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”
Demand defined: “quantities consumers will buy at various prices”

Demand decline: Producers lose money Industry eventually shrinks

Demand increase: Producers make money Industry eventually grows
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

2012 – Obvious Increased Demand
Higher Consumption AND Higher Price

2009 – Obvious Reduced Demand
Lower Consumption AND Lower Price

Data Source: Bureau of Economic Analysis & USDA-ERS, Compiled by LMIC
Livestock Marketing Information Center
Annual Retail Beef Demand Index, 1990=100

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

Questions & Answers
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Agricultural Economics

Derived demand by Grocer

Primary Demand by consumer

Costs to get from Wholesale to Retail Counter

Costs to get beef from Feedlot to Wholesale

Primary Demand by consumer

Derived demand by Grocer

Derived demand by Packer

Derived demand by Packer
Farmer’s Share of Retail Beef Dollar, May 2018-April 2020

Source: USDA ERS

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
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

<table>
<thead>
<tr>
<th></th>
<th>Jan 2020 Actual Prices</th>
<th>Jan 2020 No Demand Prices</th>
<th>Price Gain Due to Demand Up</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-Mkt Fed Steers</td>
<td>$123.89</td>
<td>$117.73</td>
<td>$6.16</td>
</tr>
<tr>
<td>7-800 lb OKC Fdr Steer</td>
<td>$143.85</td>
<td>$132.19</td>
<td>$11.66</td>
</tr>
</tbody>
</table>

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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

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

<table>
<thead>
<tr>
<th>Period</th>
<th>Beef Price</th>
<th>Own-Price</th>
<th>Pork Price</th>
<th>Exp.</th>
<th>Own-Price</th>
<th>Exp.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1988-2017</td>
<td>-0.475</td>
<td>0.087</td>
<td>0.013</td>
<td>0.803</td>
<td>-0.307</td>
<td>0.141</td>
</tr>
<tr>
<td>1988-2007</td>
<td>-0.645</td>
<td>0.145</td>
<td>0.026</td>
<td>0.790</td>
<td>-0.229</td>
<td>-0.262</td>
</tr>
<tr>
<td>2008-2017</td>
<td>-0.450</td>
<td>-0.032</td>
<td>0.001</td>
<td>0.959</td>
<td>-0.289</td>
<td>1.231</td>
</tr>
<tr>
<td>1970-2017</td>
<td>-0.593</td>
<td>0.120</td>
<td>0.041</td>
<td>0.118</td>
<td>-0.973</td>
<td>-0.170</td>
</tr>
<tr>
<td>1988-1994</td>
<td>-0.492</td>
<td>0.085</td>
<td>0.021</td>
<td>0.781</td>
<td>-0.313</td>
<td>0.146</td>
</tr>
<tr>
<td>1995-2017</td>
<td>-0.594</td>
<td>0.118</td>
<td>0.039</td>
<td>0.118</td>
<td>-0.924</td>
<td>-0.004</td>
</tr>
</tbody>
</table>

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*

![Bar chart showing food values importance](chart.png)
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
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

---

*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

- “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?


U.S. Beef and Variety Meat Exports

Source: USDA/FAS
Value of Exports per Fed Head Slaughtered

Export Value Per Fed Head Slaughtered

2018: $323.14, +13% and a new record
2019: $309.75, -4% and the second highest after 2018

Source: USDA/FAS, fed slaughter

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

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

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

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.

Export “price” averages $0.70/lb higher than imports.

U.S. remains a net exporter of beef.
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**SHOCK #1:** Shift to At-Home: Mid-March thru April


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

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

Meat Availability and Shortages Overview

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

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<td>0.141</td>
<td>-0.339</td>
<td>0.425</td>
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<td>2020-2017</td>
<td>All Beef</td>
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<td>-0.378</td>
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<td>-0.313</td>
<td>0.646</td>
<td>-0.345</td>
<td>0.430</td>
</tr>
</tbody>
</table>

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

WTP Lower for Those Expecting Worse


Regularly Updated Demand Info:

https://www.agmanager.info/livestock-meat/meat-demand
More information available at:

http://www.agmanager.info/about/contributors/individual/tonsor.asp

Questions & Answers