

Beef Demand Considerations



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Tonight's Plan:

- 1. What is Demand?**
- 2. How does demand impact producers?**
- 3. What impacts domestic beef demand?**
- 4. What impacts export beef demand?**
- 5. What impact has COVID had?**



Prosperity of all beef industry participants hinges critically upon consumer demand

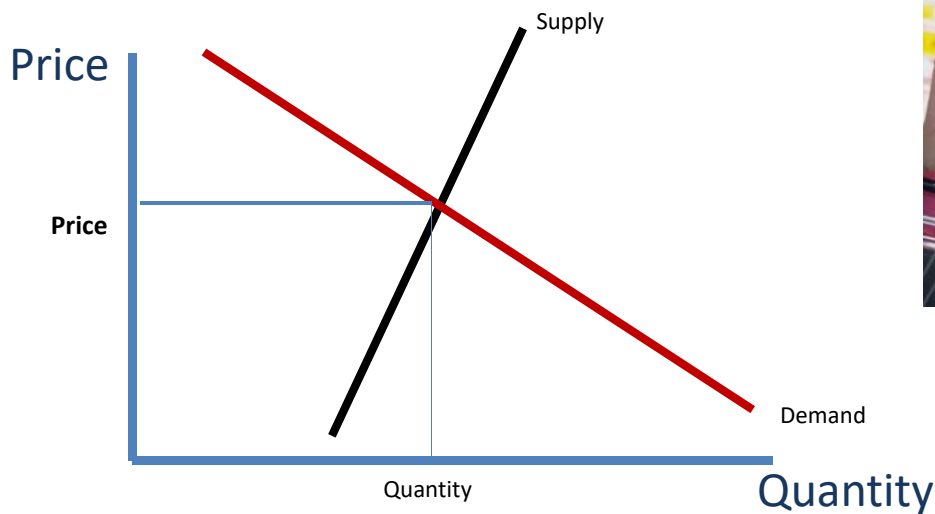
All \$ that flow into beef industry originate from consumers

We must make policy, production, & marketing decisions appreciating this bold fact!



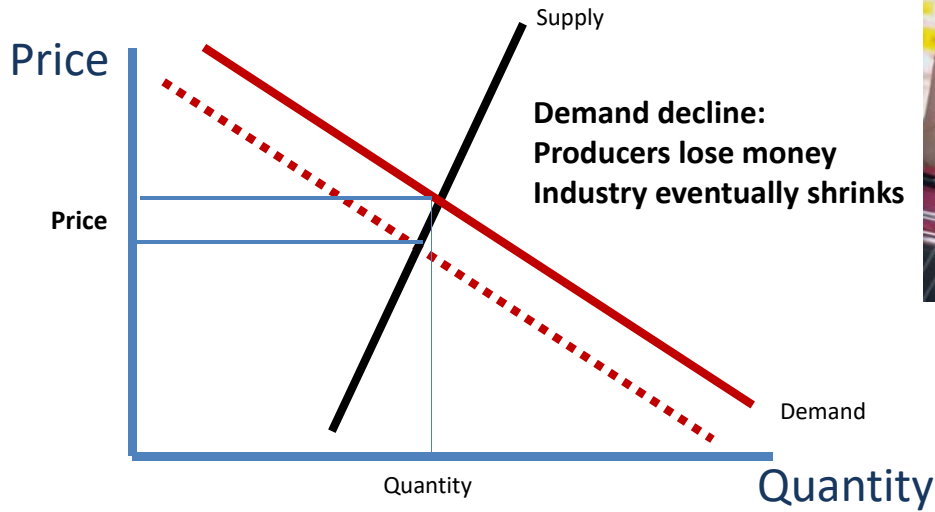
Demand defined:

"quantities consumers will buy at various prices"



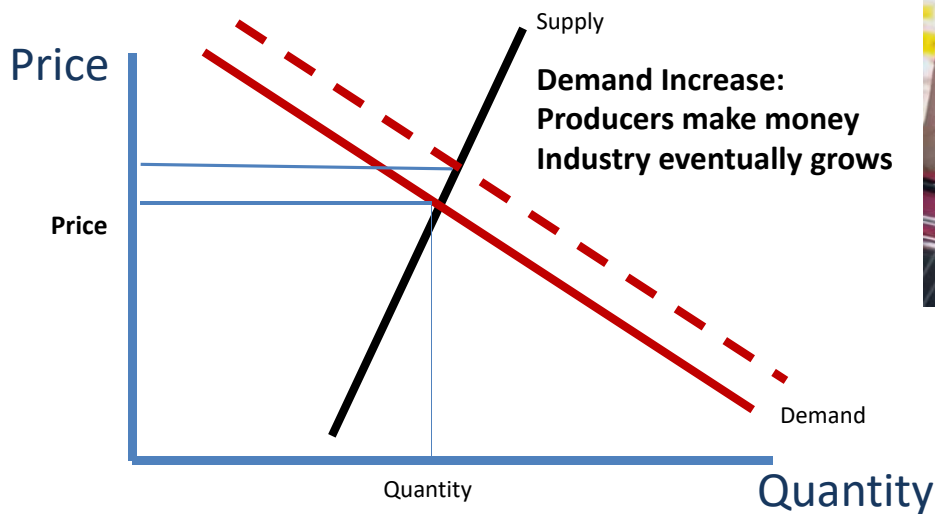
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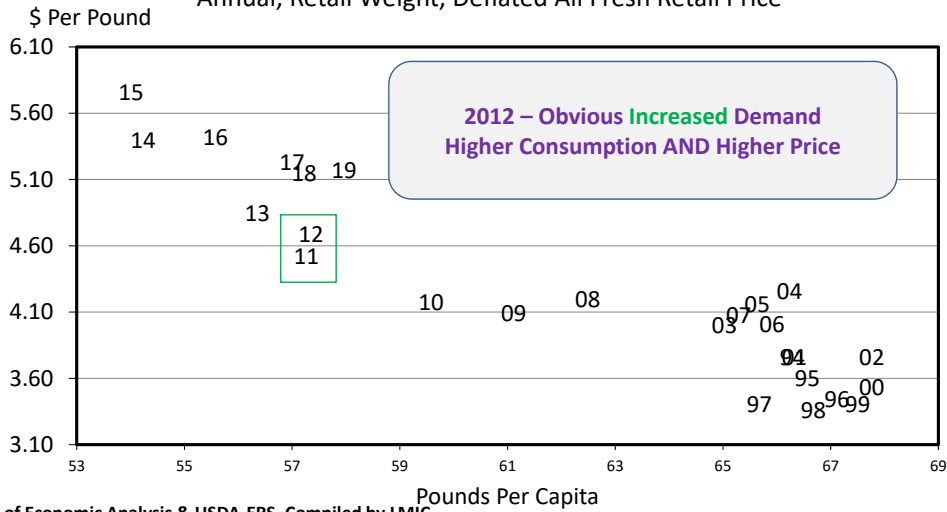
Demand defined:

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BEEF PRICE-QUANTITY RELATIONSHIP

Annual, Retail Weight, Deflated All Fresh Retail Price



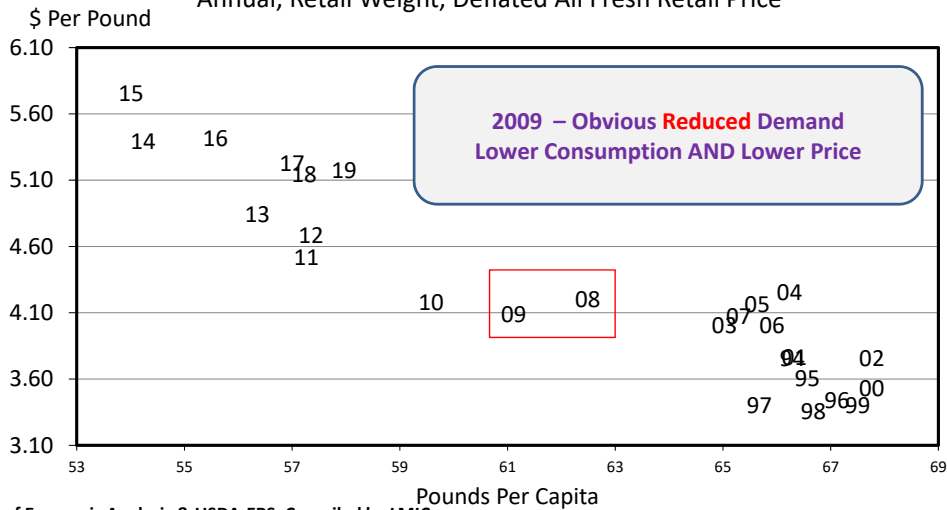
Data Source: Bureau of Economic Analysis & USDA-ERS, Compiled by LMIC

Livestock Marketing Information Center



BEEF PRICE-QUANTITY RELATIONSHIP

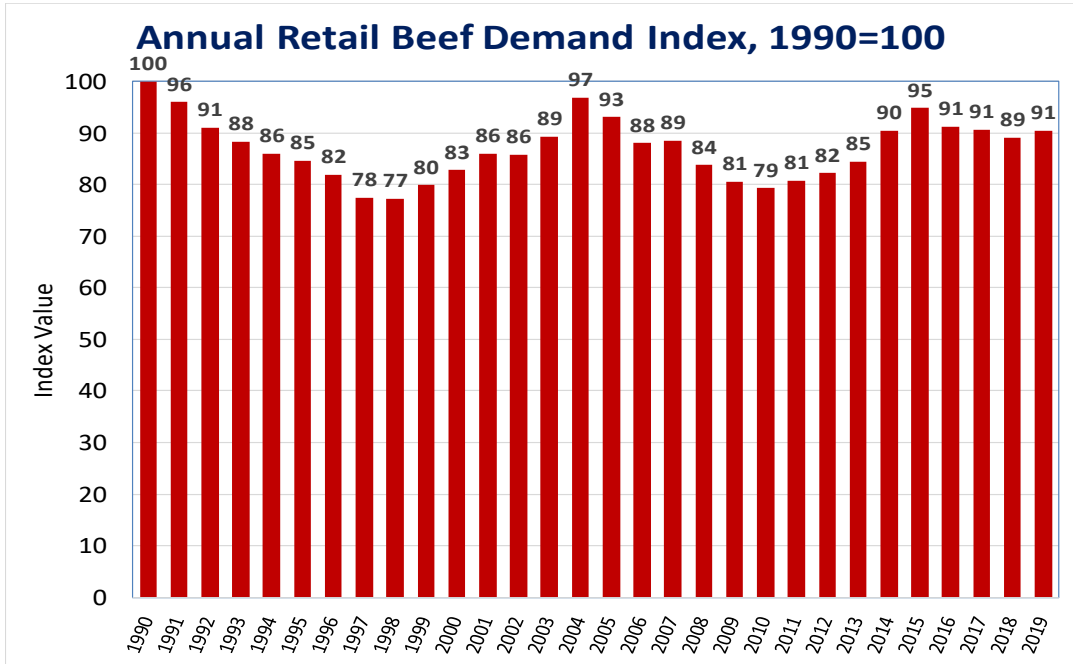
Annual, Retail Weight, Deflated All Fresh Retail Price



Data Source: Bureau of Economic Analysis & USDA-ERS, Compiled by LMIC

Livestock Marketing Information Center





Data Source: Bureau of Economic Analysis & USDA-ERS, Compiled by LMIC,

Questions & Answers

Tonight's Plan:

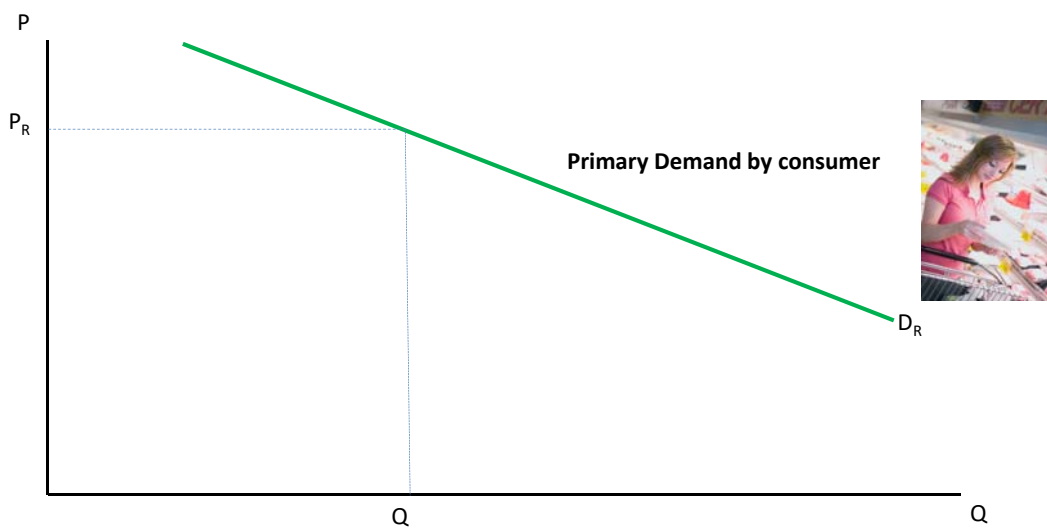
1. What is Demand?

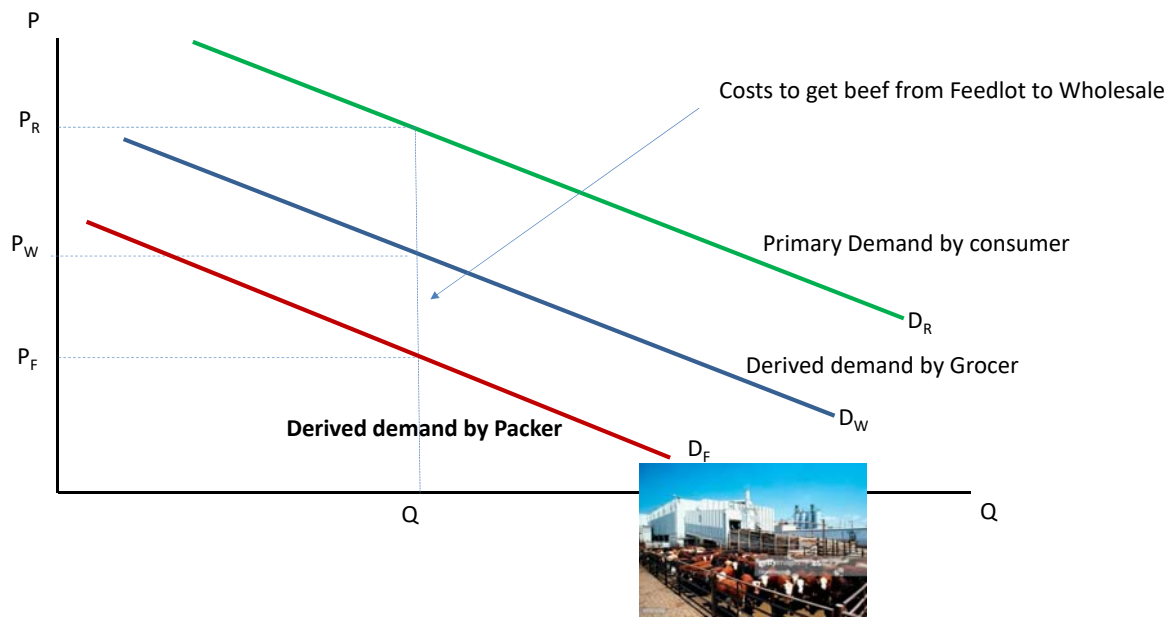
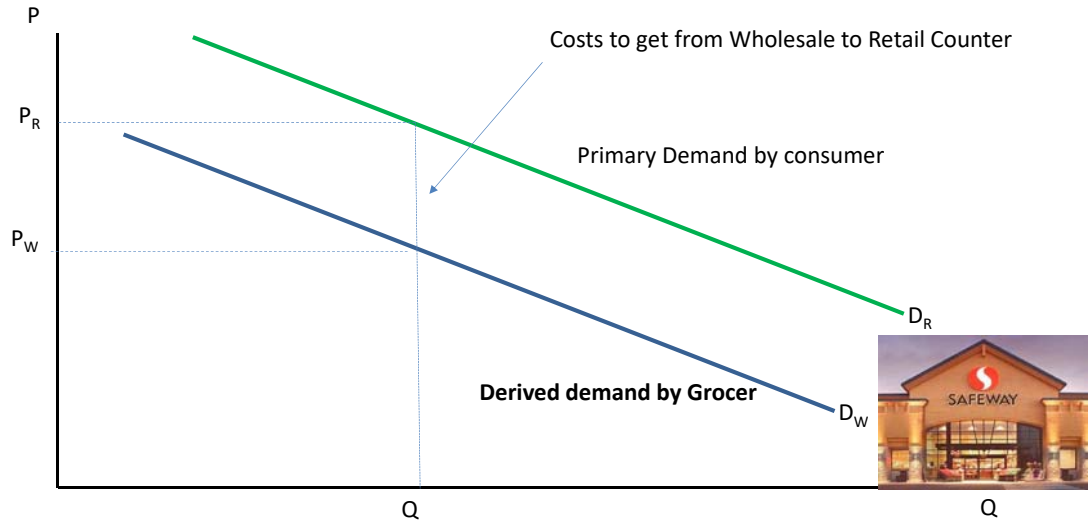
2. How does demand impact producers?

3. What impacts domestic beef demand?

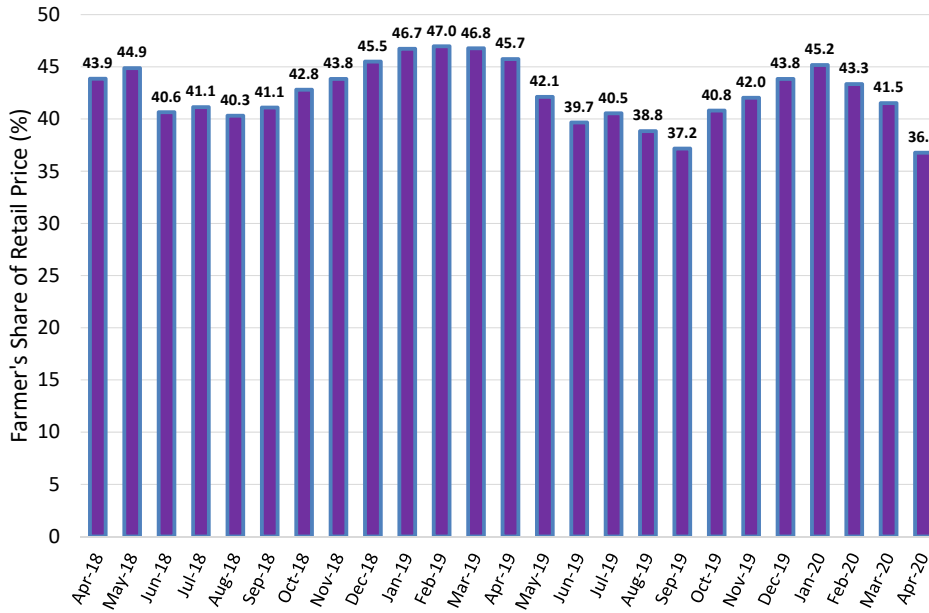
4. What impacts export beef demand?

5. What impact has COVID had?



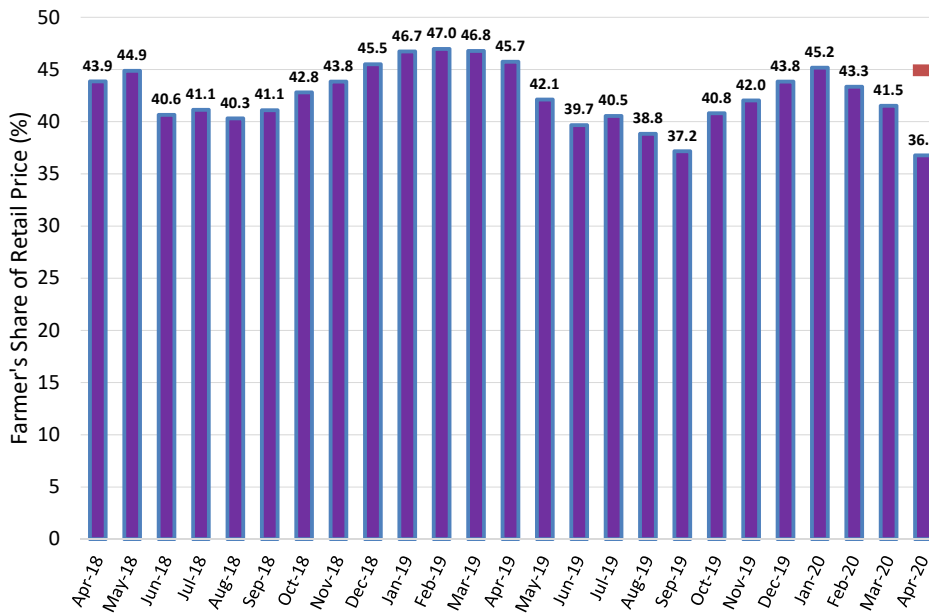


Farmer's Share of Retail Beef Dollar, May 2018-April 2020



Source: USDA ERS

Farmer's Share of Retail Beef Dollar, May 2018-April 2020

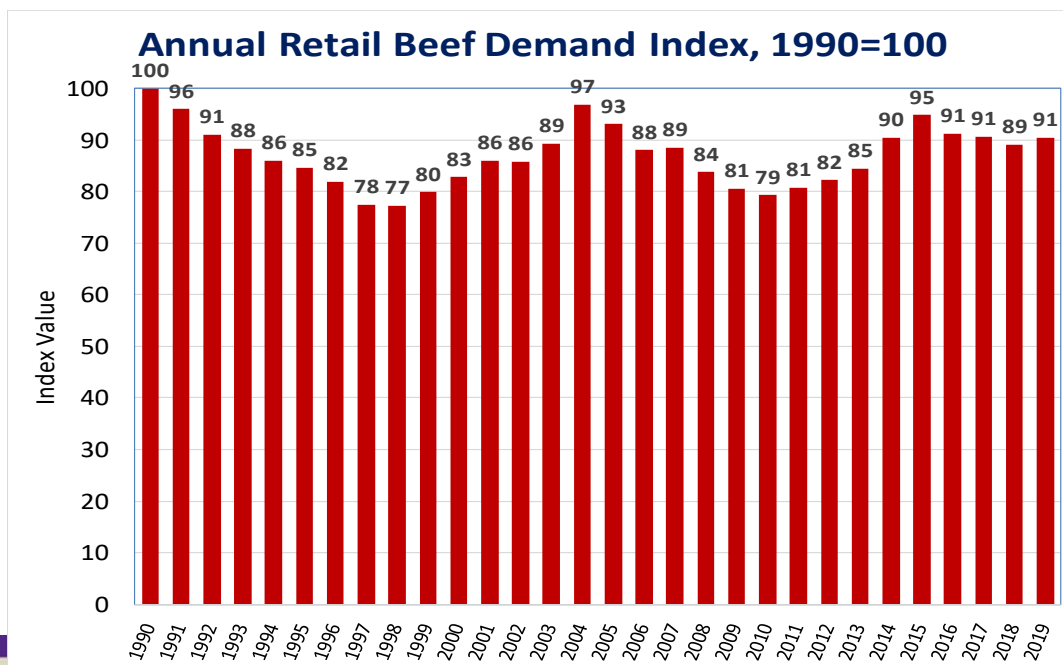


Approximate COVID cost:

If Farmer Share = 44%
Apr. Fed Cattle = \$123.50
Actual Price = \$102

COVID COST = \$21.50/cwt
off April '20 Fed Cattle

Source: USDA ERS



Data Source: Bureau of Economic Analysis & USDA-ERS, Compiled by LMIC,

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How Domestic Demand Impacts Producers?

1% increase in domestic demand, (e.g., index going 90 to 90.9)

- **+1.52%** fed cattle price
- **+2.48%** weighted-average feeder price (700 lb. median wt.)

Source: McKendree et al., 2019

How Domestic Demand Impacts Producers?

- Jan 2020 Domestic All-Fresh Demand Index: 86.5
 - +3.27% vs. Jan. 2019

	Jan 2020 Actual Prices	Prices No Demand Gain	Price Gain Due to Demand Up
5-Mkt Fed Steers	\$123.89	\$117.73	\$6.16
7-800 lb OKC Fdr Steer	\$143.85	\$132.19	\$11.66



<https://academic.oup.com/ajae/advance-article/doi/10.1093/ajae/aaz034/5554804>

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Questions & Answers



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Assessing Beef Demand Determinants

Glynn T. Tonsor, Jayson L. Lusk, and Ted C. Schroeder

Joint Evaluation Advisory Committee Meeting

January 31, 2018

https://www.beefboard.org/news/files/FY2018/Assessing%20Beef%20Demand%20Determinants_FullReport.pdf

Presentation at 2018 Cattle Industry Convention

Phoenix, AZ



1. Aggregate Demand Elasticities Update

Key Findings:

Insights across time periods: “Beef demand is _____”

- ... becoming less sensitive to own-price changes,
- ... **becoming more sensitive to consumer expenditures,**
- ... comparatively insensitive to competing protein prices

Table 2.1. Aggregate Meat Demand Elasticities Summary

Period	Beef Price Used	Beef Demand				Pork Demand	
		Own-Price	Pork Cross-Price	Chicken Cross-Price	Exp.	Own-Price	Exp.
1988-2017	All-Fresh	-0.479	0.087	0.023	0.803	-0.307	0.141
1988-2007	All-Fresh	-0.645	0.145	0.026	0.790	-0.229	-0.262
	All-Fresh	-0.450	-0.032	0.083	0.959	-0.089	1.231
1970-2017	Choice	-0.593	0.120	0.041	0.118	-0.973	-0.170
1988-2017	Choice	-0.490	0.085	0.021	0.781	-0.313	0.146
1970-1994	Choice	-0.594	0.138	0.039	0.118	-0.924	-0.004
1995-2017	Choice	-0.468	0.049	-0.044	0.867	-0.287	0.634



2. Media and Medical Information Effects

Key Findings: 2008-2017 Period

Demand Catalysts: 1% Increase in Coverage:

- Atkins = +0.014% in beef demand
- Cancer = +0.197% in beef demand
- Fat = +0.031% in beef demand
- Sustain = +0.058% in beef demand
- Taste, Tender, Flavor = +0.479% in beef demand
- Welfare = +0.098% in beef demand

Demand Detriments: 1% Increase in Coverage:

- Climate = -0.209% in beef demand
- Convenience = -0.054% in beef demand
- Safety = -0.072% in beef demand
- Vegan = -0.240% in beef demand
- Zinc, Iron, Protein = -0.198% in beef demand



2. Media and Medical Information Effects

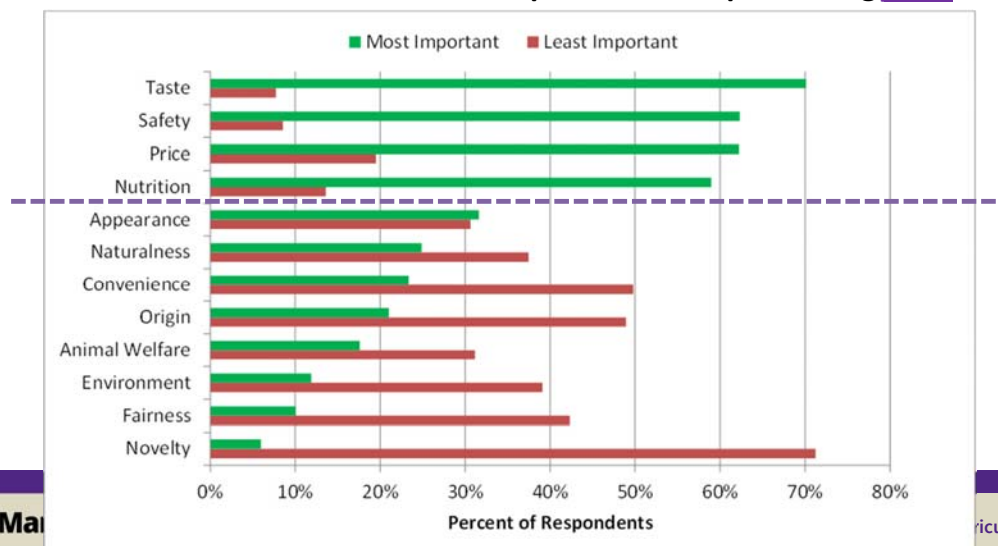
Differences from 1990-2007:

- Atkins positive effect reduced
- Fat effect was negative, now positive
- 6 “new topics” now significant
- Seasonality effects reduced

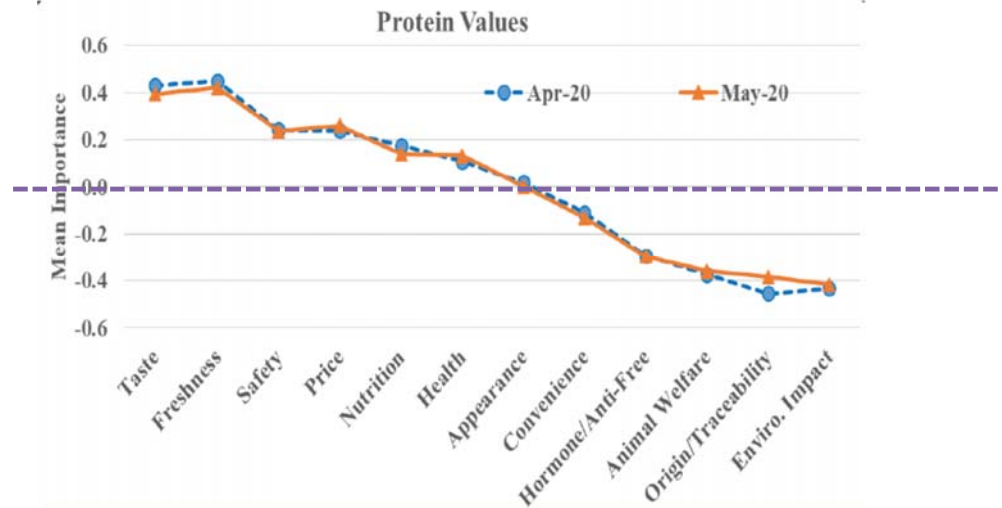


3. Food Demand Survey (FoodS) Insights

❑ Food Values, Most and Least Important when purchasing *food*



Re-affirmed by MDM



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<https://www.agmanager.info/livestock-meat/meat-demand/monthly-meat-demand-monitor-survey-data>

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3. Food Demand Survey (FoodS) Insights

Key Findings: Steak Demand

❖ Higher (+)

❖ Observables

❖ Higher Incomes, Older Respondent, Larger Households, College, Hispanic, Midwest, Politically Conservative,

❖ Food Values

❖ Taste, Convenience, Novelty, Origin, Appearance

❖ Lower (-)

❖ Observables

❖ White, Females

❖ Food Values

❖ Naturalness, Price, Nutrition, Environment, Animal Welfare



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3. Food Demand Survey (FooDS) Insights

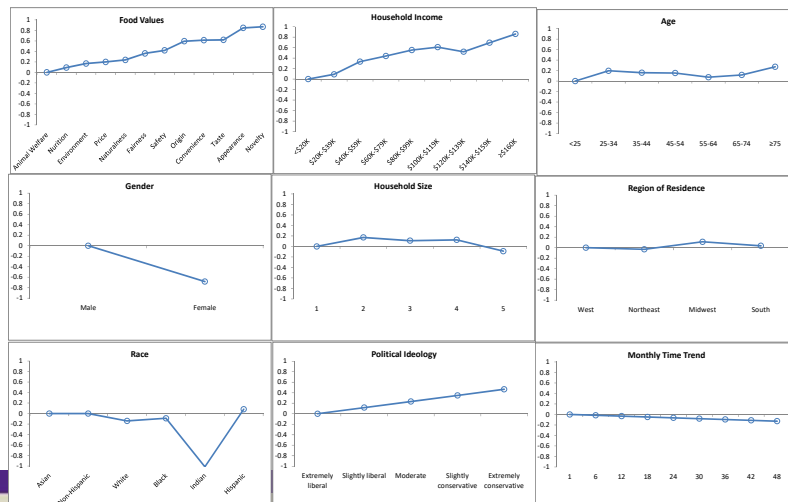
Key Findings: Ground Demand (*BOLD denotes change from Steak Demand*)

- ❖ Higher (+)
 - ❖ Observables
 - ❖ **Lower Incomes**, Older Respondent, Larger Households, College, **White**, Black, Midwest, Politically Conservative,
 - ❖ Food Values
 - ❖ **Price**, Taste, Safety, Convenience, Novelty, Appearance
- ❖ Lower (-)
 - ❖ Observables
 - ❖ **Hispanic**, Females
 - ❖ Food Values
 - ❖ Naturalness, Nutrition, Environment, Animal Welfare



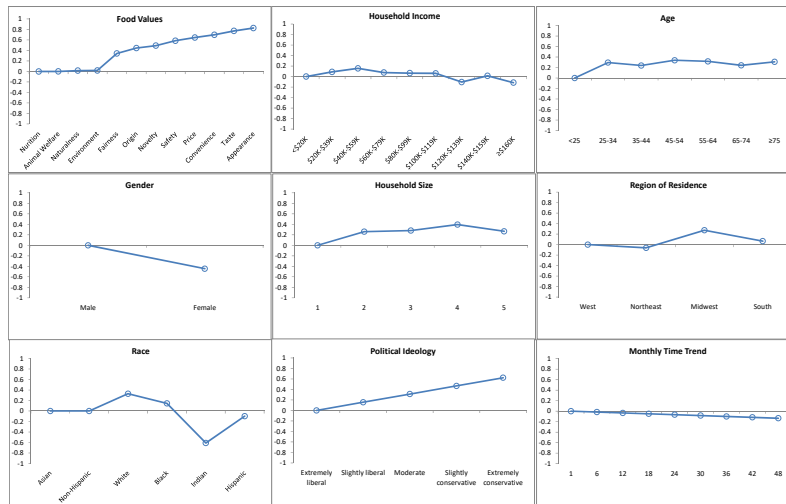
3. Food Demand Survey (FooDS) Insights

Figure 4.7. Determinants of Steak Demand relative to Demand for Non-Meat Options



3. Food Demand Survey (FooDS) Insights

Figure 4.7. Determinants of Ground Beef Demand relative to Demand for Non-Meat Options



Key Determinants “Short List”

- Ranked list ill-advised given multiple methods and data/information involved
- Short-list (unranked) of key determinants includes:
 - ✓ Beef Quality (taste, appearance, convenience, freshness)
 - ✓ Consumer Incomes
 - ✓ Coverage of Safety, Animal Welfare, Sustainability, Cancer, and Nutrition topics
 - ✓ Shifts in Race composition in U.S. population



Main Unifying Themes / Recommendations

- ❑ Meat prices have become less important while consumer income has become more important
 - Elevates importance of beef quality focus

- ❑ Beef demand has increased or been stable over the past 5 years depending on measurement approach
 - Good news given volume of “negative media”

- ❑ Different methods offer unique insights into beef demand consistent with realities of available data
 - Encourage use of multiple information sources



Main Unifying Themes / Recommendations

- ❑ “Hot topics” change notably over time
 - Impact on beef demand can substantially change
 - Don’t over-react at expense of loyal beef customers

- ❑ Several drivers of steak and ground beef demand differ
 - Target marketing by beef product type and household type is encouraged

- ❑ Examples of demand concepts being confused continue to exist
 - Ongoing support of education on demand concepts and economic value to producers is encouraged



Questions & Answers

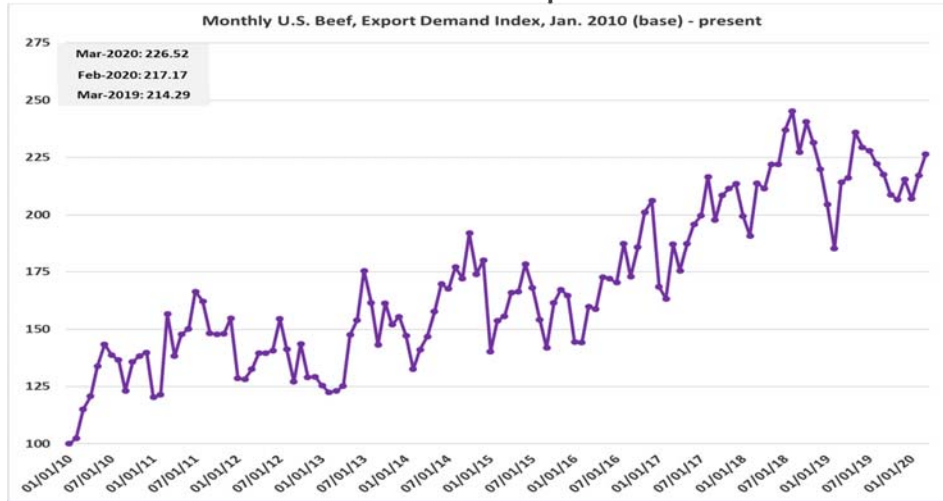


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How do we measure export beef demand?



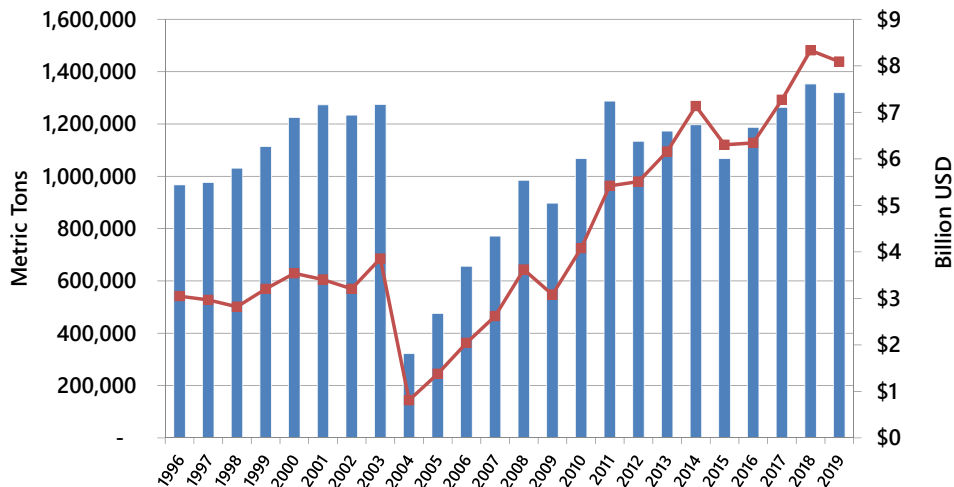
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<https://www.agmanager.info/livestock-meat/meat-demand/monthly-export-beef-demand-indices-usdables-data/monthly-us-beef-export>

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U.S. Beef and Variety Meat Exports



AgManager.info

Source: USDA/FAS

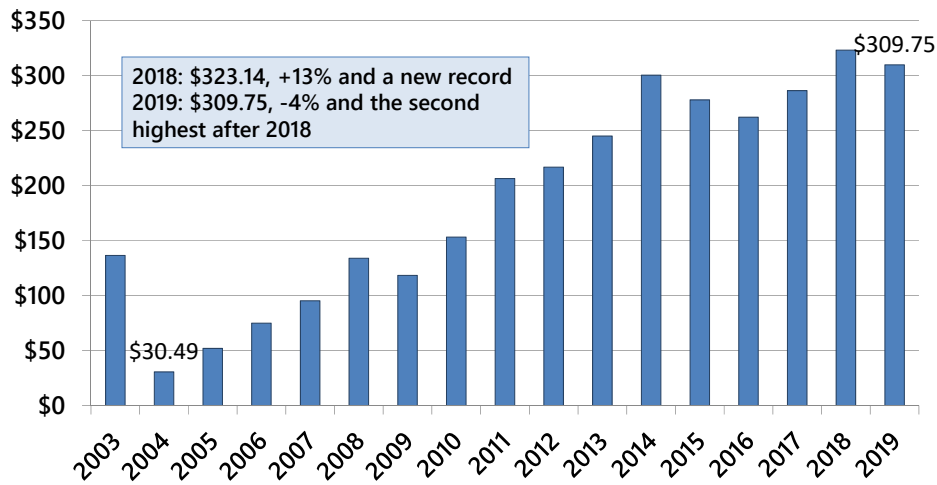
MT USD

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Value of Exports per Fed Head Slaughtered

Export Value Per Fed Head Slaughtered



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Source: USDA/FAS, fed slaughter

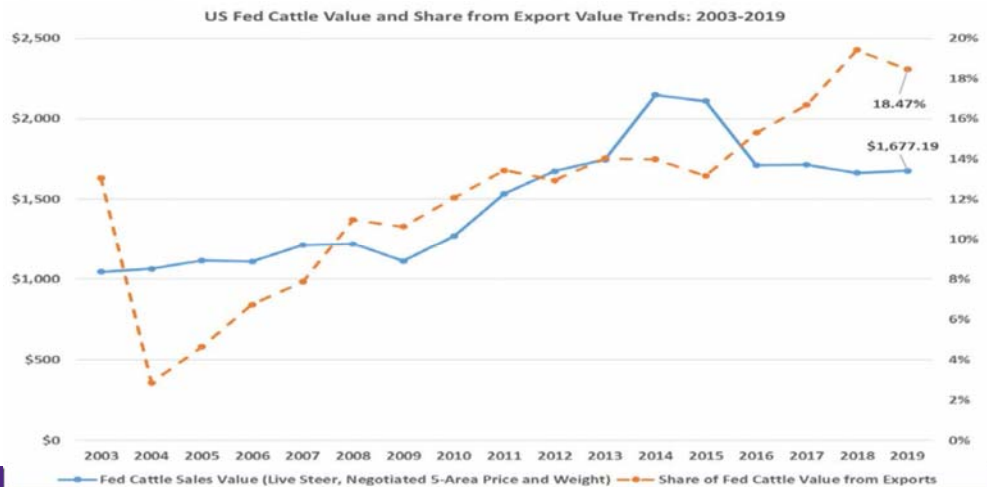
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Kansas State University Department Of Agricultural Economics Extension Publication

05/20/2020

Overview of US Beef Production, Export, Import and Domestic Consumption Trends: 2003-2019



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<https://www.agmanager.info/livestock-meat/marketing-extension-bulletins/trade-and-demand/overview-us-beef-production-export>

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Share of Beef Primals Exported

<https://www.usmef.org/news-statistics/member-news-archive/guide-to-major-destinations-for-u-s-pork-and-beef-cuts-variety-meat/>

Per head examples:

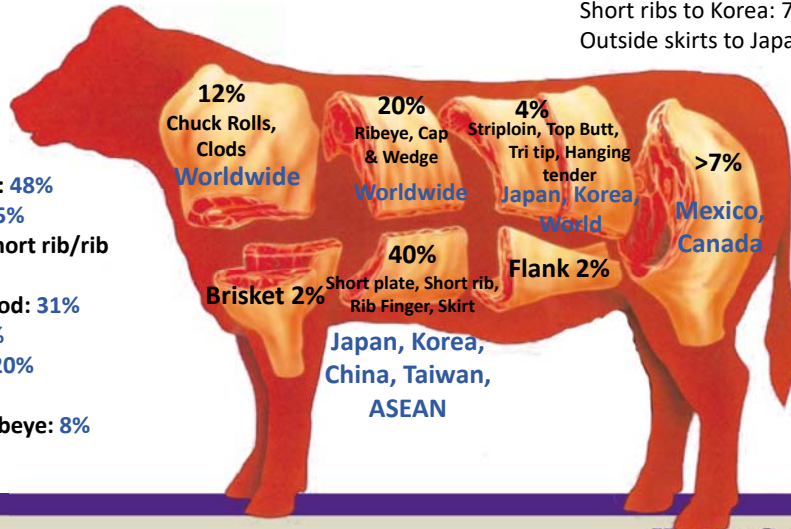
Short plate to Japan: 13 lbs & \$26.27

Short ribs to Korea: 7.6 lbs & \$26.60

Outside skirts to Japan: 1.6 lbs & \$9.53

Top Export Cuts:

- Gooseneck round: 48%
- Short plate cut: 95%
- Short rib/chuck short rib/rib finger: 85%
- Chuck shoulder clod: 31%
- Outside skirt: 35%
- Chuck cuts: 15%-20%
- Inside skirt: >12%
- Heavy boneless ribeye: 8%
- Striploin: 7%
- Top butt: 6%



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Source: USDA/AMS, USMEF 2019 estimates

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The majority of edible beef variety meats are exported

Per head examples:

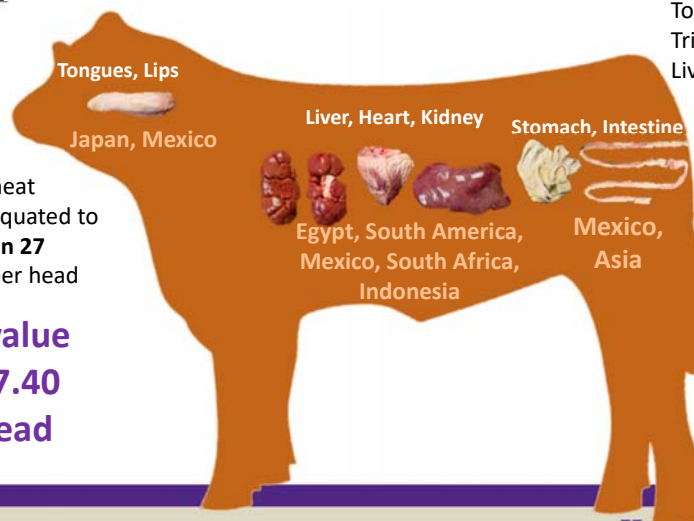
Tongues to Japan: 1.75 lbs & \$12.20

Tripe to Mexico: 3.3 lbs & \$4.28

Liver to Egypt: 4.9 lbs & \$2.60

Variety meat exports equated to **more than 27 pounds** per head

And value of \$37.40 per head



<https://www.usmef.org/news-statistics/member-news-archive/guide-to-major-destinations-for-u-s-pork-and-beef-cuts-variety-meat/>



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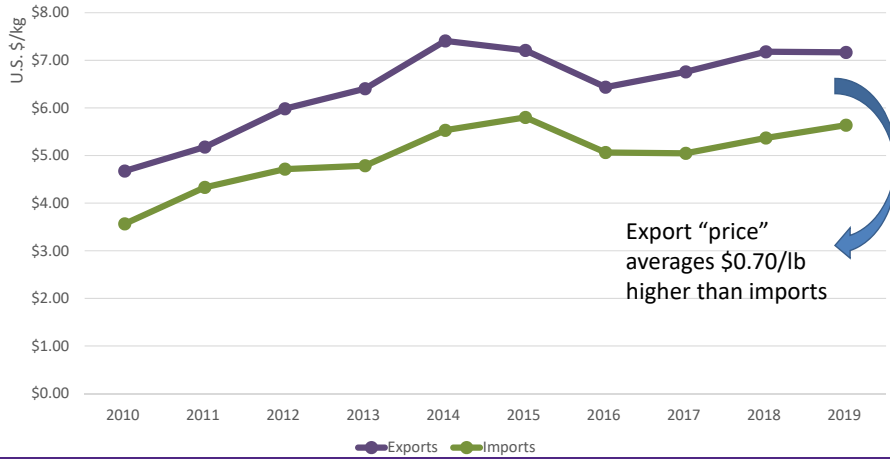
Source: USMEF 2019 estimates, using NASS fed slaughter for per head conversions

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Certain U.S. beef cuts command higher prices outside the U.S.; we import affordable cuts & trim to supplement foodservice demand

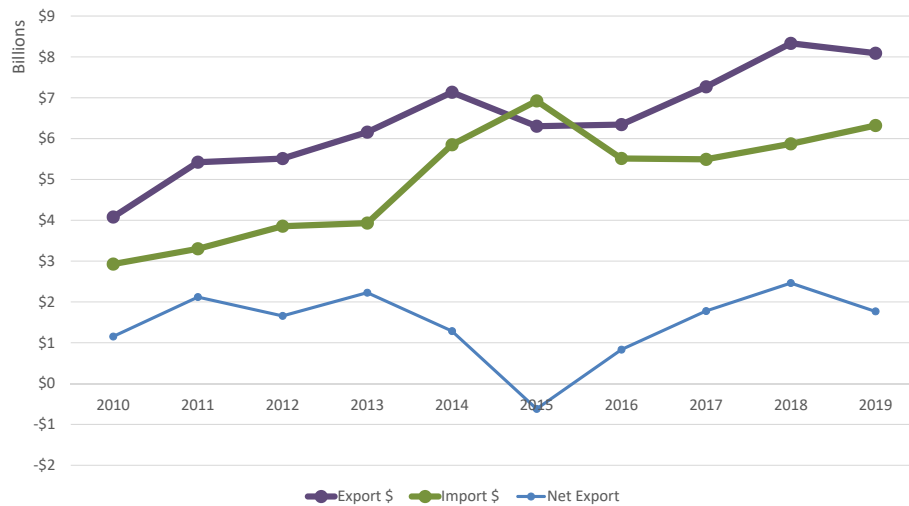
Unit Values for Chilled/Frozen Exports of U.S. Beef & for Chilled/Frozen Beef Imported in to U.S.



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U.S. remains a net exporter of beef

U.S. Beef Trade Value



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Questions & Answers



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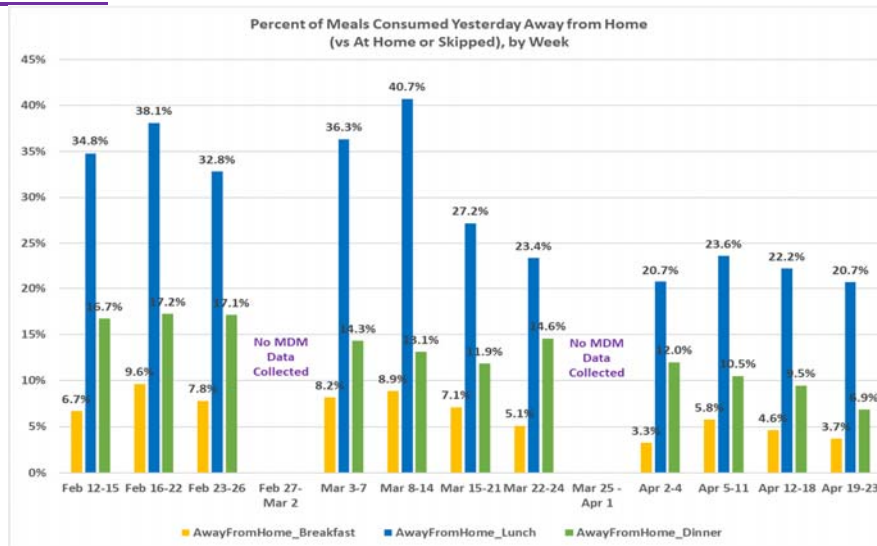
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SHOCK #1: Shift to At-Home: Mid-March thru April



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<https://www.agmanager.info/livestock-meat/meat-demand/monthly-meat-demand-monitor-survey-data/meat-demand-monitor-coronavirus>

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SHOCK #2: Animal-to-Meat Bottleneck / Where's my Meat?

TIME

<https://time.com/5830178/meat-shortages-coronavirus/>

COVID-19 Meat Shortages Could Last for Months. Here's What to Know Before Your Next Grocery Shopping Trip

Kansas State University Department Of Agricultural Economics Extension Publication

04/28/2020

Meat Availability and Shortages Overview

Glynn Tonsor (gtonsor@ksu.edu) Kansas State University Department of Agricultural Economics
 Lee Schulz (lschulz@iastate.edu) Iowa State University Department of Economics
 Jayson Lusk (jlusk@purdue.edu) Purdue University, Department of Agricultural Economics

<https://www.agmanager.info/livestock-meat/marketing-extension-bulletins/trade-and-demand/meat-availability-and-shortages>



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Shock #3? Will Meat Demand Weaken ? / TBD!

Table 2.1. Aggregate Meat Demand Elasticities Summary

Period	Beef Price Used	Beef Demand			Pork Demand			Chicken Demand	
		Own-Price	Pork Cross-Price	Chicken Cross-Price	Exp.	Own-Price	Exp.	Own-Price	Exp.
1988-2017	All-Fresh	-0.479	0.087	0.023	0.803	-0.307	0.141	-0.339	0.425
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2008-2017	All-Fresh	-0.450	-0.032	0.083	0.959	-0.089	1.231	-0.378	0.856
1970-2017	Choice	-0.593	0.120	0.041	0.118	-0.973	-0.170	-0.133	0.218
1988-2017	Choice	-0.490	0.085	0.021	0.781	-0.313	0.146	-0.345	0.430
1970-1994	Choice	-0.594	0.138	0.039	0.118	-0.924	-0.004	-0.159	0.003
1995-2017	Choice	-0.468	0.049	-0.044	0.867	-0.287	0.634	-0.469	0.960

Assessing Beef Demand Determinants

Prepared for the Cattlemen's Beef Board

Glynn T. Tonsor, Kansas State University (gtonsor@ksu.edu)

Jayson L. Lusk, Purdue University (jayson.lusk@gmail.com)

and Ted C. Schroeder, Kansas State University (tc@ksu.edu)

January 18, 2018

Note: "Exp." is Expenditure abbreviated. All Rotterdam models were estimated using iterative three-stage least squares.

WTP Lower for Those Expecting Worse

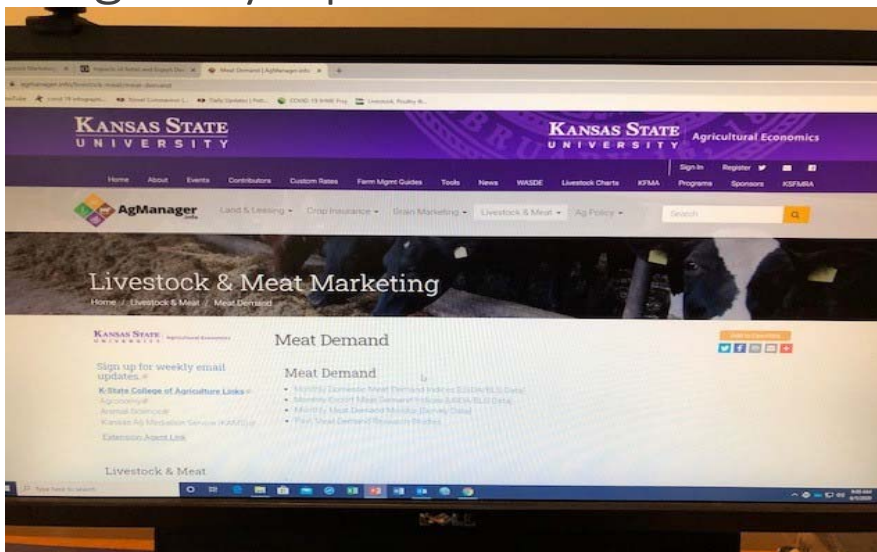
RETAIL		Ribeye Steak	Ground Beef	Pork Chop	Bacon	Chicken Breast	Plant-Based Patty	Shrimp	Beans and Rice	Something Else
Finances will be Worse in 1 Year	WTP (\$/lb)	\$ 15.64	\$ 6.80	\$ 5.31	\$ 4.36	\$ 6.57	\$ 8.63	\$ 8.56	\$ 1.90	
	Market Share	6.4%	24.0%	11.6%	6.9%	26.4%	3.1%	4.3%	7.0%	10.4%
Finances will NOT be Worse in 1 Year	WTP (\$/lb)	\$ 16.65	\$ 7.96	\$ 6.60	\$ 5.25	\$ 7.85	\$ 8.12	\$ 9.10	\$ 2.75	
	Market Share	7.3%	23.3%	13.2%	7.5%	26.2%	2.5%	4.5%	7.5%	8.1%
FOOD SERVICE		Ribeye Steak	Beef Hamburger	Pork Chop	Baby Back Ribs	Chicken Breast	Plant-Based Patty	Shrimp	Salmon	Something Else
Finances will be Worse in 1 Year	WTP (\$/lb)	\$ 20.92	\$ 15.20	\$ 12.45	\$ 14.37	\$ 13.86	\$ 7.29	\$ 14.39	\$ 16.53	
	Market Share	10.2%	24.1%	4.1%	9.0%	14.2%	2.0%	14.3%	10.5%	11.6%
Finances will NOT be Worse in 1 Year	WTP (\$/lb)	\$ 25.94	\$ 18.48	\$ 13.97	\$ 18.00	\$ 17.07	\$ 12.80	\$ 17.34	\$ 17.38	
	Market Share	15.3%	21.9%	4.2%	11.0%	14.4%	4.8%	13.8%	7.6%	7.1%



<https://www.agmanager.info/livestock-meat/meat-demand/monthly-meat-demand-monitor-survey-data/meat-demand-monitor-coronavirus>

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Regularly Updated Demand Info:



<https://www.agmanager.info/livestock-meat/meat-demand>



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More information available at:



This presentation will be available in PDF format at:
<http://www.agmanager.info/about/contributors/individual/tonsor.asp>



Questions & Answers

