rating: Store Attribute Importance by Rural-Urban, Apr. 2024



STORE CHOICE

What attributes do consumers consider MOST important when choosing where to buy groceries?

In addition to the ratings received in the previous question, we validate them by asking consumers to pick which attribute the primary grocery shopper considers most important when choosing a food store.

Figure 15 summarizes the share of consumers who selected each attribute as the most important. Price is considered the most important attribute by around one-third of consumers. Disaggregating by rural-urban classification reveals that price is the most important attribute among almost half of rural households compared to about one third of urban households. Conversely, more urban consumers chose food selection as the most important attribute (**Figure 16**).

Figure 15. Share of Consumers: Most Important Store Attribute Selection, Apr. 2024

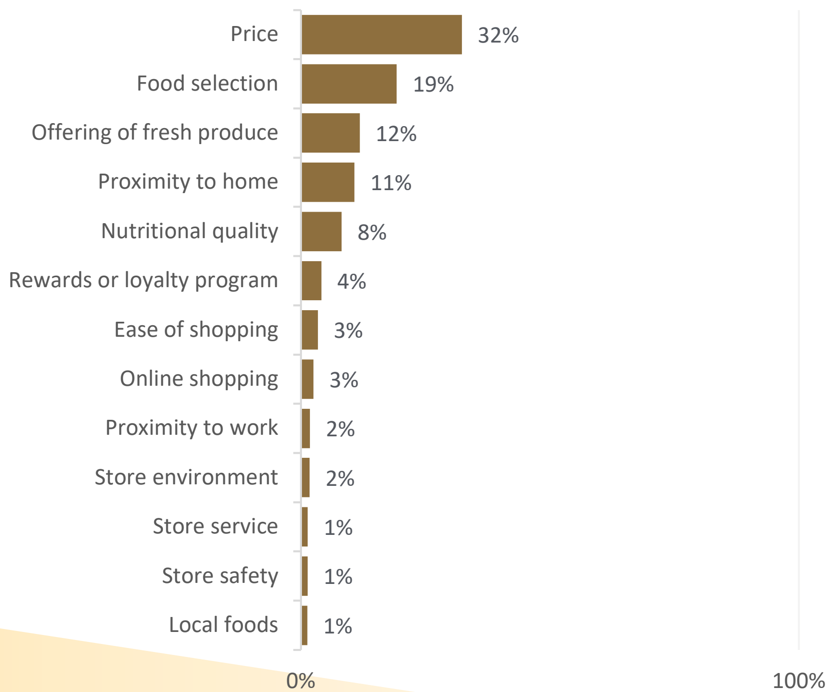
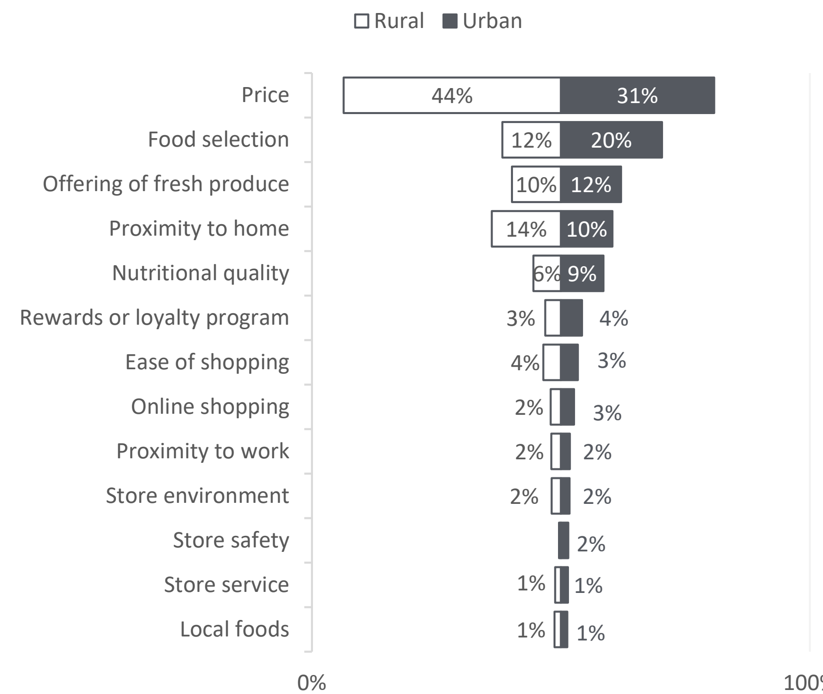


Figure 16. Share of Consumers: Most Important Store Attribute Selection by Rural-Urban, Apr. 2024



FOOD EXPENDITURES

How much are American households spending on their food?

Each month, consumers report their household's weekly spending on food from the last 30 days (**Figure 17**). On average, consumers reported spending about $129/week on groceries (FAH) and $73/week on restaurants and other carryout (FAFH)[6]. Total food spending is up 17% from April 2022 and up 10% from April of last year.

The consumer estimate of annual food inflation decreased slightly from last month to 6.3% (**Figure 18**). The government CPI measure of food inflation remained unchanged at 2.2%. This is the first time we have not observed a decrease in food inflation since its peak at 11.3% in August of 2022. While food inflation appears to be stabilizing, high food inflation this time last year (8.5%) and two years ago (8.8%) shows just how drastically prices have increased from pre to post-pandemic. Consumer inflation expectations suggest most are still adjusting to new price levels. Consumers' inflation expectation for the next 12 months also saw a slight decrease from last month, dropping from 4.0% to 3.8%.

Figure 17. Weekly Household Food Expenditures, Jan. 2022 - Apr. 2024

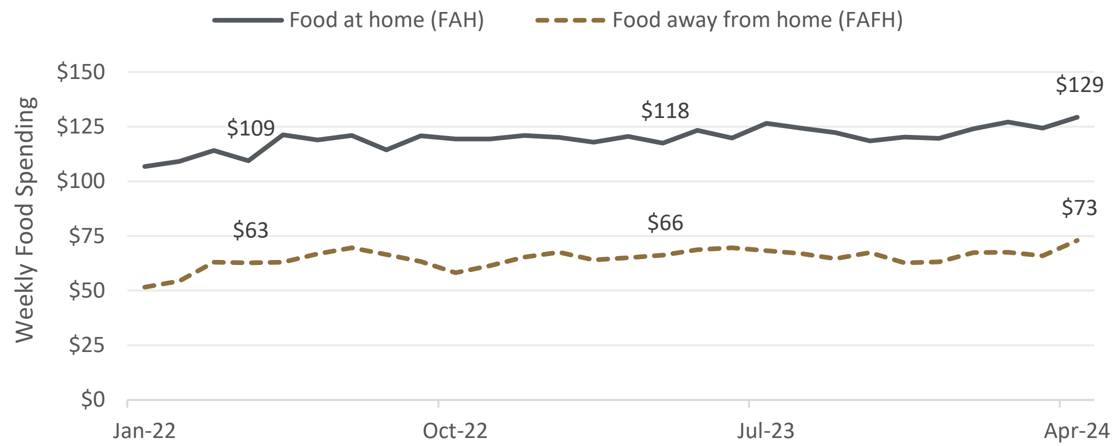
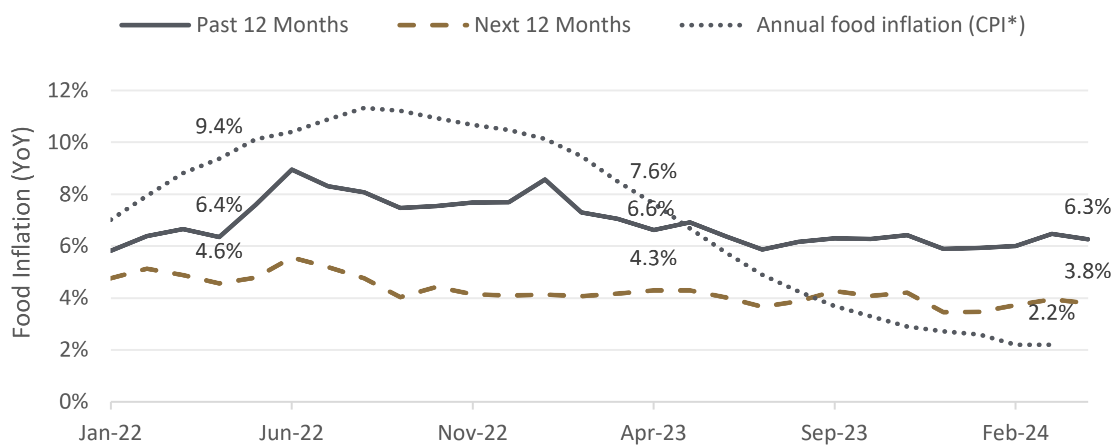


Figure 18. Consumer Estimates of Food Inflation Compared to Gov. Estimate, Jan. 2022 - Apr. 2024



*The Consumer Price Index (CPI) is a measure of inflation computed by the U.S. Bureau of Labor Statistics.

FOOD EXPENDITURES

How much are American households spending on their food?

Urban households report spending more per week on groceries than rural households, on average. Food-at-home spending has remained higher among urban households across most months of data collection (**Figure 19**), while reported spending on food-away-from-home has also remained higher among urban households across all months of the CFI (**Figure 20**).

The difference in food-away-from-home spending is likely a reflection of the difference in how often households eat out. Aggregating all months of data, urban households average 2.5 weekly meals eaten away from home relative to 2.1 meals for rural households. Food budgets may also be smaller among rural households as we see a larger share of these households falling into lower income categories (**Figure 21**).

Figure 21. Annual Household Income by Rural-Urban, Jan. 2022 - Apr. 2024

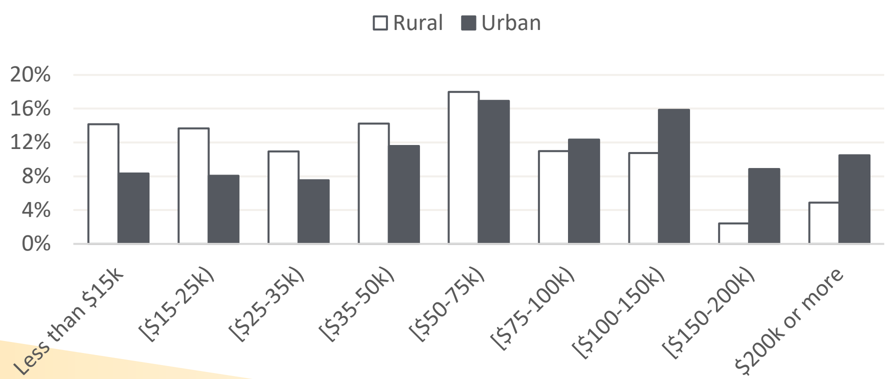


Figure 19. Weekly Household FAH Expenditures by Rural-Urban, Jan. 2022 - Apr. 2024

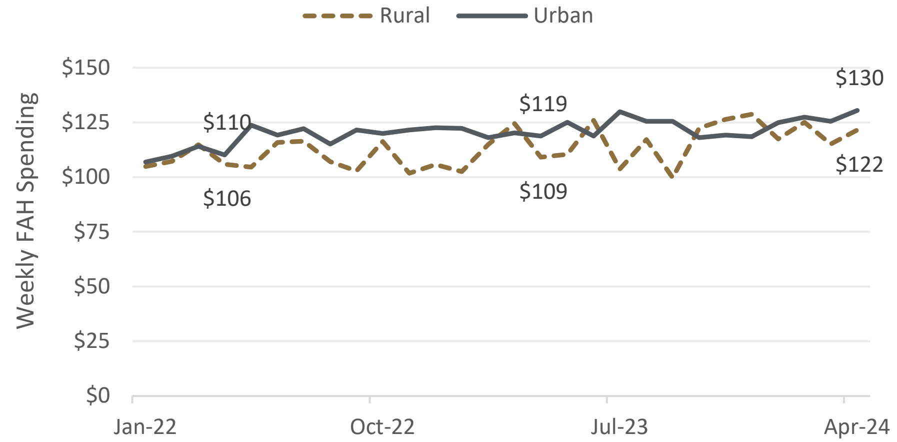
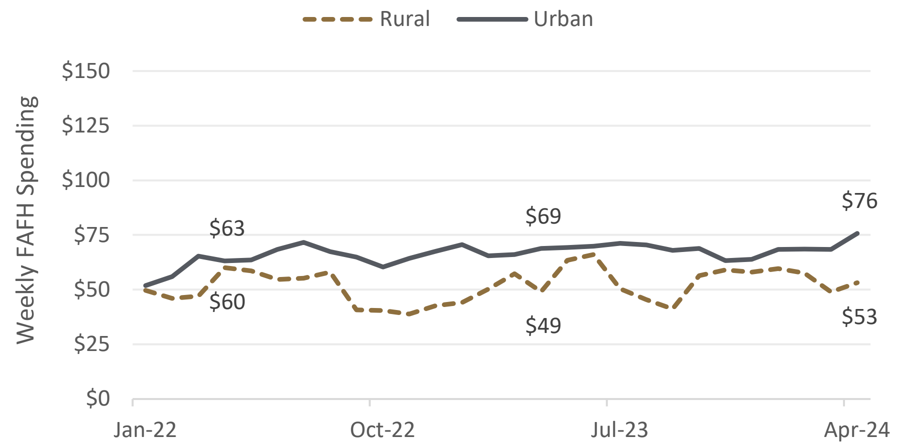


Figure 20. Weekly Household FAFH Expenditures by Rural-Urban, Jan. 2022 - Apr. 2024



FOOD SECURITY

Which Americans are having trouble buying food for their families?

Based on a set of six standard questions about food purchased and eaten in the past 30 days, we estimate national food insecurity to be about 11% (**Figure 22**).[7] This rate is around one percentage-point lower than last month. Despite higher food prices, we are not observing increases in food insecurity, which may be a result of wage growth in combination with lower food inflation (see Figure 15 of March 2024 report).

However, we see that rural households are facing more food insecurity compared to urban households, with an average food insecurity rate of 22% for rural households and 14% for urban households when aggregating data from Jan. 2022 to Apr. 2024 (**Figure 23**). The small portion of the population classified as rural explains the variation we observe in the time series for food insecurity rates for rural households.

Figure 22. Rate of Household Food Insecurity in the Last 30 Days, Jan. 2022 - Apr. 2024

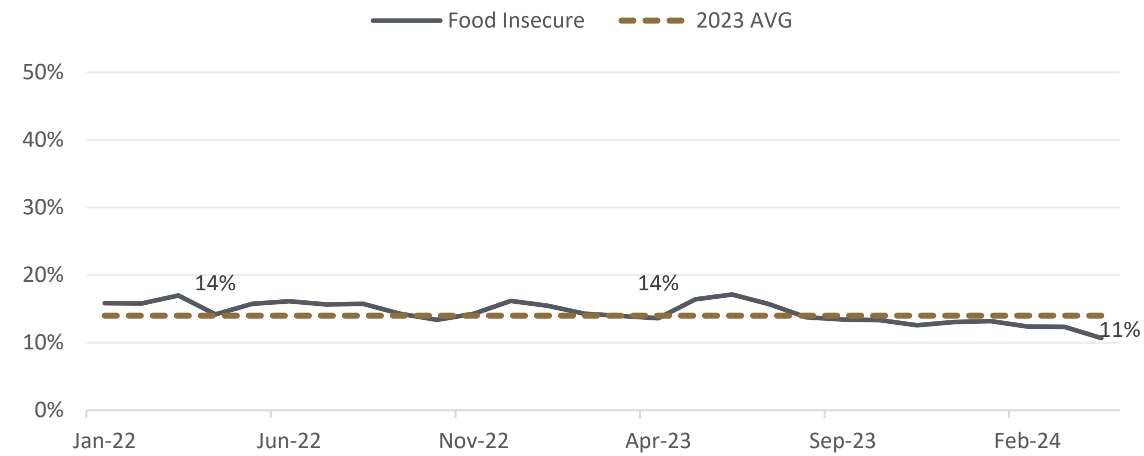
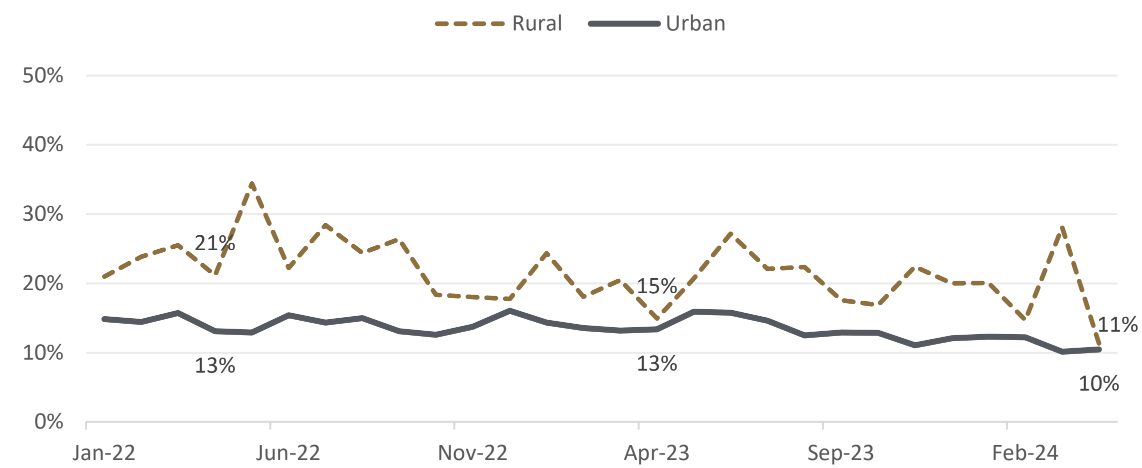


Figure 23. Rate of Household Food Insecurity in the Last 30 Days by Rural-Urban, Jan. 2022 - Apr. 2024



FOOD SATISFACTION

Are Americans satisfied with their diets?

Respondents score their own diet on a 0-10 scale, with the top of that scale (10) representing their ideal diet.[8] Scores are categorized as thriving (7-10), struggling (5-6) or suffering (0-4). A majority of Americans (65%) continue to report thriving on this Diet Well-Being Index (**Figure 24**). We observe a jump in the share of consumers reporting being 'Rather happy' or 'Very happy' with their diets this quarter (87%) compared to January 2024 (81%), when we last measured food satisfaction (**Figure 25**), and a slightly larger proportion report being happy with their lives (**Figure 26**).

Figure 24. Diet Well-Being Index (0-10 Scale), Jan 2022 - Apr. 2024

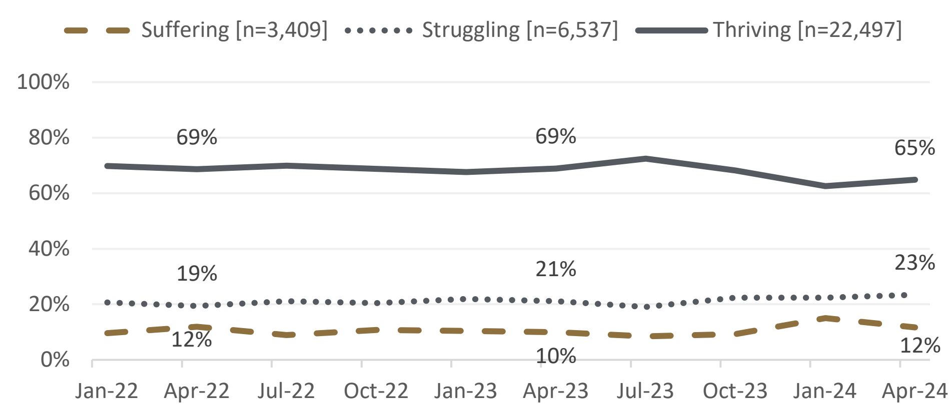


Figure 25. Rate of Consumer Diet Happiness, Apr. 2024

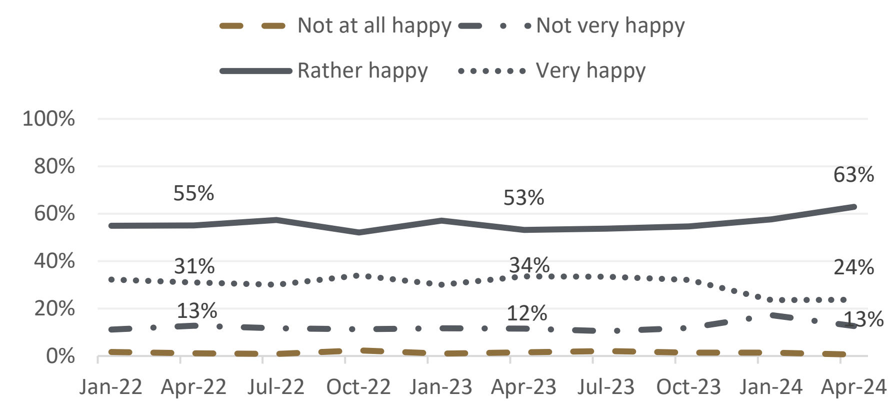
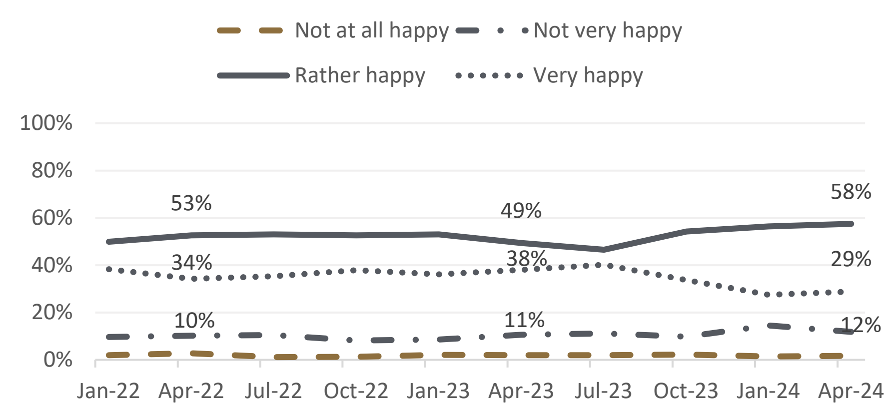


Figure 26. Rate of Life Happiness, Apr. 2024



FOOD SATISFACTION

Are Americans satisfied with their diets?

Fewer rural consumers (62%) are considered 'thriving' on the Diet Well-Being Index based on their self-rating compared to urban consumers (70%) when analyzing all months of data (**Figure 27**). Similarly, rural consumers report being less happy with their diets than urban consumers, which is further supported by our food insecurity findings (**Figure 28**). Higher levels of food insecurity may lead to more rural consumers feeling less satisfied with their diets, though other factors not explored in this report may influence these geographical differences. We see a smaller difference in life happiness between rural and urban consumers (**Figure 29**). Overall, the majority of consumers are happy with their diets and lives, regardless of rural-urban classification.

Figure 28. Rate of Consumer Diet Happiness by Rural-Urban, Jan. 2022 - Apr. 2024

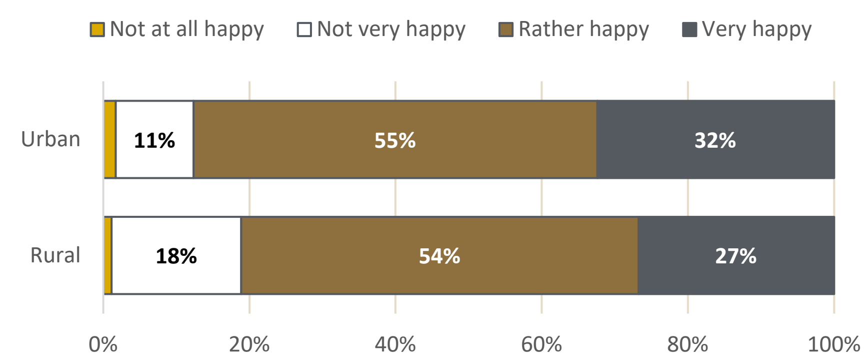


Figure 27. Diet Well-Being Index (0-10 Scale) by Rural-Urban, Jan 2022 - Apr. 2024

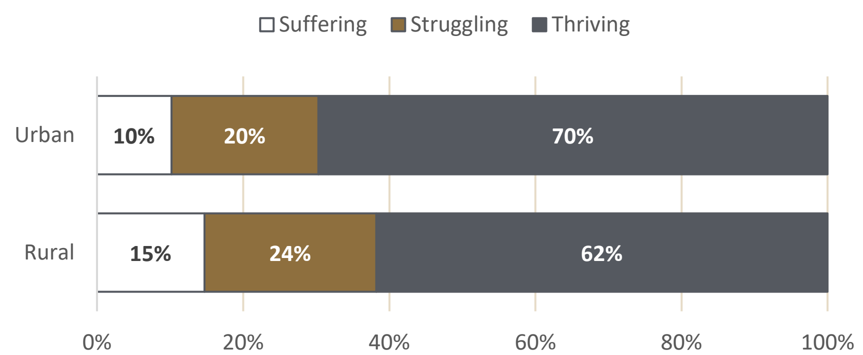
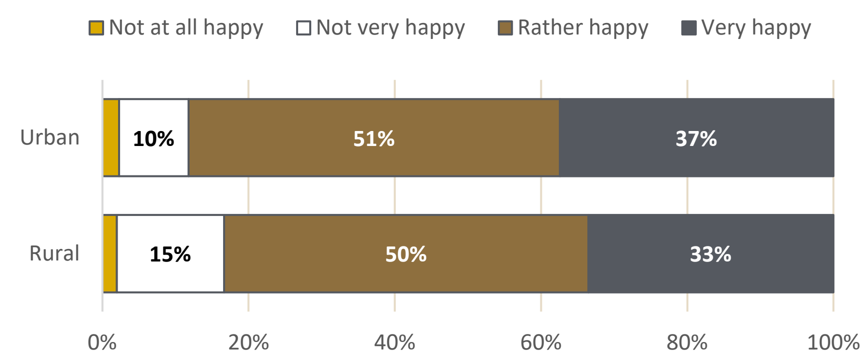


Figure 29. Rate of Life Happiness by Rural-Urban, Jan. 2022 - Apr. 2024



CONSUMER BEHAVIORS

How are Americans navigating their food environment?

Figure 30 compares the reported behavior frequencies between urban and rural consumers for a variety of shopping and eating habits. Urban consumers report choosing non-conventional foods, such as wild-caught fish, cage-free eggs, organic foods and plant based proteins more frequently than rural consumers. It would be interesting to evaluate the availability of such foods from the perspective of rural consumers in future surveys to determine if this difference in behavior is preference-based or driven by lack of availability. Urban consumers are also more likely to recycle food packaging relative to rural consumers. In general, urban and rural consumers navigate their food environment similarly, as we do not observe major differences in behavior.

Figure 30. Frequency of Consumer Shopping and Eating Habits by Rural-Urban, Jan. 2022 - Apr. 2024

	Rural	Urban
Chose generic foods over brand-name foods	3.4	3.3
Chose local foods over non-local foods	3.0	3.1
Chose wild-caught fish over farm-raised fish	2.8	3.0
Chose grass-fed beef over conventional beef	2.8	2.9
Chose cage-free eggs over conventional eggs	2.6	2.8
Chose organic foods over non-organic foods	2.5	2.7
Chose plant-based proteins over animal proteins	2.2	2.4
Checked the use-by/sell-by date at the store	3.9	4.1
Checked the nutrition label before buying new foods	3.3	3.4
Checked for natural or clean labels	2.8	3.0
Checked where my food originated	2.8	2.9
Checked for food recalls	2.8	2.8
Checked for GMO ingredients	2.6	2.8
Checked how my food was produced	2.6	2.8
Took steps to reduce food waste at home	3.8	3.8
Recycled food packaging	3.1	3.6
Threw away food past the Use-By date	3.1	3.2
Composted food scraps	2.4	2.4
Ate fruits and vegetables without washing them	2.2	2.2
Ate rare or undercooked meat	1.8	1.9
Ate raw dough or batter	1.9	1.9

Mean Score

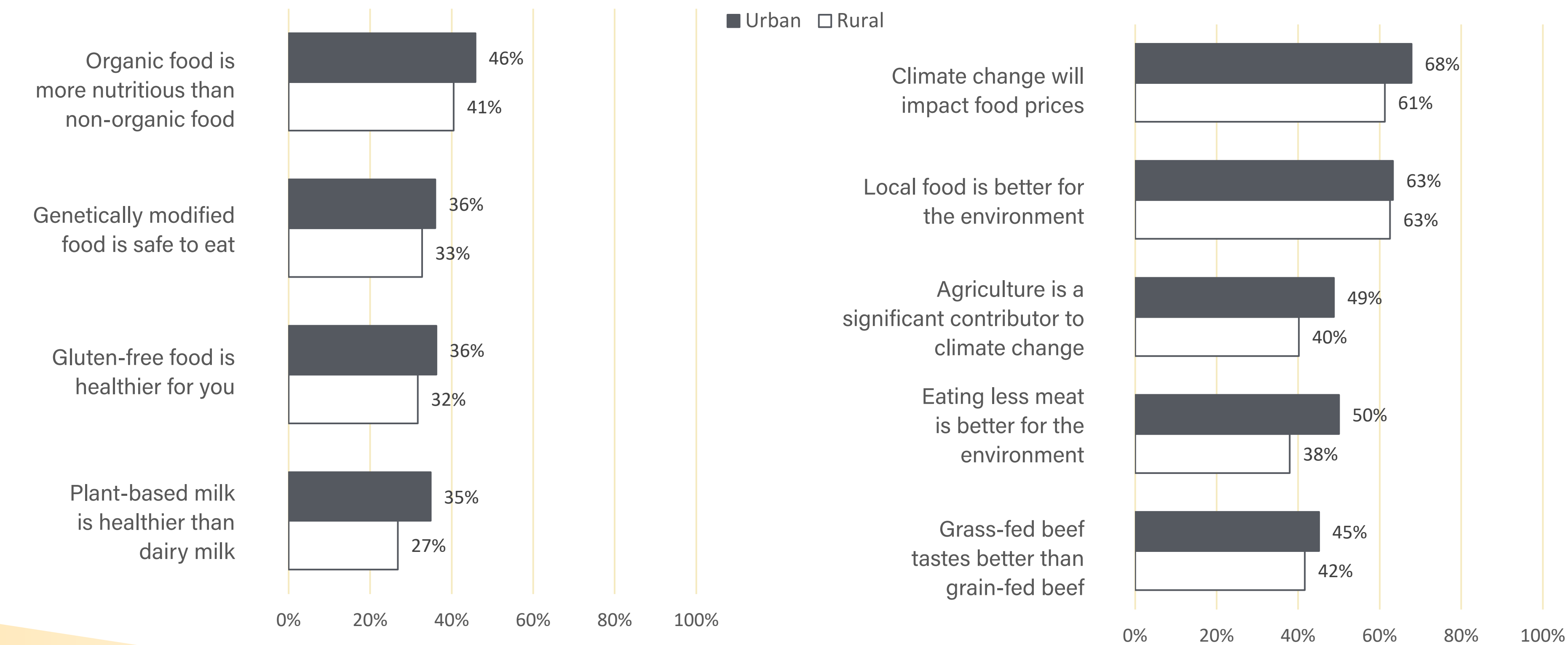
- 5 Always
- 4 Often
- 3 Sometimes
- 2 Rarely
- 1 Never

CONSUMER BELIEFS

What do Americans believe about their food and food system?

A majority of Americans agree that climate change will impact food prices, yet urban Americans are more likely to agree that agriculture is a significant contributor to climate change than rural Americans (**Figure 31**). Urban and rural agreement diverges again over whether eating less meat is better for the environment as urban consumers agree with this claim at a higher rate than rural consumers.

Figure 31. Share of Consumers who *'Somewhat Agree'* or *'Strongly Agree'* with Claims about Food and Nutrition, Jan. 2022 - Apr. 2024



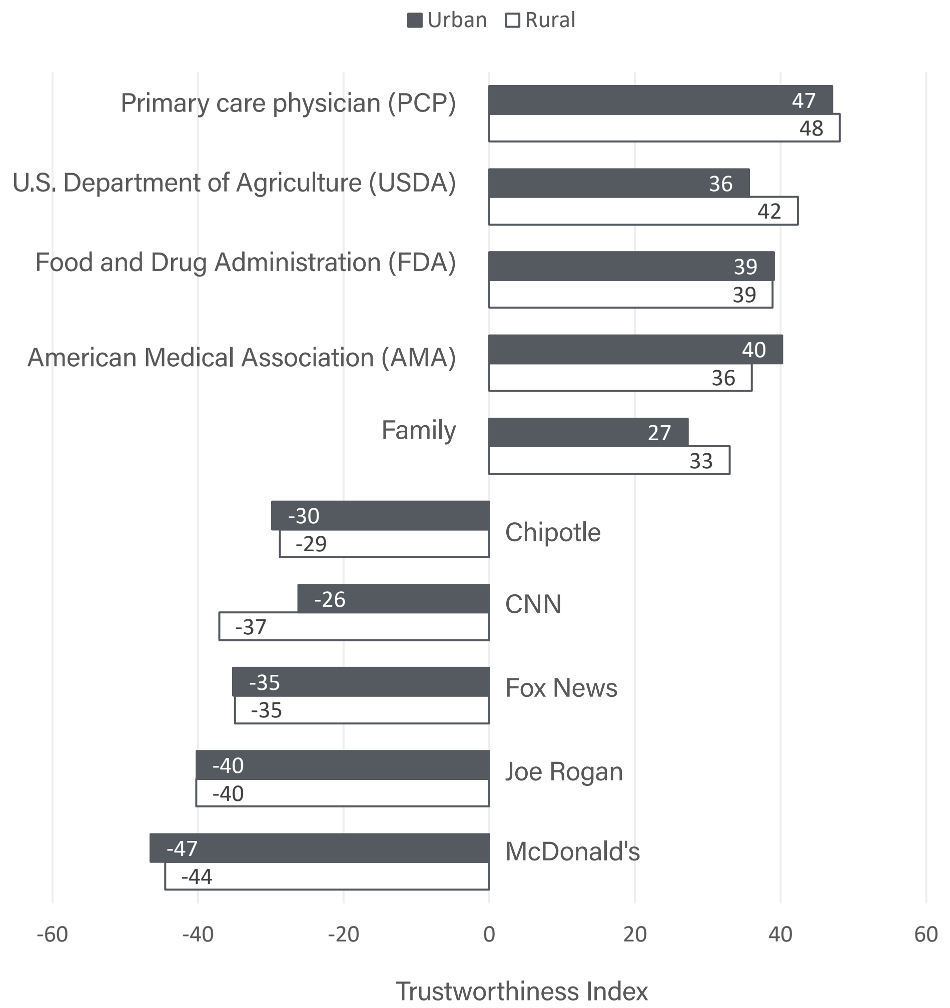
CONSUMER TRUST

Who do Americans trust on topics of food?

Respondents select their most trusted and least trusted sources of information about healthy and sustainable food, which are scored on a Trust Index from -100 (least trusted) to 100 (most trusted). **Figure 32** summarizes the five most and least trusted sources when aggregating all months of survey data.[9]

Trust in various sources of food-related information remains consistent between rural and urban consumers for most entities. However, we see lower levels of trust in CNN among rural consumers relative to urban consumers, though news agencies tend to score low overall on this trust index. The USDA scores higher on the index among rural consumers. Organizations tasked with protecting the health and food of Americans, such as the USDA, FDA and primary care physicians, continue to perform well on this index.

Figure 32. Trust Index of Food-Related Information Sources by Rural-Urban, Apr. 2024



ENDNOTES

1 Data were collected from an online panel maintained by the company Dynata over a four-day period from April 15-18, 2024. The eligible population included U.S. adults ages 18+. A weighting method called iterative proportional fitting (or raking) was applied to ensure a demographically balanced sample by age, sex, race, census region, income, and SNAP participation. Population proportions have been updated to reflect the most recent complete year of ACS Census data (2022). Every respondent from the previous month was re-contacted and asked to take the survey again. Data collection for every survey begins on the third Monday of each month, unless otherwise dictated by holidays or extenuating circumstances. This report is released on the second Wednesday of the following month.

2 Economic Research Service, United States Department of Agriculture (2023). Rural-Urban Commuting Area Codes. https://www.ers.usda.gov/data-products/rural-urban-commuting-area-codes/documentation/

USDA ERS researchers commonly analyze rural conditions using this metro/non-metro classification.

3 Note: respondents who did not provide a valid ZIP and could not be classified have been omitted from this analysis.

Sample size Jan. 2022 - Dec. 2022:	Rural (n=1,796); Urban (n=13,124)
Sample size Jan. 2023 - Dec. 2023:	Rural (n=1,908); Urban (n=13,152)
Sample size Jan. 2024 - Apr. 2024:	Rural (n=613); Urban (n=4,253)

4 Examples of each store type:

- Club store (e.g., Costco, Sam's club)
- Superstore (e.g., Meijer, Walmart, Target)
- Grocery store (e.g., Albertsons, Kroger, Publix, Safeway)
- Discount or dollar store (e.g., Aldi, Dollar General, Dollar Tree)
- Convenience store (e.g., 7-Eleven, Circle-K, Casey's)
- Farmers market
- Specialty or natural foods store (e.g., Whole Foods/organic, ethnic food stores, butcher shop, deli, bakery)

5 Carpenter, J.M. and Moore, M. (2006), "Consumer demographics, store attributes, and retail format choice in the US grocery market",

ENDNOTES

International Journal of Retail & Distribution Management, Vol. 34 No. 6, pp. 434-452. https://doi.org/10.1108/09590550610667038

Krukowski, R. A., McSweeney, J., Sparks, C., & West, D. S. (2012, October). Qualitative study of influences on Food Store Choice. Appetite. Vol. 59 No.2, pp. 510-516. https://doi.org/10.1016/j.appet.2012.06.019

Krukowski, R.A., Sparks, C., DiCarlo, M. et al. (2013) There's more to food store choice than proximity: a questionnaire development study. BMC Public Health Vol. 13, No. 586. https://doi.org/10.1186/1471-2458-13-586

6 Food at home (FAH) refers to food sales meant for home or off-site consumption and the value of donations and non-market acquisitions, which is acquired from outlets such as grocery stores, convenience stores, direct sales, etc. Food away from home (FAFH) refers to food sales meant for immediate consumption, federal food programs, and food furnished as an ancillary activity, which is acquired from outlets such as restaurants, bars, schools, etc.

7 High or marginal food security (i.e., food secure): 0-1 reported indications of food-access problems; little indication of change in diet or food intake. Respondents who reported an U.S. Census Region above 185% of the Federal poverty line were also screened as having high food security. This determination was made according to research by Ahn et al. (2020), which shows that using a modified income-based screening procedure for internet surveys better approximates government estimates of food insecurity. Low food security (i.e., food insecure): 2-4 reported indications of reduced quality, variety, or desirability of diet; little indication of reduced food intake. Very low food security (i.e., food insecure): 5-6 reported indications of disrupted eating patterns, changes in diet, and reduced food intake.

8 This scale is based on the Cantril Scale used in Gallup's World Poll to assess well-being and happiness around the world. Thus, we use the same validated conceptual labels—thriving, struggling, and suffering—to group responses.

9 Trust questions were not fielded in the Consumer Food Insights survey from October 2022 - December 2022.