Volume 2, Issue 5: May 2023

CONSUMER FOOD INSIGHTS

Center for Food Demand Analysis and Sustainability
College of Agriculture, Purdue University
Jayson L. Lusk and Sam Polzin

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 break down the CFI results according to food spending per person per week. In other words, we divided total reported food spending per week by the number of people in each household then created three approximately equal-sized buckets of consumers based on spending per person: thrifty spenders (<$50), moderate spenders ($50-85), and liberal spenders ($85<).[2] We aggregated the last twelve months of data (June 2022-May 2023) to perform this analysis. See the endnotes for a demographic summary of the categories. Other questions included in the report describe consumer food purchasing at dollar stores as well as their tax refund use.

KEY INSIGHTS FROM MAY

- Consumers say they are spending 6.9% more on food, but their reported food spending is "only" 4.3% higher than a year ago.
- Food insecurity is up to 16% from 14% but remains within the same 3 percentage-point range we have seen since January 2022.
- Grocery stockouts continue to trend downward, hitting their lowest point since January 2022, as few foods are hard to come by.
- Thrifty food spenders (<$50 /week) are more likely to shop at and purchase food at dollar stores.
- Thrifty food spenders are also more likely to eat vegetarian, grow a food garden, and compost food scraps.
- Liberal food spenders ($85< /week) are only slightly more likely to be happy with their diets.

SFP INDEX	FOOD INSECURITY	FOOD SPENDING	GROCERY STOCKOUTS
69/100	16%	$192/WEEK	11%

DOLLAR STORES

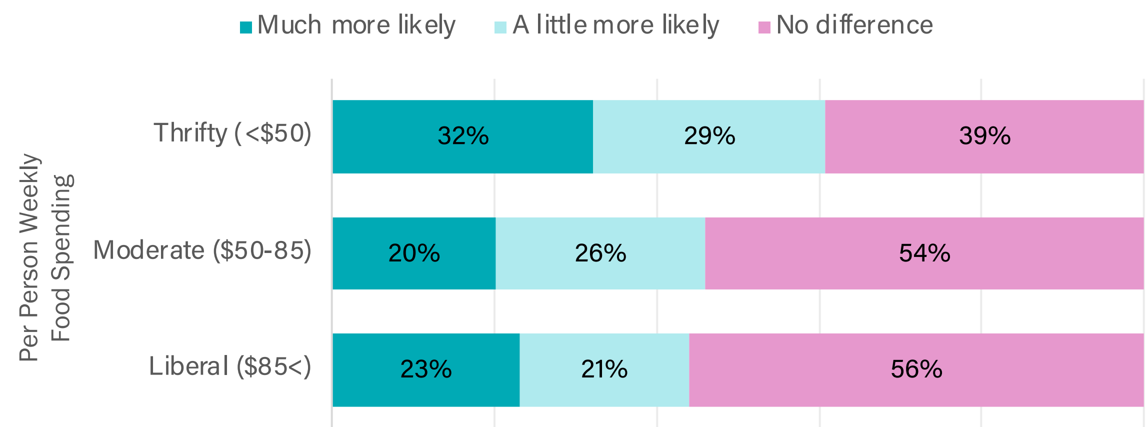
Who is buying food at dollar stores?

The recent growth in dollar stores (e.g., Dollar General, Family Dollar, Dollar Tree) has led to more discussion concerning the relationship between these stores and the food spending habits of consumers. 67% of thrifty spenders have shopped at a dollar store in the last 30 days compared to 55% of moderate spenders and 47% of liberal spenders (**Figure 1**). Of those shoppers, we asked if they had bought any food items. Thrifty spenders were more likely to have purchased food items compared to moderate and liberal spenders.

In addition, we asked, if a nearby dollar store were to add a full-service grocery section, how likely are you to shop at that store? Over 60% of thrifty spenders said they would be more likely to visit the dollar store while only about 45% of moderate and liberal spenders said they would change their food spending habits (**Figure 2**). These responses indicate that dollar stores are a more attractive option for shoppers who have more limited food budgets.

Figure 1. Share of Consumers who Shopped at a Dollar Store and Purchased Food in the Last 30 Days by Per Person Weekly Food Spending, Apr. 2023 - May 2023

Figure 2. Likelihood of Consumers Shopping at a Dollar Store that Adds a Full-Service Grocery Section by Per Person Weekly Food Spending, Apr. 2023 - May 2023



SUSTAINABLE DIETS

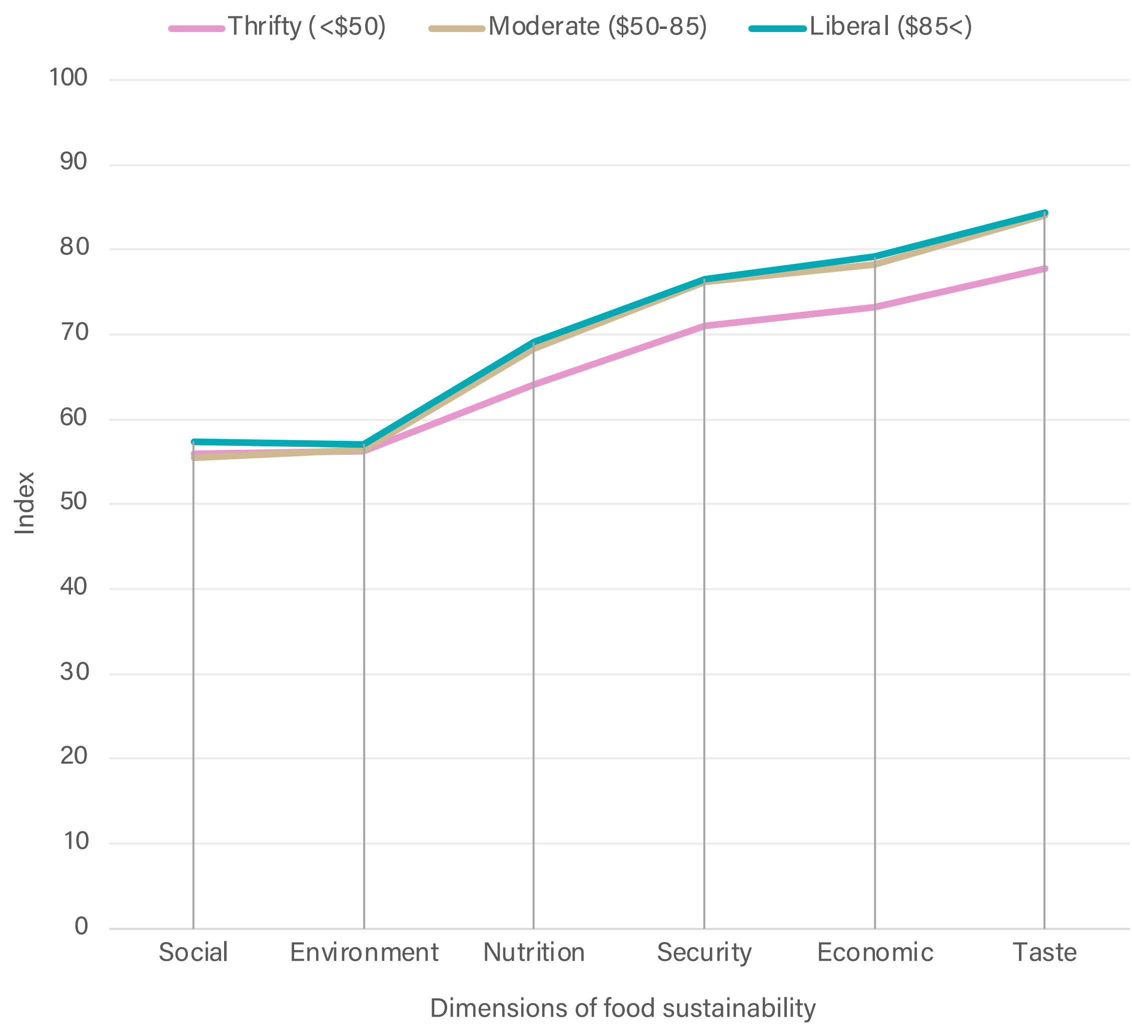
Are Americans making sustainable food purchasing decisions?

The Sustainable Food Purchasing (SFP) Index[3] has remained stable across all of its indicators since January 2022.

However, we find that these indicators diverge when the index is disaggregated by per person food spending (**Figure 3**). In other words, those who spend less than $50 per person per week on food (thrifty spenders) perform worse on the *nutrition*, *security*, *economic*, and *taste* indicators compared to those who spend $50 or more per week on their food (moderate/liberal spenders).

Both the moderate and liberal spenders perform similarly across every indicator, while there is no difference between all spending groups on the *social* and *environment* indicators. Since we created the index, most consumers have scored poorly on these two indicators. This consistency suggests it is difficult for consumers to prioritize social and enviornmental sustainability within the current food system and budget constraints.

Figure 3. Sustainable Food Purchasing Index by Per Person Weekly Food Spending, Jun. 2022 - May 2023

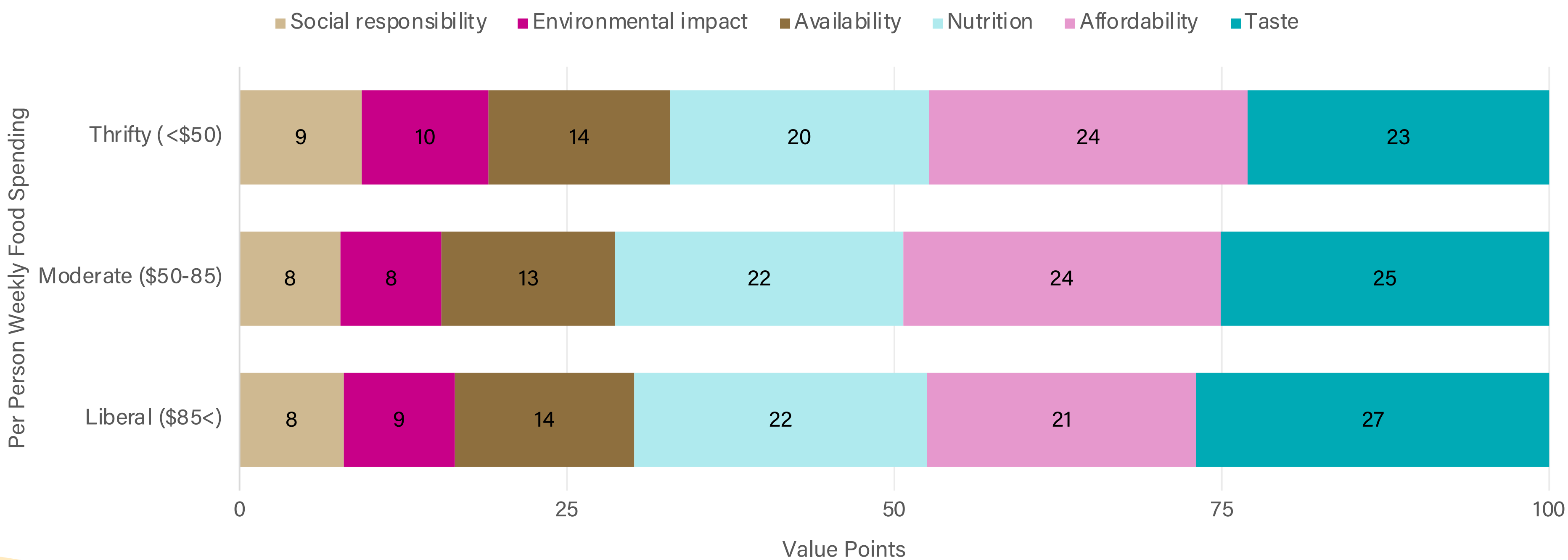


FOOD VALUES

What attributes do Americans most value when purchasing food?

Respondents were asked to allocate 100 points to six food attributes based on their importance when grocery shopping. These attributes closely reflect the components of the SFP Index. On a monthly basis, we have not observed significant changes. However, the food spending level of a person appears to have a relationship to their food values (**Figure 4**). Those who are liberal spenders value the taste of their food more than its affordability, while the opposite is true of those we consider thrifty spenders. Of note, thrifty spenders also value the social responsibility and environmental impact of their food slightly more than the other groups while valuing nutrition less. Moderate spenders more closely align with liberal spenders as they value taste slightly more than affordability.

Figure 4. Share of 100 Points Allocated to Food Attributes by Per Person Weekly Food Spending, Jun. 2022 - May 2023



FOOD EXPENDITURES

How much are American households spending on their food?

Respondents were asked to estimate the weekly food spending of their household over the last 30 days (**Figure 5**). On average, consumers reported spending about $123/week on groceries (FAH) and $69/week on restaurants and other carryout (FAFH).[4] Compared to last May, FAH spending is up 2% while FAFH spending is up 9%. Total food spending is now at its highest point since we started surverying in January 2022, as it just barely tops the $191/week spent last July.

Consumers' estimate of food inflation for the past year has increased slightly after decreasing over the last three months (**Figure 6**). As we have seen consumers consistently underestimate inflation compared to official estimates, it appears that consumers could soon overestimate inflation, if the growth of food prices continues to slow at the same rate (see the CPI figure). This convergence of consumer sentiments and real-world prices could indicate that consumers have felt very little relief from slowing inflation.

Figure 5. Weekly Household Food Expenditures, Jan. 2022 - Apr. 2023

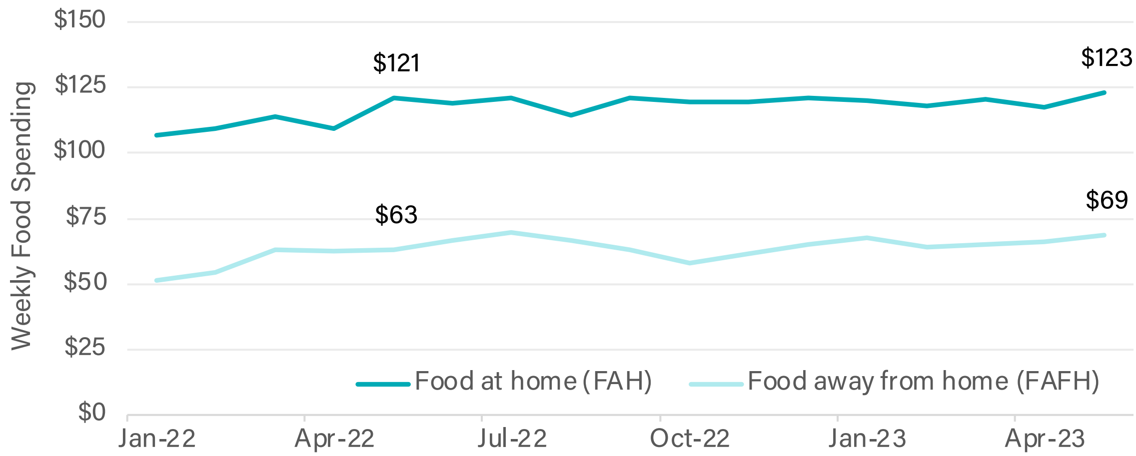
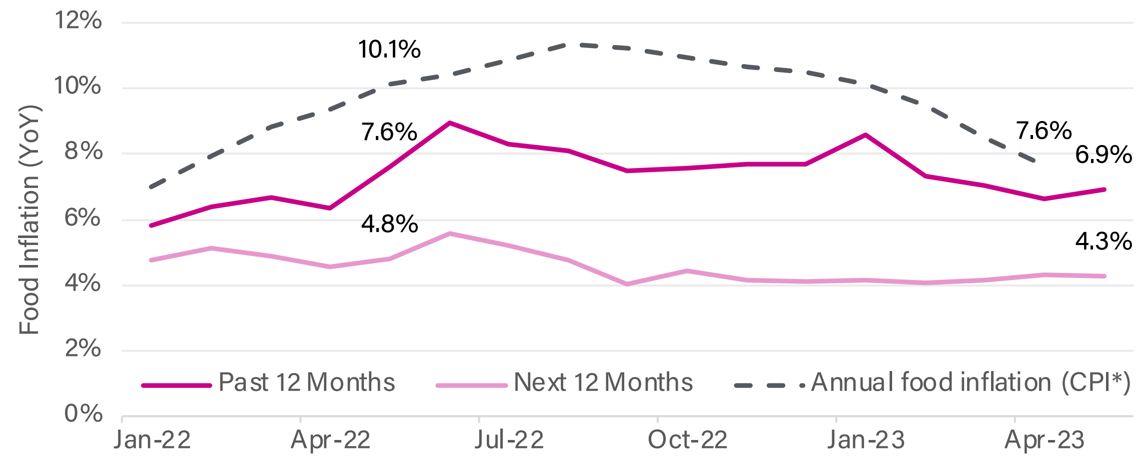


Figure 6. Consumer Estimates of Food Inflation Compared to Gov. Estimate, Jan. 2022 - Apr. 2023



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

FOOD EXPENDITURES

How stocked are American grocery shelves?

The share of consumers who could not find a food product at the grocery store has dipped to 11%, which is 10 percentage-points lower than last May (**Figure 7**). This downward trend is a positive sign for supply chains.

Figure 8 further shows how the quantities and types of food that are out-of-stock have changed. While chicken was the top stockout item of May 2022, it no longer makes the top 10 in May 2023. Furthermore, the top stockout items of May 2023 — fruit and beans — would have barely cracked the top 10 in May 2022. As we enter a time of year when disasters like hurricanes and wildfires can have devastating and wide-ranging effects on food systems, we will look to see if there is seasonality among these stockout items.

As the threat of bird flu to domestic flocks in the U.S. has eased, incidences of egg stockouts **decreased by 88%** from their highest point in January.

Figure 7. Rate of Grocery Stockouts (of at least one food product), Jan. 2022 - May 2023

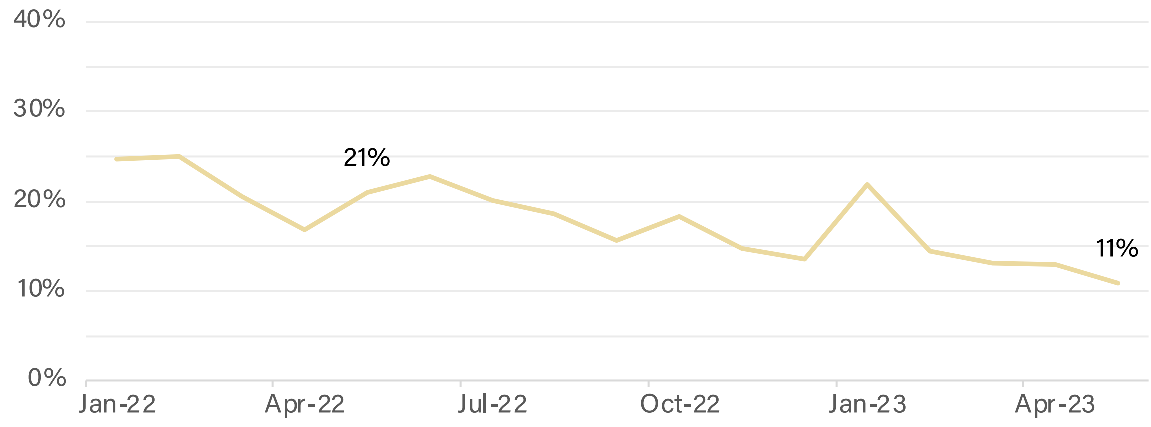
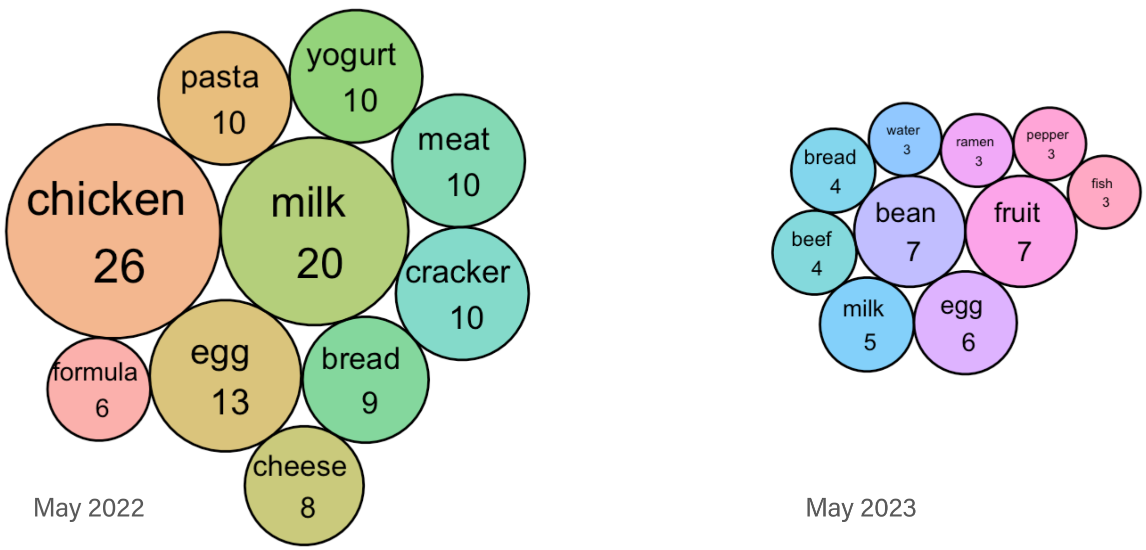


Figure 8. Top 10 Grocery Stockout Items, May 2022 vs. May 2023



FOOD SECURITY

Are Americans having trouble buying food for their families?

Based on a set of six standard questions[5] about food purchased and eaten in the in the last 30 days, we estimate national food insecurity to be about 16%. **Figure 9** shows this rate is consistent with rates we have measured over the last year. Notably, **Figure 10** reveals that the average length of time during which households are receiving SNAP benefits has declined in recent months. This decline appears to correlate with the end of a federally-funded boost to SNAP during the pandemic, which occurred this February. Official government data, which could corroborate this change, has to be released for these months.

Figure 11 further shows that 33% of thrifty food spenders are food insecure compared to 10% of liberal spenders. These consumers who spend less than $50 per week on food are also more reliant on SNAP and food pantries (**Figure 12**). If more households are, in fact, being forced from SNAP, we could expect that those with already limited food budgets will be most affected.

Figure 9. Rate of Household Food Insecurity in Last 30 Days, Jan. 2022 - May 2023

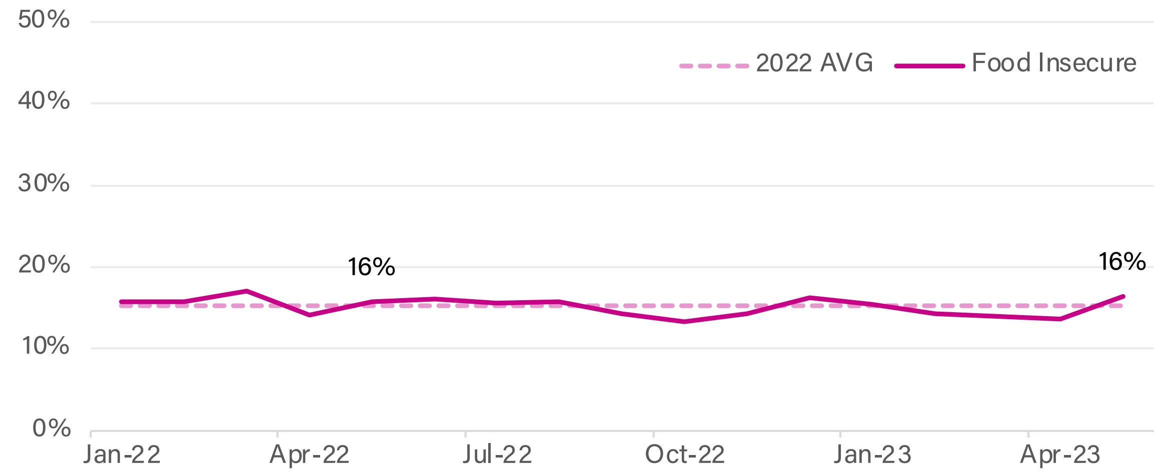
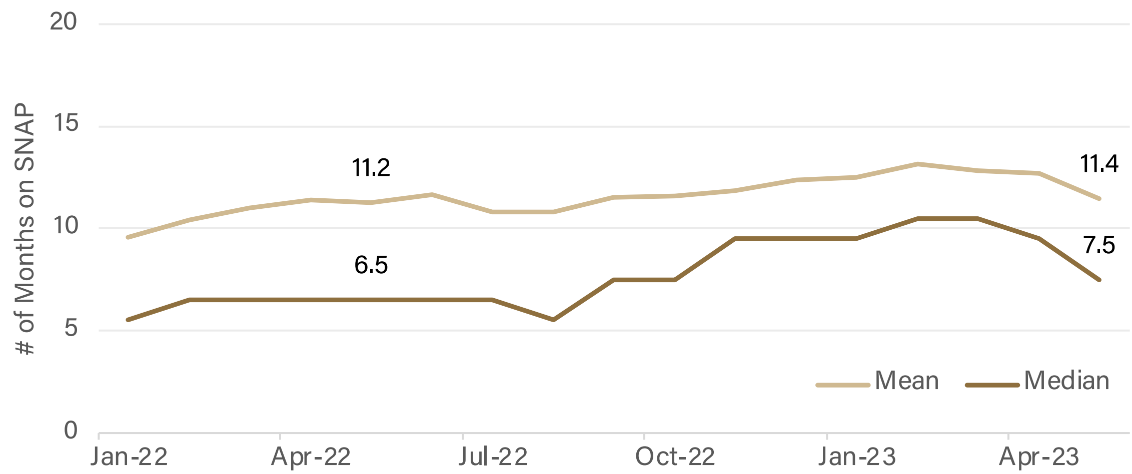


Figure 10. Average Number of Months Receiving Household SNAP Benefits, Jan. 2022 - May 2023



PURDUE UNIVERSITY
College of Agriculture

CENTER FOR FOOD DEMAND ANALYSIS AND SUSTAINABILITY
purdue.ag/CFDAS
Questions? Contact spolzin@purdue.edu

FOOD SECURITY

Figure 11. Rate of Household Food Insecurity by Per Person Weekly Food Spending, Jun. 2022 - May 2023

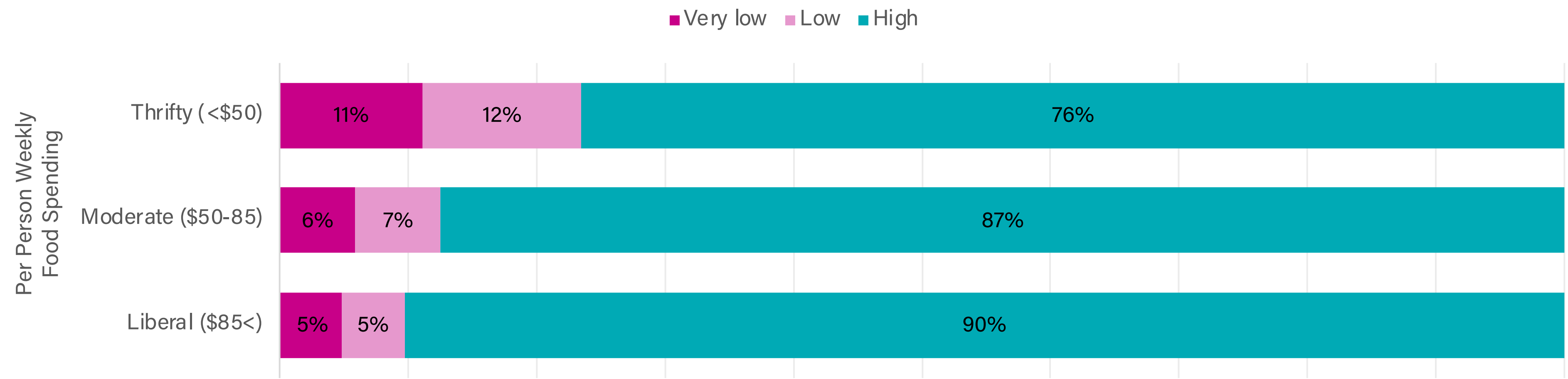
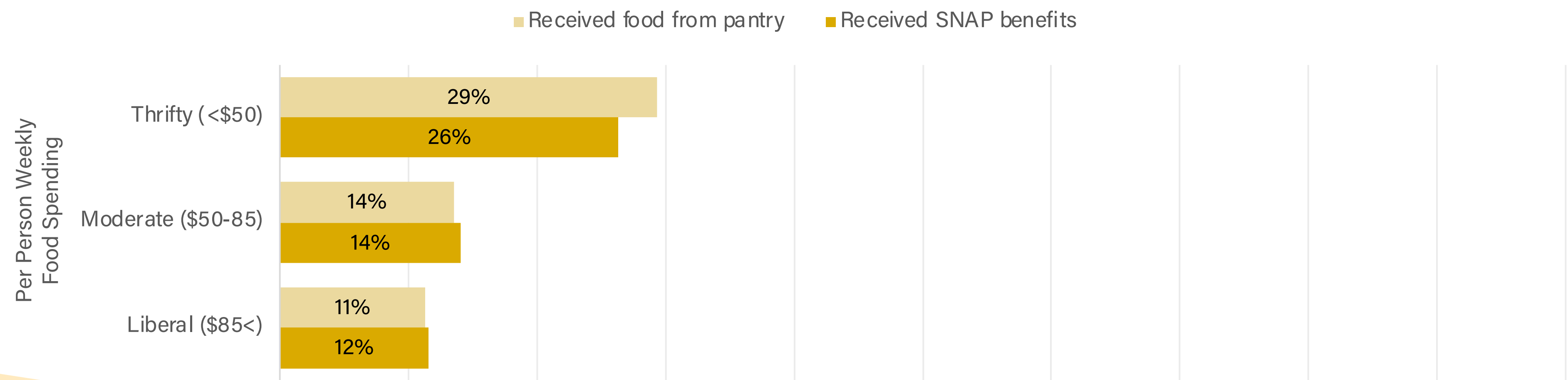


Figure 12. Rate of Household Food Pantry and SNAP Use by Per Person Weekly Food Spending, Jun. 2022 - May 2023

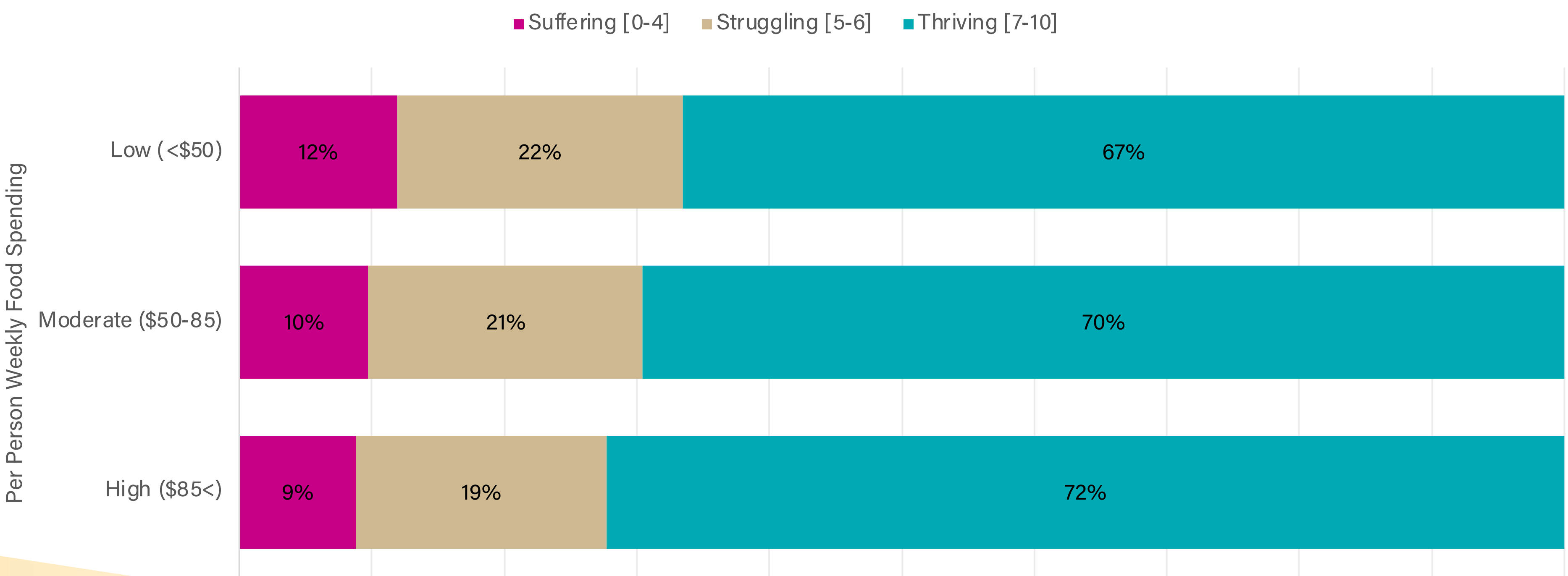


FOOD SATISFACTION

Are Americans satisfied with their diets?

Respondents were asked to score their own diet on a 0-10 scale, with top of that scale representing their ideal diet.[6] Scores were then categorized as thriving (7-10), struggling (5-6) or suffering (0-4). Nationally, a majority of Americans (69%) continue to be considered thriving. Furthermore, **Figure 13** reveals that consumer diet well-being has a relatively small correlation to levels of food spending. More specifically, there is a 5 percentage-point gap between the share of liberal spenders and thrifty spenders who are thriving. Similarly, there is about a 5 percentage-point gap in diet happiness (**Figure 14**). However, this gap narrows when we ask about life happiness, suggesting that food spending is weakly, if at all, correlated with overall happiness (**Figure 15**).

Figure 13. Diet Well-Being Index (0-10 Scale) by Per Person Weekly Food Spending, Jun. 2022 - May 2023



FOOD SATISFACTION

Figure 14. Rate of Consumer Diet Happiness by Per Person Weekly Food Spending, Jun. 2022 - May 2023

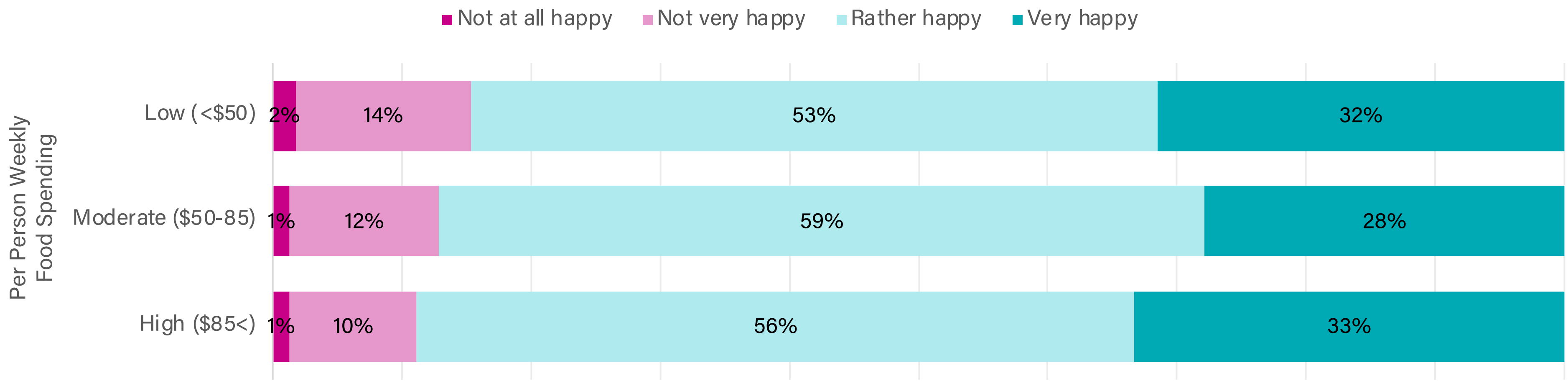
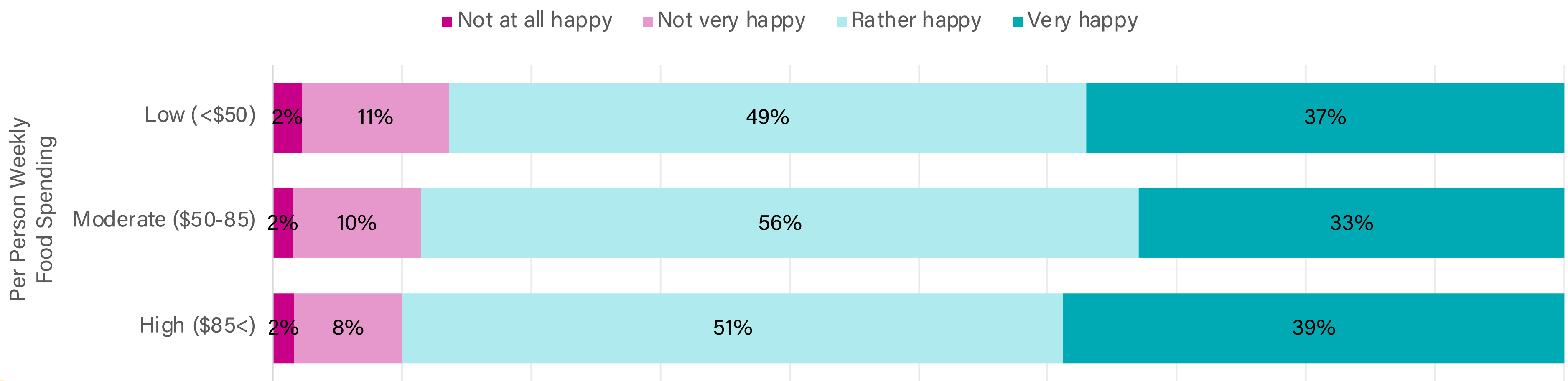


Figure 15. Rate of Consumer Life Happiness by Per Person Weekly Food Spending, Jun. 2022 - May 2023



CONSUMER BEHAVIORS

How are Americans navigating their food environment?

Consumers who spend less than $50 per week on food are more likely to adhere to a vegetarian or vegan diet, which is unsurprising given that meat tends to be a more expensive source of protein (**Figures 16**). These thrifty spenders are also more likely to food garden, whether at home or in a community plot, though gardening is not necessarily the most cost effective way to obtain food (**Figure 17**).

Furthermore, moderate spenders consistently scored lowest on behaviors that are conventionally considered more ethical or sustainable, such as purchasing organics or cage-free eggs (**Figure 18**). These moderate spenders were also relatively less concered with the origin of their food, reportedly checking related food labels less often. Thrifty and liberal spenders diverged very little on the surveyed food behaviors. Exceptions include choosing plant-based proteins, buying generic brands, and composting food scraps. Thrifty spenders were also least concerned with food safety in the kitchen, more often unwashed fruits, undercooked meat, and raw dough.

Figure 16. Rate of Vegan/Vegetarianism by Per Person Weekly Food Spending, Jun. 2022 - May 2023

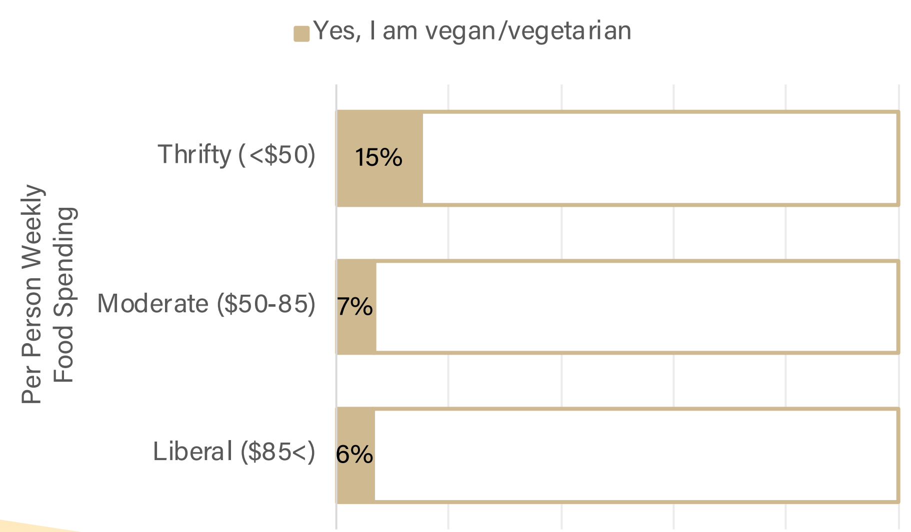
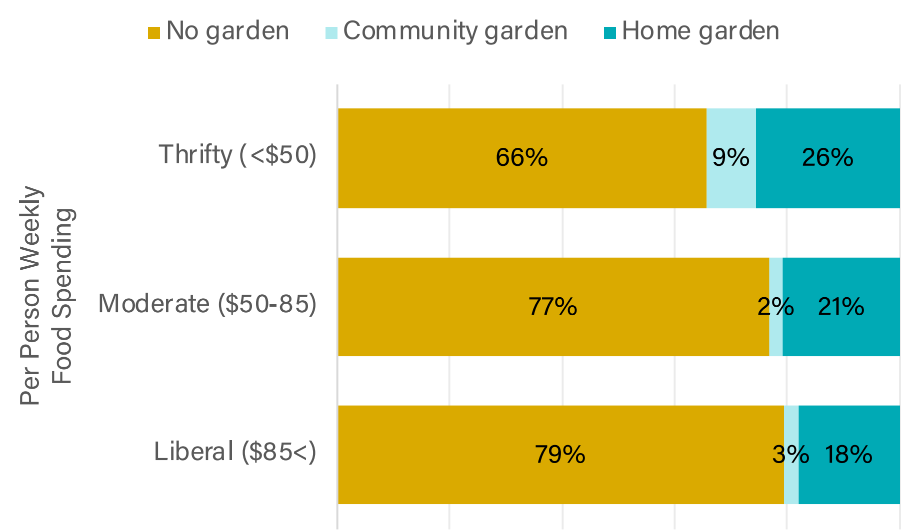


Figure 17. Rate of Food Gardening by Per Person Weekly Food Spending, Jun. 2022 - May 2023



CONSUMER BEHAVIORS

Figure 18. Frequency of Consumer Shopping and Eating Habits by Per Person Weekly Food Spending, Jun. 2022 - May 2023

	Per Person Weekly Food Spending		
	Thrifty (<$50)	Moderate ($50-85)	Liberal ($85<)
Chose generic foods over brand name foods	3.5	3.3	3.1
Chose local foods over non-local foods	3.1	3.0	3.1
Chose wild-caught fish over farm-raised fish	2.9	2.8	3.0
Chose grass-fed beef over conventional beef	2.8	2.8	2.9
Chose cage-free eggs over conventional eggs	2.9	2.7	2.9
Chose organic foods over non-organic foods	2.7	2.6	2.8
Chose plant-based proteins over animal proteins	2.6	2.3	2.4
Checked the use-by/sell-by date at the store	3.9	4.1	4.1
Checked the nutrition label before buying new foods	3.4	3.4	3.5
Checked for natural or clean labels	3.0	2.9	3.0
Checked where my food originated	2.9	2.8	2.9
Checked for food recalls	3.0	2.7	2.8
Checked for GMO ingredients	2.9	2.7	2.8
Checked how my food was produced	2.8	2.7	2.8
Took steps to reduce food waste at home	3.8	3.8	3.7
Recycled food packaging	3.4	3.5	3.5
Threw away food past the use-by date	3.2	3.1	3.3
Composted food scraps	2.6	2.2	2.3
Ate fruits and vegetables without washing them	2.4	2.1	2.2
Ate rare or undercooked meat	2.2	1.8	1.9
Ate raw dough or batter	2.2	1.8	1.8

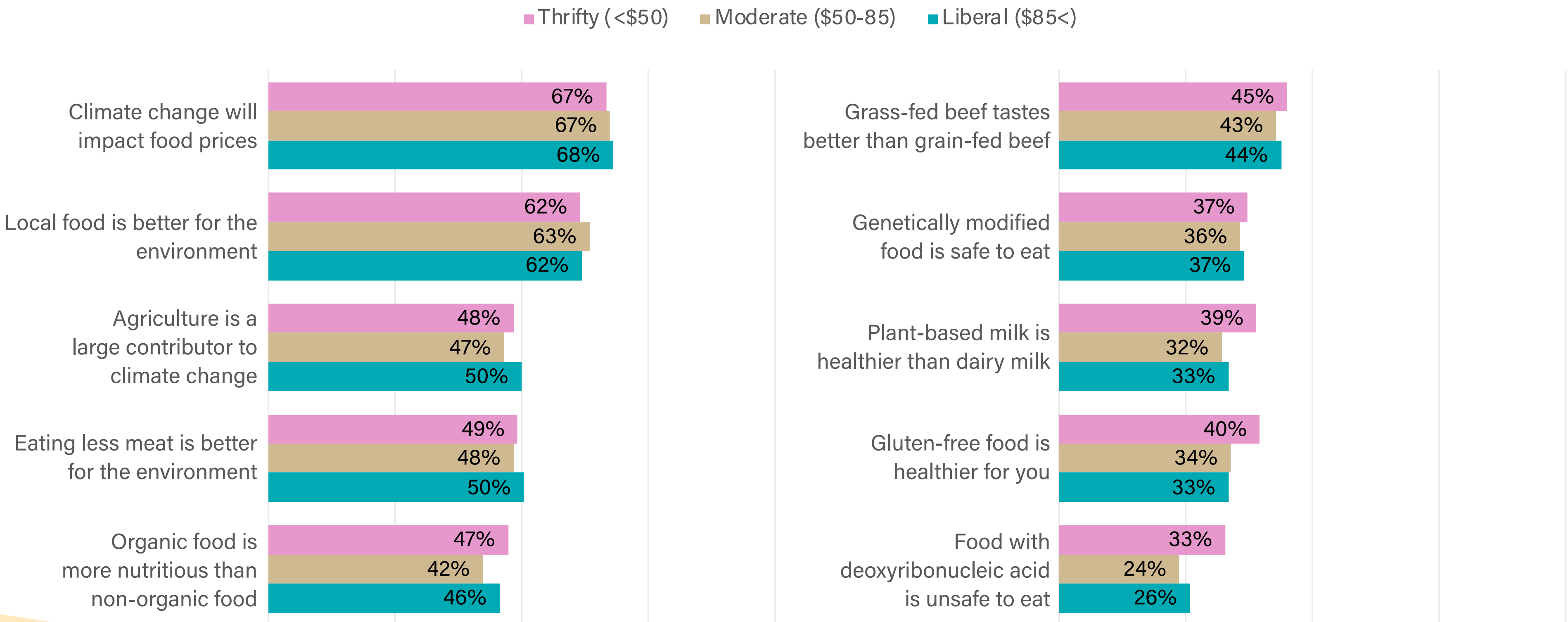
Mean Score	
5	Always
4	Often
3	Sometimes
2	Rarely
1	Never

CONSUMER BELIEFS

What do Americans believe about their food and food system?

Food spending does not clearly correlate with the beliefs about the food system that we surveyed (**Figure 19**). Both thrifty spenders and liberal spenders believe similar things about aspects like the healthfulness and environmental impact of their food. However, we do note that thrifty spenders seem more inclined to think plant-based milk and gluten-free food are healthier options. Perceptions of these products could be an interesting area to explore given that these products are typically more expensive than their 'regular' counterparts.

Figure 19. Share of Consumers who 'Somewhat Agree' or 'Strongly Agree' with Claims about Food by Per Person Weekly Food Spending, Jun. 2022 - May 2023



CONSUMER TRUST

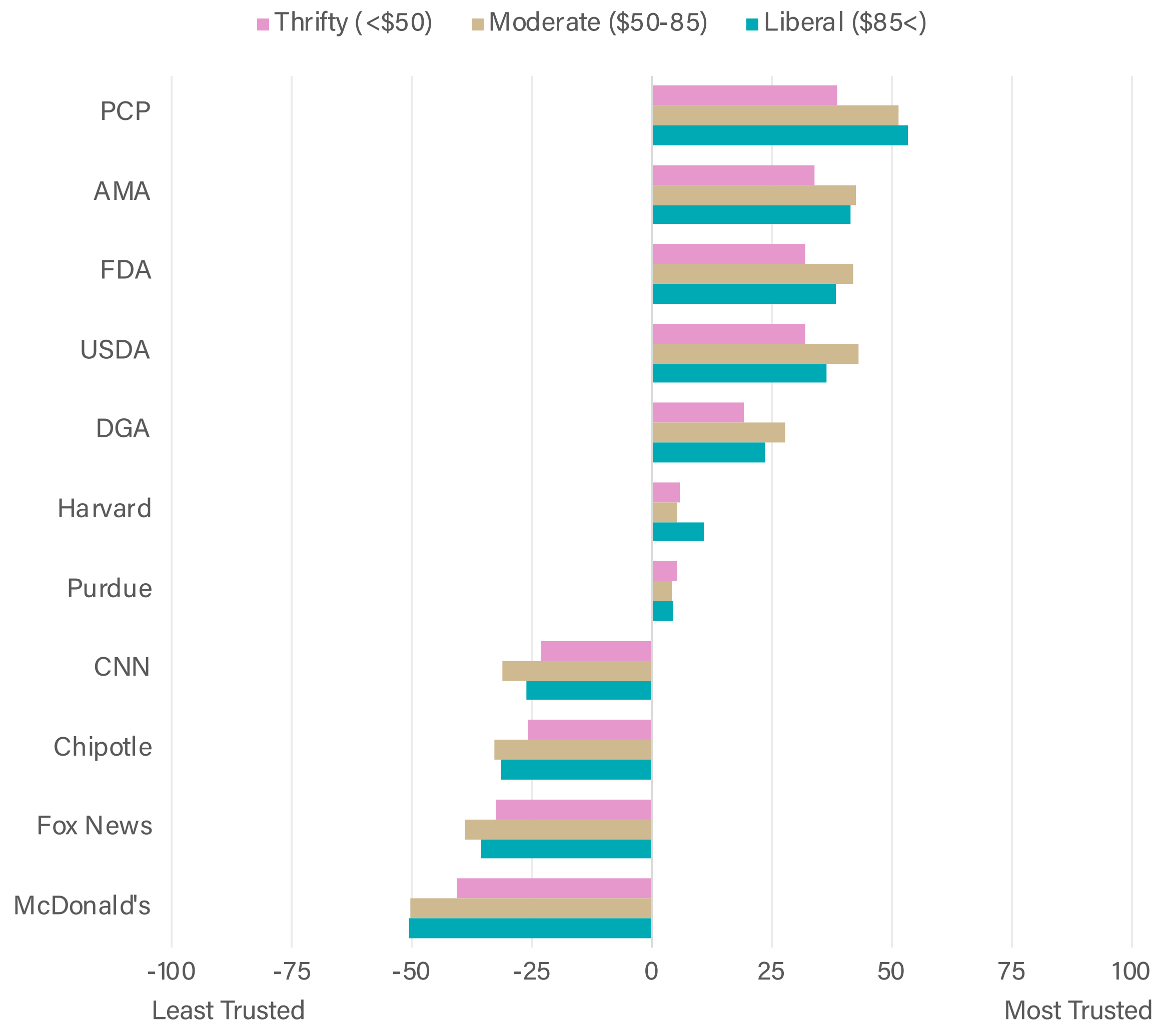
Who do Americans trust on topics of food?

We asked respondents to select their five most trusted and five least trusted sources of food-related information and scored these different sources on a Trustworthiness Index.

Figure 20 reveals that higher spenders tend to trust professional and government institutions more while trusting news organizations and food companies less. For example, there is a 15-point gap in trust for primary care physcians (PCPs) between liberal spenders and thrifty spenders and a 10-point gap in distrust for McDonald's. Notably, the academic institutions like Harvard and Purdue demonstrated some of the smallest gaps in trust between these groups. Moderate spenders also diverged from liberal spenders in their degree of trust across several institutions.

As negotiations over the Farm Bill heat up in Congress, the **USDA** remains one of the most trusted entities surveyed with the exact same trust score as last May.

Figure 20. Trust Index of Food Information by Per Person Weekly Food Spending, Jun. 2022 - May 2023



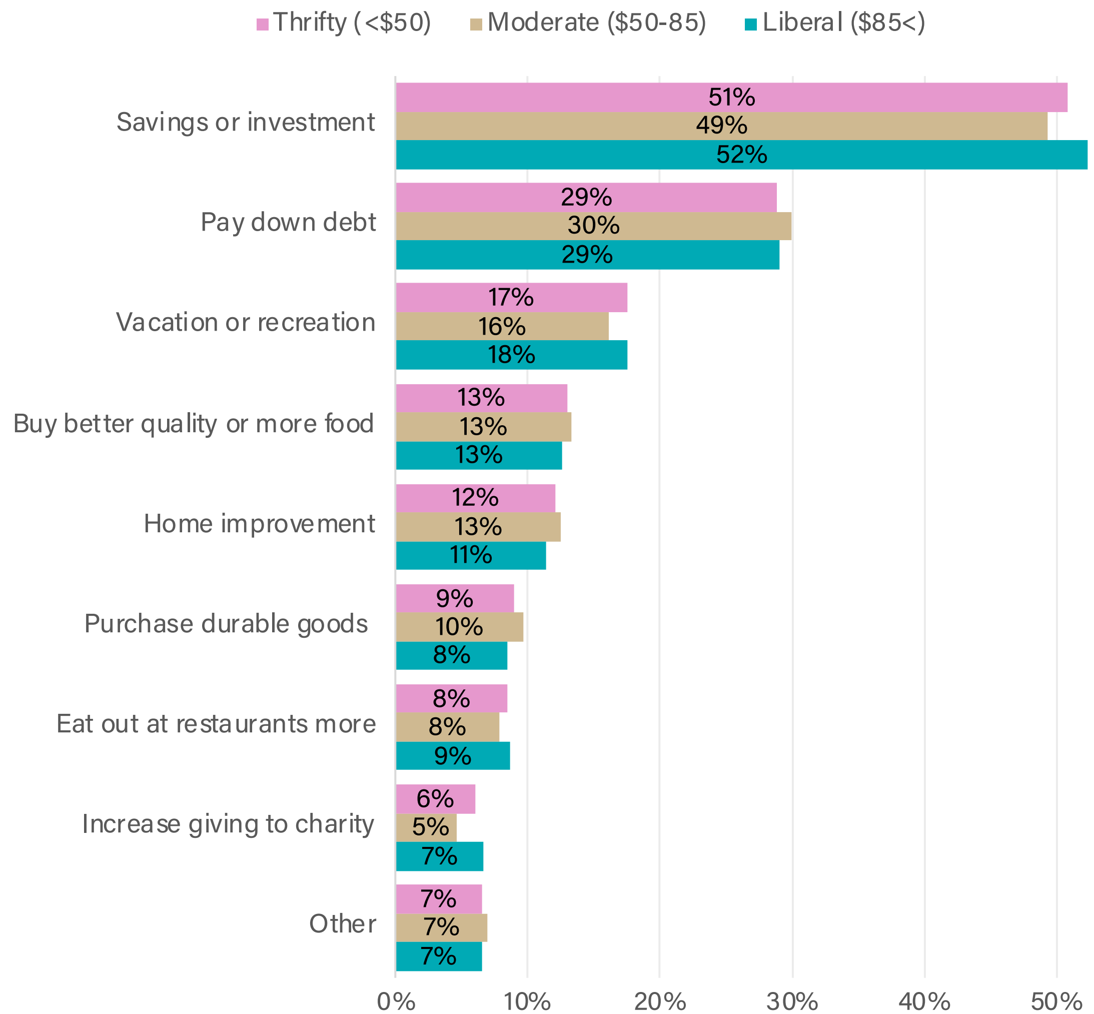
TAX SEASON

How do Americans plan to use their tax refunds this year?

As tax season wraps up, we continued to ask if consumers have received or expect to receive a federal tax refund this year. As of this month, 50% report receiving a refund and another 16% say that they still expect a refund. Of this share, we asked how they have spent or plan to spend their refund in the coming months.

Interestingly, when we disaggregate responses by food spending levels, there is no difference in how consumers intend to use their refunds (**Figure 21**). More specifically, similar proportions of thrifty spenders and of liberal spenders will use their refunds to get better quality food and to eat out at restaurants more. These results suggest that most consumers, regardless of their budgets, have similar spending priorities when they have a surplus of money. We might also guess that some social desireability bias leads respondents to believe that saving, investing, and paying down debt is the responsible thing to do with one's tax refund.

Figure 21. Consumer Plans for their 2023 Tax Refunds by Per Person Weekly Food Spending, Feb. - May 2023



ENDNOTES

1 Data were collected from an online panel maintained by the company Dynata over a three-day period from May 15-17, 2023. 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. Every respondent from the previous month was re-contacted and asked to take the survey again. About 41% of April's sample participated this month, thus the rest of the sample was filled in with a new pool of respondents. 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 Sample sizes for food spending categories: thrifty spenders (n=4,556), moderate spenders (n=5,229), liberal spenders (n=5,130)

3 The Sustainable Food Purchasing (SFP) Index is a self-reported measure of food purchasing designed to assess how well consumer shopping habits align with healthy diets from sustainable food systems, as described by the EAT-Lancet Commission on Food, Planet, Health. A top score of 100 reflects consumer food purchasing that aligns with a set of key recommendations for better nurturing human health and supporting environmental sustainability. The SFP Index includes six components—Nutrition, Environment, Social, Economic, Security, and Taste—correlating with the different strategies for achieving food systems transformation.

4 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.

5 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 annual household income 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.

ENDNOTES

6 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.

Demographic and Socio-Economic Characteristics of Sample

		Per Person Weekly Food Spending Categories			
Category		**Thrifty**	**Moderate**	**Liberal**	**Census**
Age	18-34 years old	42	25	24	30
	35-54 years old	32	33	33	33
	55 years or older	26	42	42	37
Race	White	45	50	52	58
	Black	12	9	9	12
	Asian	5	6	6	6
	Hispanic	29	26	25	19
	Other	9	8	7	5
Sex	Male	45	48	54	49
	Female	55	52	46	51
	Transgender or other	<1	<1	<1	<1
Geography	Northwest	16	16	19	17
	Midwest	21	22	20	21
	South	38	39	37	38
	West	24	24	24	24
Income	<$35,000/year	34	24	21	26
	$35,000–$100,000/year	41	45	37	41
	>$100,000/year	25	31	42	33