

Meat Demand Monitor: A Peep at Pork Purchases

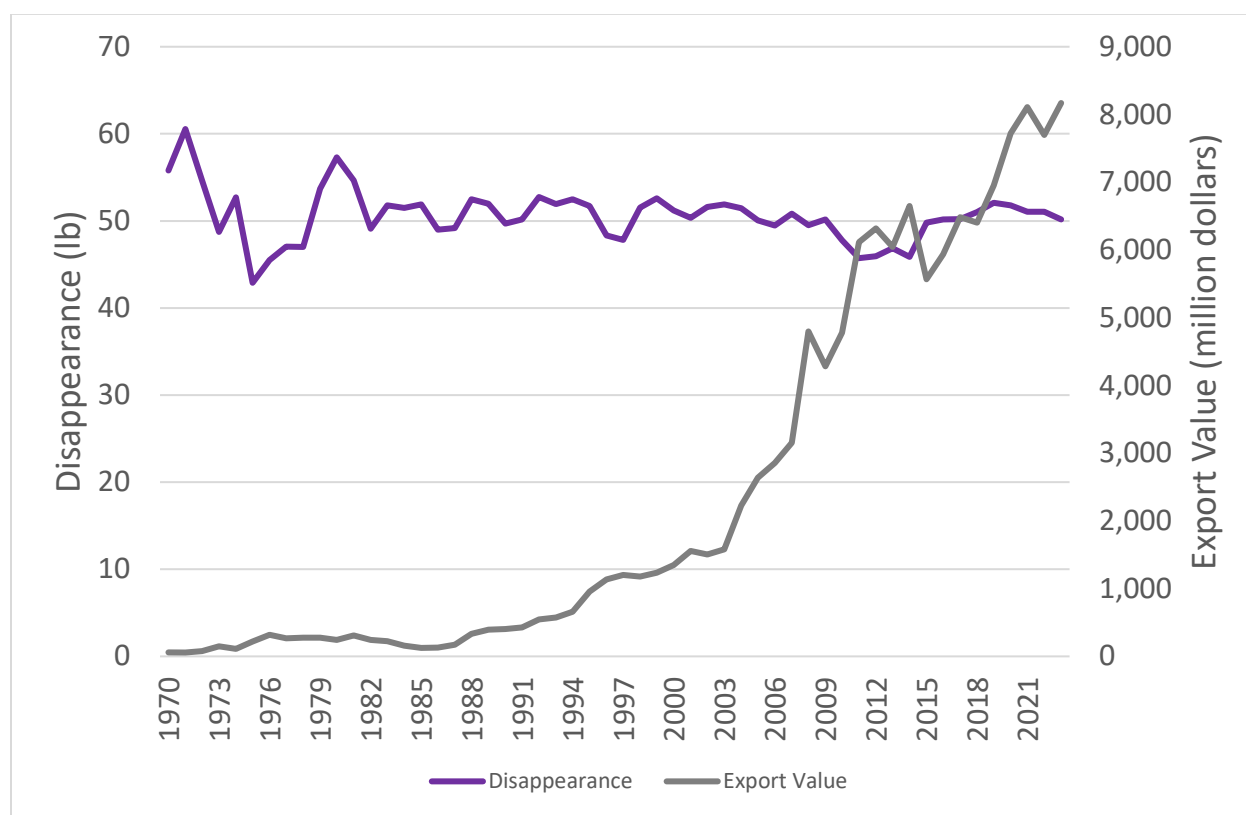
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Problems in Pork

In Quarter 2 2024 we provided an overview of national beef consumption frequency and purchases by package size.² Growing up raising hogs on our respective family farms in Kansas and Missouri, we are also interested in consumers’ pork purchases and the overall health of the U.S. pork industry. Counting pigs and watching prices is lifelong behavior for us and we seek to provide valuable information to stakeholders throughout the industry.

Figure 1. Annual Retail Weight Per Capita Pork Disappearance and Export Value



Note: Pork disappearance data is from USDA ERS. Trade data is from USDA FAS.

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² This report can be found at <https://www.agmanager.info/livestock-meat/meat-demand/monthly-meat-demand-monitor-survey-data/meat-demand-monitor-who%E2%80%99s-buying>.

Pork is an interesting space. Annual per capita disappearance has remained essentially unchanged for decades, hovering around 50 pounds since the early 1980s. Not experiencing the same increases in domestic consumption as, say, chicken, industry growth has followed major growth in pork exports. The export value of pork and pork products rose from around \$500 million in 1992 to over \$8 billion in 2023. Beyond those long-term trends, recent developments both domestically and internationally have weighed heavily on prices and costs observed in the pork complex. African swine fever in China, California’s enactment of Proposition 12 legislation, and Massachusetts Question 3 have all raised questions among U.S. producers on how to navigate the changing market landscape and what to expect regarding demand for their product. In that light, we go back to our roots and take a further look at current pork purchasing behavior in the U.S.

Data

This report utilizes MDM responses from the third quarter of 2024. Survey responses were weighted to be representative of the U.S. population in terms of age, gender, race, education, income, and region of residence. To ensure the quality of MDM data used, responses are filtered according to procedures outlined in the MDM project methodology statement (<https://agmanager.info/livestock-meat/meat-demand/monthly-meat-demand-monitor-survey-data/meat-demand-monitor-project>). Specific to this report, responses are additionally filtered if 1) respondents do not provide a complete prior day recall of their pork consumption or 2) they do not provide the package size of their most recent pork purchases. In all, this report reflects 8,096 MDM respondents for Quarter 3 2024.

Prior Day Pork Consumption

In the MDM, respondents are asked to provide the number of yesterday’s meals (from one to three) that contained beef, pork, chicken, seafood, and alternative proteins.^{3,4} Nationally, and during Quarter 3 2024, respondents indicated consuming pork in 0.50 of their prior day meals, on average. A slight disparity is present between genders as males consume pork in roughly 0.58 meals per day while females consume at a relatively lower rate of 0.42 meals per day. Pork consumption frequency is also skewed younger, with respondents aged 18 to 24 consuming pork in 0.57 of their prior day meals and respondents aged 65 and older consuming at a rate of 0.42 meals per day, on average.

Table 1. Prior Day Pork Consumption by Age

Age Cohort (years)	Number of Respondents	Number of Prior Day Meals
18-24	403	0.57
25-34	1,055	0.55
35-44	1,475	0.57
45-54	1,345	0.50
55-64	1,896	0.44
65 and older	1,922	0.42

³ The prior day recall is a measure of consumption that accounts for frequency, but not for volume.

⁴ The most commonly consumed food item within the “alternative proteins” category is eggs.

Pork consumption frequency—as measured by the MDM’s prior day recall—does not increase linearly with household income. Pork is included in between 0.47 and 0.49 meals per day for those with annual household incomes under \$100,000. The highest earners (i.e., those making over \$100,000 annually) consume pork at a slightly higher frequency of 0.56 meals per day.

Table 2. Prior Day Pork Consumption by Income

Annual Household Income	Number of Respondents	Number of Prior Day Meals
Under \$20,000	1,013	0.47
\$20,000-\$59,999	3,347	0.49
\$60,000-\$99,999	2,038	0.47
\$100,000 or greater	1,698	0.56

Rather than transition away from pork and into relatively cheaper protein sources, those with lower incomes may transition to less costly alternatives within the pork carcass itself. To assess this, we further evaluated consumption of pork products that differ in their relative prices—bacon, pork chop, and pork sausage—and again by annual household income. We found that respondents who varied in income did not have drastically different consumption frequencies of bacon or pork chops. Respondents consumed bacon in between 0.06 and 0.09 meals per day and pork chops in between 0.02 and 0.03 meals per day, on average. Pork sausage consumption frequency had a little more variation with lower earners consuming the product in 0.09 to 0.11 meals per day and the highest earners consuming in only 0.06 meals per day, on average. We would expect lower-income households to consume lower-priced products (i.e., pork chops and pork sausage) relatively more frequently and higher-priced products (i.e., bacon) relatively less frequently—which does not play out in the survey data. Perhaps differences in serving size per consumption event underlie this.

Table 3. Prior Day Bacon, Pork Chop, and Pork Sausage Consumption by Income

Annual Household Income	Number of Respondents	Product	Number of Prior Day Meals
Under \$20,000	1,013	Bacon	0.07
		Pork Chop	0.03
		Pork Sausage	0.09
\$20,000-\$59,999	3,347	Bacon	0.09
		Pork Chop	0.03
		Pork Sausage	0.11
\$60,000-\$99,999	2,038	Bacon	0.08
		Pork Chop	0.02
		Pork Sausage	0.09
\$100,000 or greater	1,698	Bacon	0.06
		Pork Chop	0.02
		Pork Sausage	0.06

Conclusions regarding pork chops, as seen in Table 3, are further supported when assessing prior day pork chop consumption by MDM respondents' financial sentiment. Those with negative perceptions of their current financial situation versus last year (35 percent of respondents) and those with positive perceptions of their current financial situation (21 percent of respondents) both reported consuming pork chops in around 0.03 meals per day, on average. Financial sentiment appears to play a larger role in consumption frequency of bacon and pork sausage, however. Those with negative and positive financial sentiment reported consuming bacon in 0.09 and 0.05 meals per day and pork sausage in 0.11 and 0.05 meals per day on average, respectively. This indicates that, as consumers become better off financially, they begin to eat less of some pork products (in terms of consumption frequency). These consumers switch their food consumption to products that they may view as being "superior." This highlights a need for U.S. pork to continue efforts designed to position pork favorably alongside protein products that meet consumers' desire for quality attributes such as taste and freshness, which are regularly found in the MDM to be key protein purchasing determinants.

Finally, to assess which disaggregated demographic group consumes pork most frequently, we calculate average prior day meals including pork across gender/age/income cohorts. Important to consider is that, at that level of disaggregation, some cohorts have a small number of respondents and results should be interpreted with care.

Table 4. Prior Day Pork Consumption by Gender, Age, and Income Cohort

Gender	Age Cohort (years)	Annual Household Income	Number of Respondents	Number of Prior Day Meals
Female	18-24	Under \$20,000	44	0.36
		\$20,000-\$59,999	97	0.47
		\$60,000-\$99,999	39	0.44
		\$100,000 or greater	24	0.46
	25-34	Under \$20,000	83	0.48
		\$20,000-\$59,999	220	0.39
		\$60,000-\$99,999	103	0.53
		\$100,000 or greater	59	0.46
	35-44	Under \$20,000	115	0.36
		\$20,000-\$59,999	287	0.44
		\$60,000-\$99,999	144	0.47
		\$100,000 or greater	114	0.45
	45-54	Under \$20,000	120	0.48
		\$20,000-\$59,999	319	0.49
		\$60,000-\$99,999	183	0.40
		\$100,000 or greater	110	0.53
55-64	Under \$20,000	189	0.47	
	\$20,000-\$59,999	451	0.37	
	\$60,000-\$99,999	257	0.38	
	\$100,000 or greater	154	0.35	

	65+	Under \$20,000	61	0.43
		\$20,000-\$59,999	471	0.41
		\$60,000-\$99,999	256	0.35
		\$100,000 or greater	165	0.33
Male	18-24	Under \$20,000	33	0.69
		\$20,000-\$59,999	66	0.62
		\$60,000-\$99,999	57	0.62
		\$100,000 or greater	43	0.89
	25-34	Under \$20,000	62	0.36
		\$20,000-\$59,999	266	0.67
		\$60,000-\$99,999	128	0.57
		\$100,000 or greater	134	0.71
	35-44	Under \$20,000	72	0.55
		\$20,000-\$59,999	270	0.59
		\$60,000-\$99,999	169	0.58
		\$100,000 or greater	304	0.77
	45-54	Under \$20,000	85	0.53
		\$20,000-\$59,999	224	0.56
		\$60,000-\$99,999	143	0.52
		\$100,000 or greater	161	0.54
	55-64	Under \$20,000	100	0.49
		\$20,000-\$59,999	329	0.50
		\$60,000-\$99,999	247	0.49
		\$100,000 or greater	169	0.56
65+	Under \$20,000	49	0.57	
	\$20,000-\$59,999	347	0.44	
	\$60,000-\$99,999	312	0.48	
	\$100,000 or greater	261	0.45	

Pork consumption frequency ranged from 0.33 meals per day (females aged 65 years or older making \$100,000 or more annually) to 0.89 meals per day (males aged 18 to 24 years making \$100,000 or more annually). Of note is that males aged 18 to 44 across any income bracket consume pork relatively more frequently. Of the MDM-derived top 10 pork consuming cohorts, 9 were males aged 18 to 44 years. These cohorts account for 25 percent of the 48 total cohorts and 17 percent of the total sample (1,342 respondents out of 8,096), but 90 percent of the top 10 pork consuming cohorts. Our prior report related to the concentration of beef consumption discussed similar findings, suggesting that both beef and pork consumption is rather concentrated (i.e., *not* uniform or equal) within U.S. households.

Pork Purchases by Package Size

In addition to the prior day consumption frequencies discussed above, we can compare the package sizes bought of various pork products, which serves as a measure of product volume. Respondents are

asked in the MDM to provide the package size of their last purchase of bacon, pork chops, and pork sausage. Options range from “Under 5 oz.” to “Over 2 lb.” In aggregate, individuals purchase bacon, pork chops, and pork sausage in packages of 13 to 16 ounces relatively more frequently than other package sizes. 40 percent of respondents reported that their last purchase of bacon was in this size, while 23 and 33 percent reported similarly regarding their last purchase of pork chops and pork sausage, respectively. Additionally, 13 percent, 19 percent, and 18 percent of individuals did not know the package size of their last bacon, pork chop, and pork sausage purchase, respectively, or do not purchase those products.

Table 5. Share of Respondents Purchasing a Specific Package Size

Number of Respondents	Product	Package Size							
		Under 5 oz.	5-8 oz.	9-12 oz.	13-16 oz.	17-20 oz.	21-24 oz.	Over 2 lb.	I do not know/purchase
8,096	Bacon	0.04	0.11	0.17	0.40	0.06	0.06	0.03	0.13
	Pork Chops	0.03	0.11	0.16	0.23	0.10	0.11	0.06	0.19
	Pork Sausage	0.04	0.13	0.17	0.33	0.06	0.06	0.03	0.18

Note: The row for “Bacon” is interpreted as 4 percent of respondents purchase bacon in package sizes under 5 ounces, 11 percent of respondents purchase bacon in package sizes between 5 and 8 ounces, and so on. Each row sums to 1, with some rounding errors.

Breaking down package size purchases by demographic characteristics provides additional insight. Males purchase larger package sizes of bacon than females by 0.02 ounces, on average, but do not appear to purchase larger package sizes of pork chops or pork sausage. Individuals aged 45 years and over purchase larger packages of pork chops—by between 0.12 and 0.20 ounces—compared to those less than 45 years of age. Lower incomes are associated with lower package sizes of bacon, pork chops, and pork sausage. Those with annual household incomes less than \$100,000 annually purchase bacon in package sizes between 0.03 and 0.10 ounces smaller, pork chops in sizes 0.03 to 0.07 ounces smaller, and pork sausage in sizes 0.04 to 0.10 ounces smaller than those with the highest yearly earnings. Individuals with positive and negative views of their current financial situation versus last year purchase pork products in roughly similar package sizes. Lastly, and as expected, household size is positively associated with package size—meaning that, on average, larger households purchase larger packages of each pork product, and by up to 0.13 ounces depending on the number of individuals in the household.⁵

Conclusions

In light of numerous supply- and demand-related uncertainties in the U.S. pork industry, we provide an update on consumers’ purchasing behavior, using the MDM to assess differences in prior day pork consumption and pork package sizes between consumers who vary in demographic characteristics and

⁵ Interval regression was used to estimate the associations of gender, age, annual household income, financial sentiment, and household size with package size. The estimates discussed were statistically significant at the five percent level. Respondents who did not know their last package size purchased were excluded from this analysis.

financial sentiment. The frequency of pork consumption is slightly higher among males and younger individuals. Differences in pork consumption frequency by annual household income are small, with this result being consistent across a variety of pork products that differ in their relative prices. This suggests that the U.S. pork market, as compared to beef at least, has fewer consumers “trading up” or “trading down” in consumption frequency as incomes change. We do observe that those with positive views of their financial situation consume bacon and pork sausage at a lower rate, suggesting possible shifts to other proteins. Regarding pork package sizes, males purchase slightly larger packages of bacon than females, but there is little evidence that they purchase larger packages of pork chops or pork sausage. Perhaps most important is that household income, household size, and age (for pork chops anyway) have strong associations with package sizes. This finding paired with consumption frequencies (Table 4) indicates that, like beef, pork consumption is also concentrated rather than simply uniform across U.S. households.

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