



Beef Demand Overview

*Glynn T. Tonsor
Dept. of Ag. Economics
Kansas State Univ.
gtonsor@ksu.edu @TonsorGlynn*

*Committee Leadership Summit
Denver, CO
December 11, 2018*

Session Goals

- ❖ *Provide Beef Demand Context*
 - ❖ *Concept Clarification*
 - ❖ *Demand's Importance*
 - ❖ *Demand Determinants*

- ❖ *Illustrate Ties to Your Committees*
 1. *Consumer Trust*
 2. *Export Growth*
 3. *Innovation*
 4. *Investor Relations*
 5. *Nutrition & Health*
 6. *Safety*

- ❖ *NOT suggesting any checkoff-specific (vs. individual company) effort...*



*What is Beef
Demand?*

So What is Beef Demand?

- *Beef Demand*
 - Schedule of beef quantities consumers would purchase over a range of prices
 - Refers to the “demand curve” economists speak of
- *Quantity of Beef Demanded (AKA “consumption”)*
 - Quantity of beef consumers will purchase at a given price
 - Refers to a point on the demand curve
 - Changes with available supply EVEN IF demand is unchanged

Beef Demand

- *Critically Important, Yet Often Confused*
 - *Demand strength reflects consumer valuation of beef*
 - *underlies total \$ available for the industry*
 - ✓ *drives prices and profitability for all !!!*
 - ☐ *1997 Fed Prices -9% (vs. 1980) YET -7% CowInv!!!*

Beef Demand

- *Critically Important, Yet Often Confused*
 - *Demand strength reflects consumer valuation of beef*
 - *underlies total \$ available for the industry*
 - ✓ *drives prices and profitability for all*
- *“To Fix It You Have to Understand It”*
 - *Wayne Purcell, 1998*
(<http://www.naiber.org/Publications/RILP/primer1.pdf>)

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- “Demand for beef this week has been fantastic. We have moved a near-record volume of boxes, but cutout values are down nearly \$3.00 per hundredweight for the week.”
 - *Example of common, market news or trade magazine quote*

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Wayne Purcell, 1998 (<http://www.naiber.org/Publications/RILP/primer1.pdf>)

- “Demand for beef this week has been fantastic. We have moved a near-record volume of boxes, but cutout values are down nearly \$3.00 per hundredweight for the week.”
 - *Example of common, market news or trade magazine quote*
 - *Can be VERY misleading & reflects limited understanding of what demand vs. supply concepts are*
 - ***GT: Demand is NOT volume sold!!!***

“To Fix It You Have to Understand It” – **HOMework**

Let me close by reviewing the important “rules” of this paper:

1. Per-capita consumption is not a measure of demand.
2. Talking about “strong demand” when increased quantities are being taken at sharply lower prices is wrong and misleading.
3. If demand is constant, the only way an increased per-capita supply will be taken by consumers is at lower prices.
4. You cannot use high beef prices as a reason for weak beef demand since price is part of the demand schedule.
5. If demand is decreasing, the only way to avoid losing market share is to reduce costs enough to keep the business viable.
6. A prolonged period of decreasing demand for beef will eventually exceed even the most efficient producer’s ability to cut costs.
7. Significant changes in pork and chicken prices can and will shift beef demand from year to year and within the year.
8. Changes in consumers’ incomes are usually positive for beef demand, but rising incomes during the 1980s and 1990s have not offset other problems.
9. The facts support a conclusion that, since 1979-80, consumers’ preferences have turned away from beef as their needs and lifestyles have changed.
10. If these pervasive problems are not fixed and the negative trend in beef demand isn’t at least stopped, the beef sector will lose market share and will trend toward a smaller industry for the foreseeable future.
11. It is time to do something, time to understand, time to get the product offering moved toward what the modern consumer wants and is willing to pay for.

Per Capita Consumption is NOT Demand

- Per capita consumption =
 - $(\text{Domestic Production} + \text{Imports} - \text{Exports} + \text{Cold Storage Adjustments}) / \text{Population}$
 - All quantity values; no prices in derivation!

Per Capita Consumption is NOT Demand

- Per capita consumption =
 - (Domestic Production + Imports – Exports + Cold Storage Adjustments) / Population
 - All quantity values; no prices in derivation!
 - **KEY NOTE:** If exports increase, domestic **CONSUMPTION** declines;
 - DOES NOT MEAN domestic **DEMAND** has to decline!

Example to Ponder

- When shopping for blue jeans and you observe a buy-one-get-one free sale, do you ever buy more than just one pair?

Example to Ponder

- When shopping for blue jeans and you observe a buy-one-get-one free sale, do you ever buy more than just one pair?
 - The money in your wallet, the physical characteristics of the jeans, etc. did not change
 - Yet, your “per capita consumption” of jeans increased if you bought 2 rather than 1 pair...
 - EXAMPLE OF DEMAND **NOT** CHANGING
 - *You bought more solely because of lower prices*



MARKETING > OUTLOOK

What's The Similarity Between Blue Jeans and Beef Demand?

Beef consumption and beef demand isn't the same thing. Here's an explanation.

Burt Rutherford | Sep 19, 2013

<http://www.beefmagazine.com/beef-demand/what-s-similarity-between-blue-jeans-and-beef-demand>

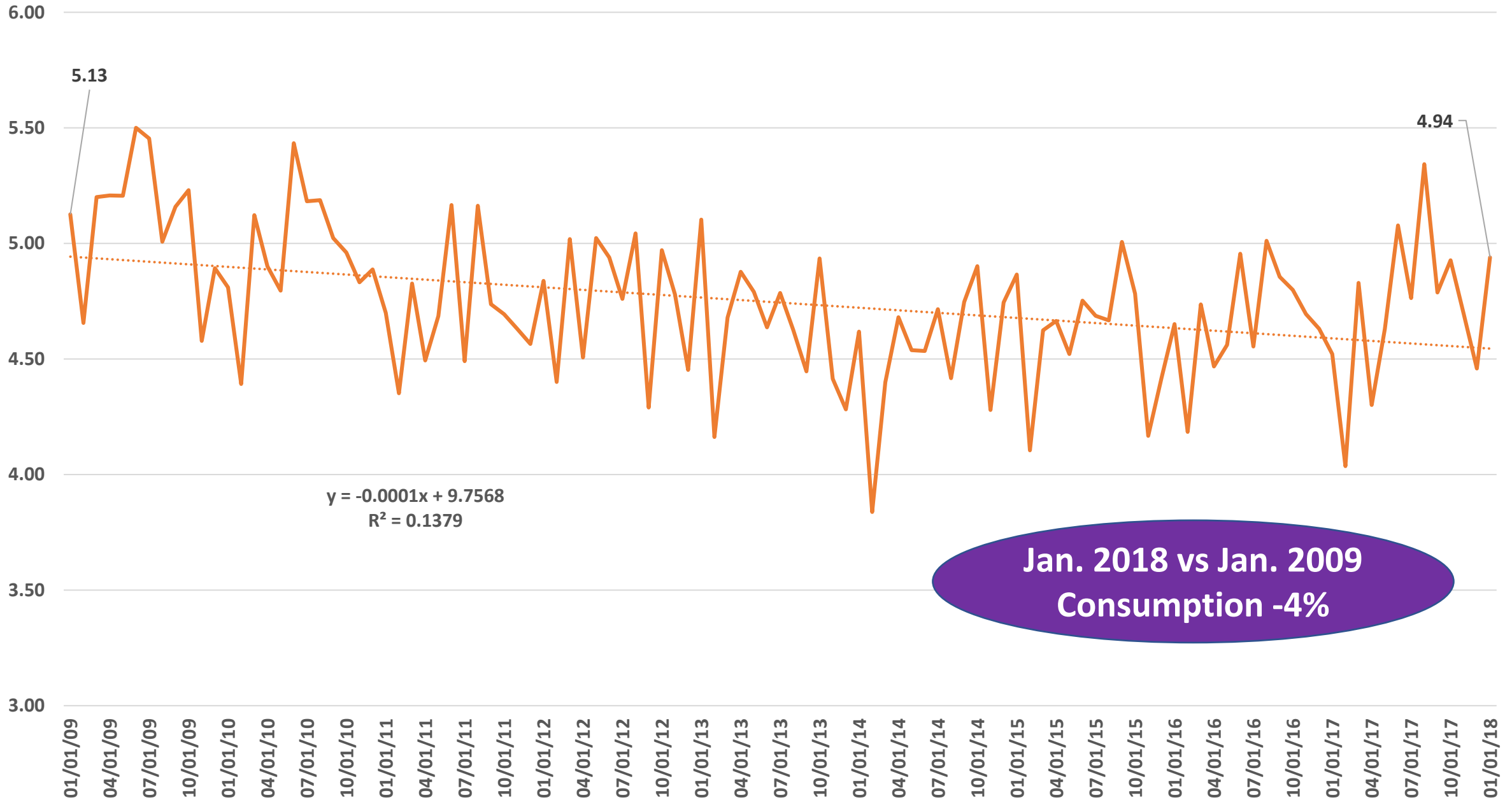
Demand is **NOT** Per Capita Consumption

2013 Beef Demand Determinants Study



[http://www.beefboard.org/evaluation/
130612demanddeterminantstudy.asp](http://www.beefboard.org/evaluation/130612demanddeterminantstudy.asp)

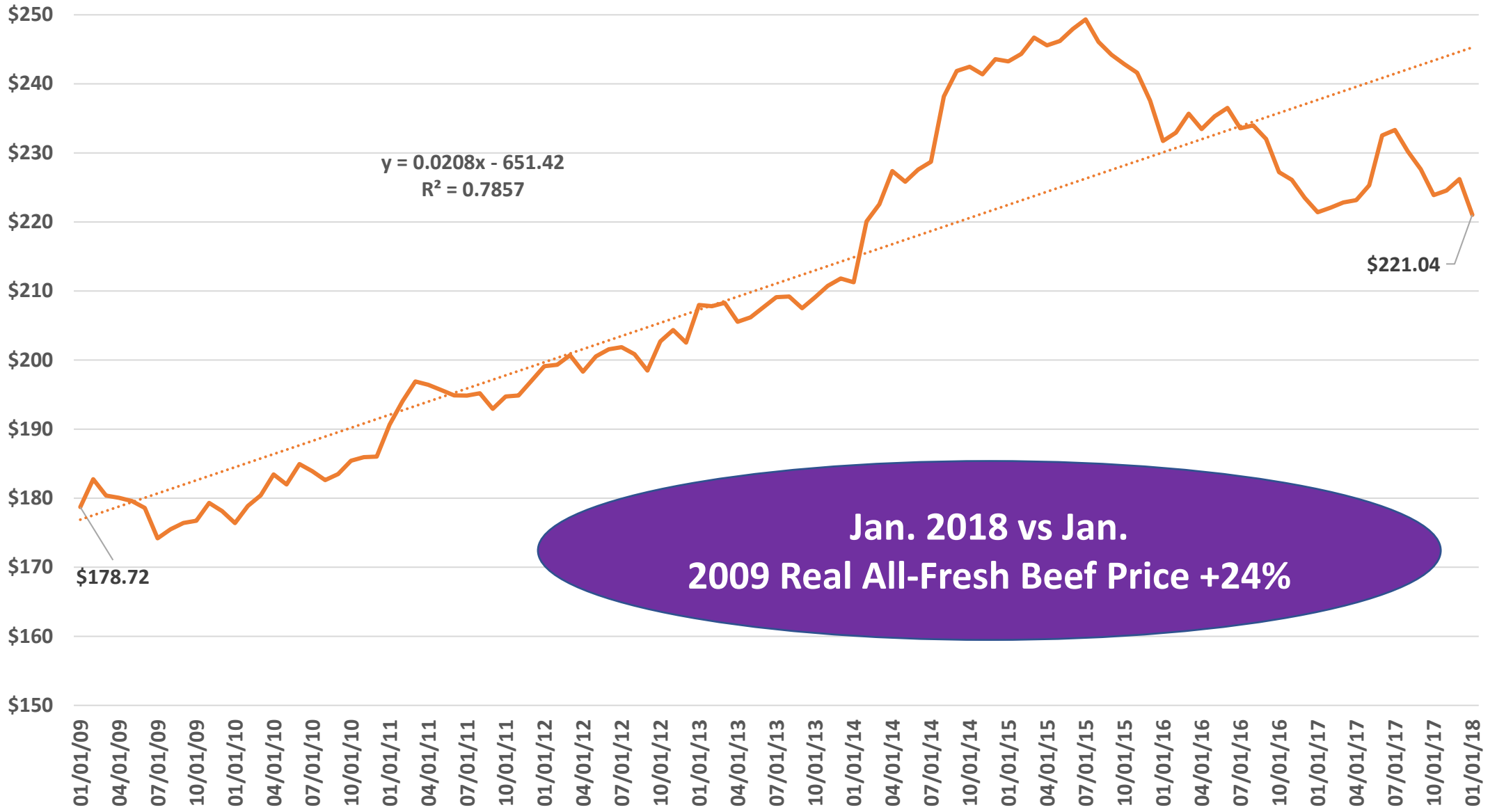
Per Capita Disappearance, Jan. 2009 - Jan. 2018



$y = -0.0001x + 9.7568$
 $R^2 = 0.1379$

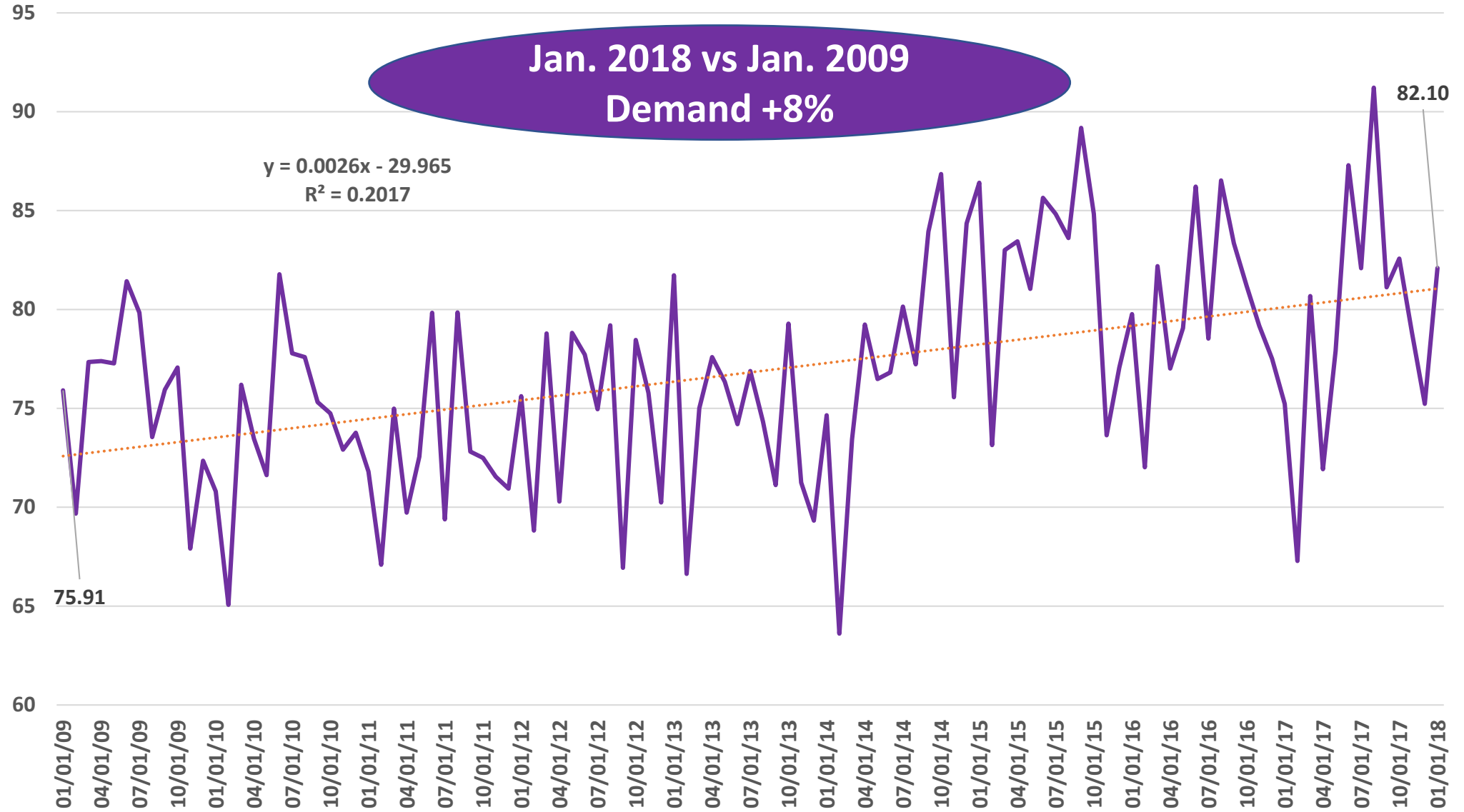
**Jan. 2018 vs Jan. 2009
Consumption -4%**

Real All-Fresh Price (\$/cwt), Jan. 2009 - Jan. 2018

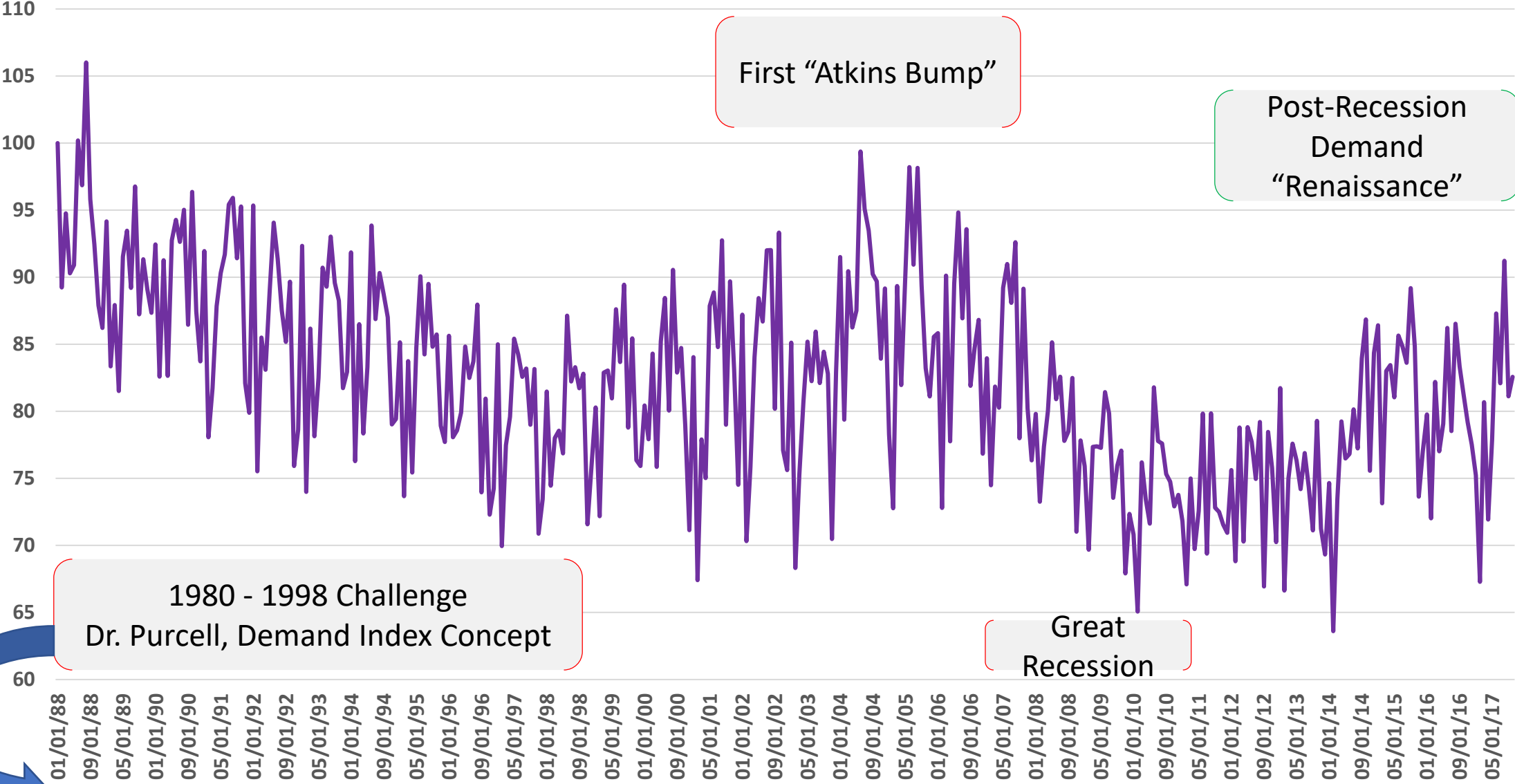


**Jan. 2018 vs Jan.
2009 Real All-Fresh Beef Price +24%**

All-Fresh Beef Demand Index
(Jan. 1988=100, Quantity-Based), Jan. 2009 - Jan. 2018



All-Fresh Beef Demand Index
(Jan. 1988=100, Quantity-Based), Jan. 1988 - Jan. 2018

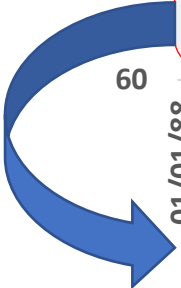


First "Atkins Bump"

Post-Recession Demand "Renaissance"

1980 - 1998 Challenge
Dr. Purcell, Demand Index Concept

Great Recession



<https://ageconsearch.umn.edu/bitstream/232526/2/agecon-vt-98-2.pdf>

Creating and Assessing Candidate Food Service and Retail Beef Demand Indices

Glynn T. Tonsor & Ted C. Schroeder

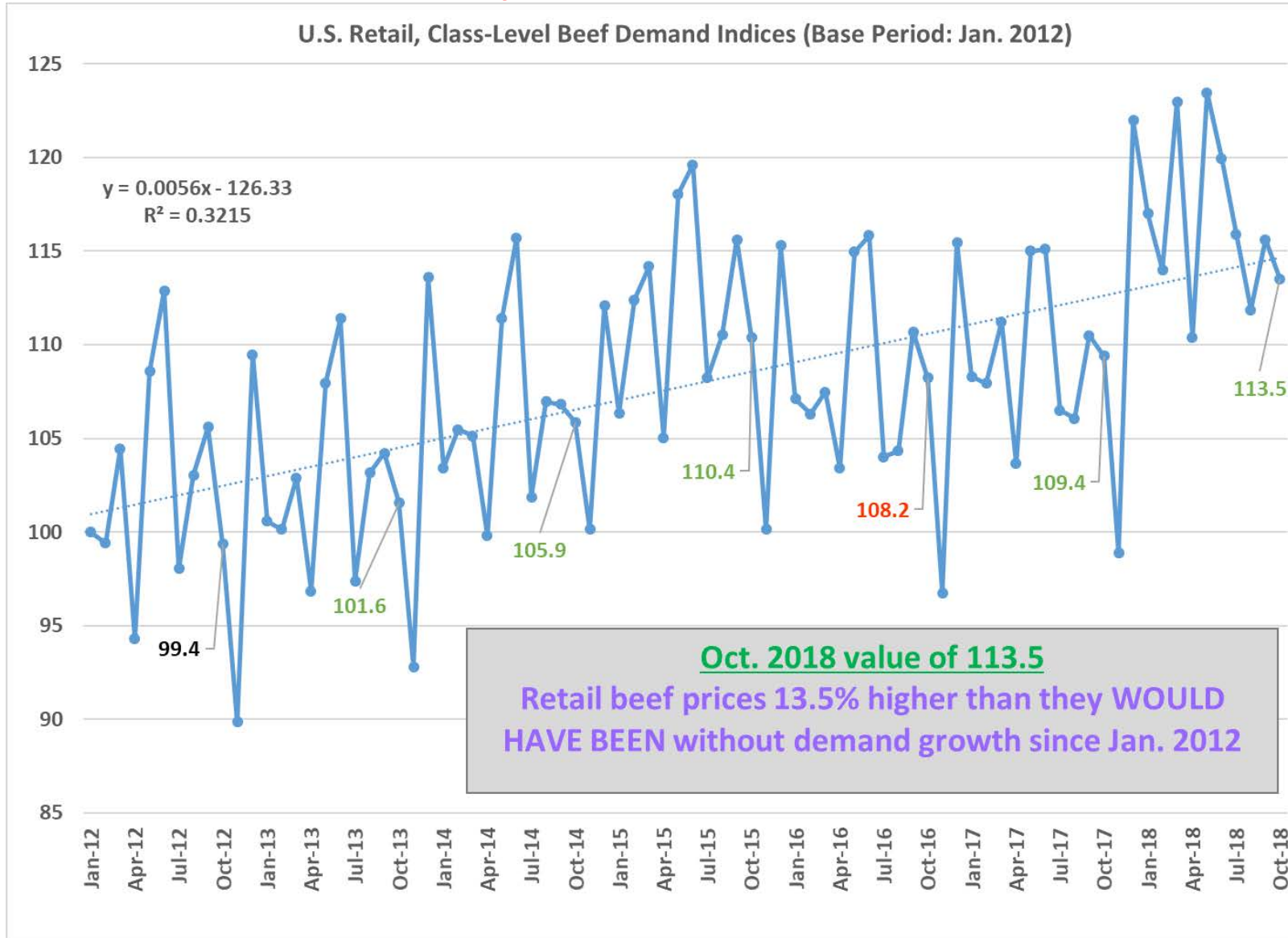
Joint Evaluation Advisory Committee Meeting

February 1, 2017

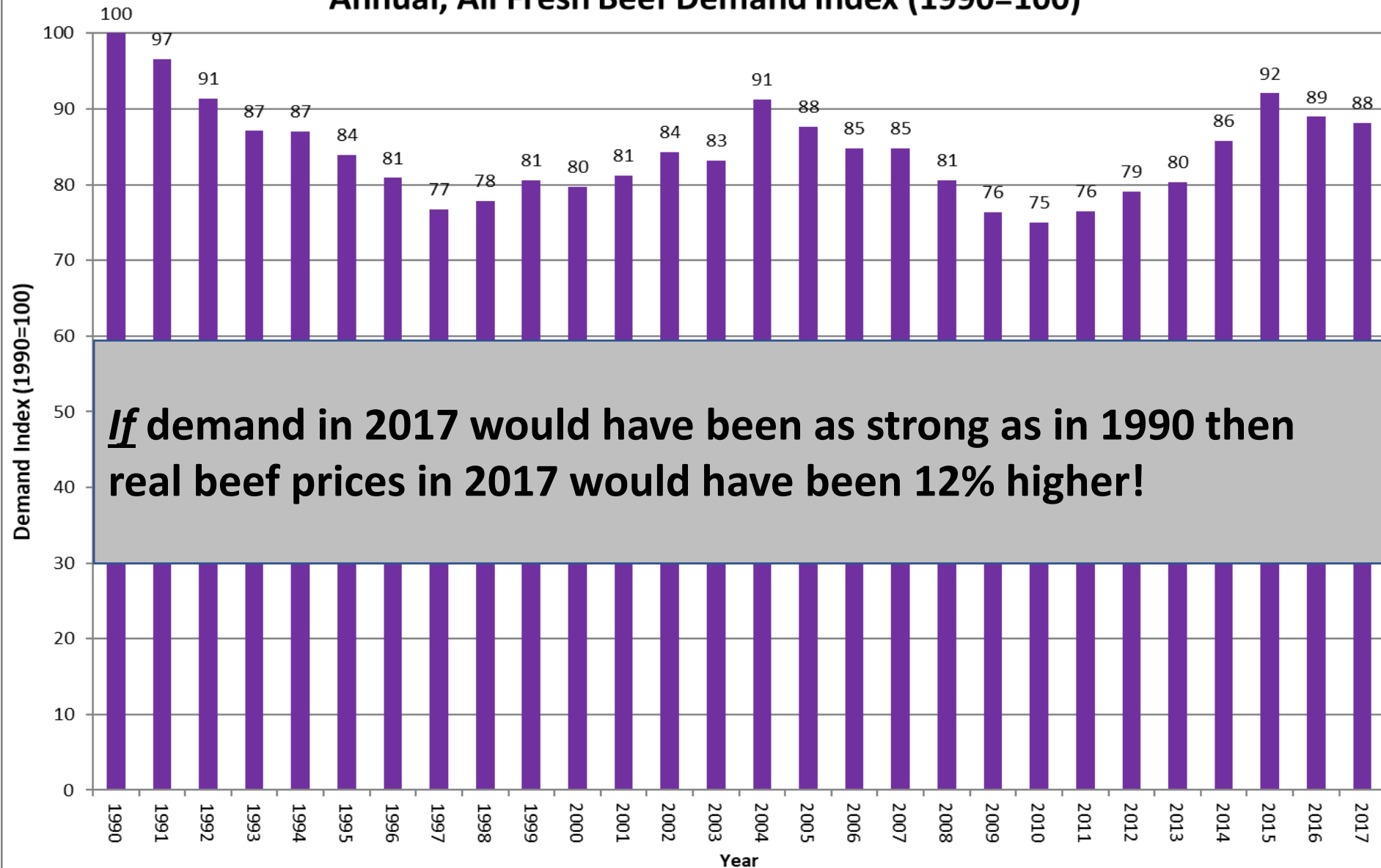
Presentation at 2017 National Cattlemen's Beef Association Annual Meeting Nashville, TN



NCBA Maintained Retail Demand #s: Jan. 2012 – Oct. 2018 (thanks to Alison Krebs)



Annual, All Fresh Beef Demand Index (1990=100)



If demand in 2017 would have been as strong as in 1990 then real beef prices in 2017 would have been 12% higher!

Source: Glynn T. Tonsor, Kansas State University, Jan. 2018

<http://agmanager.info/livestock-meat/meat-demand>



How Does Domestic
Demand Impact
Cattle Producers?

How Does Domestic Demand Impact Me?

- 1% increase in domestic demand =
 - +2.30% live cattle
 - +3.50% feeder cattle prices (McKendree et al., 2018)

How Does Domestic Demand Impact Me?

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 - +3.50% feeder cattle prices (McKendree et al., 2018)
- Q4.2017 Domestic Demand Index +2% (vs. Q4.2016)
 - Realized Prices:
 - \$118 (live) & \$157 (feeder)
 - Without domestic demand increase, would have been:
 - \$112.57 (live) & \$146.02 (feeder)
 - \$5.43/cwt & \$10.98/cwt price impacts

Annual, All Fresh Beef Demand Index (1990=100)



Note 2014:
“Best Year Ever” for many producers,
occurred IN NO SMALL PART due to
strong demand growth!

Source: Glynn T. Tonsor, Kansas State University, Jan. 2018

<http://agmanager.info/livestock-meat/meat-demand>

*What Impacts
Beef Demand?*

Assessing Beef Demand Determinants

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

Joint Evaluation Advisory Committee Meeting

January 31, 2018



Funded by the Beef Checkoff.

Presentation at 2018 Cattle Industry Convention

Phoenix, AZ

Project Process

Process

- **Conducted 4 separate analyses** varying in time periods, levels of product aggregation, and socio-economic factors considered:
 1. **Aggregate Demand Elasticities Update**
 2. **Media and Medical Journal Information Effects**
 3. **Food Demand Survey Insights**
 4. **Consumer Beef Index Insights**

- **Summarize findings and provide main recommendations**

- **Widely disseminate results and implications**

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

GT Take

Reduced Role of Price =
Increased Role of Non-Price Factors:
Taste, Safety, Consumer Trust...

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

**Example Interpretation:
Doubling of “Fat” Media
Coverage =
+3.1% Beef Demand**

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Consumer
Trust

3. Food Demand Survey (FooDS) Insights

- ❖ June 2013 – May 2017, 48,358 individual survey responses
- ❖ Each survey involved 9 choices with varying prices:

Which of the following would you purchase?

	Hamburger \$2.00/lb	Beef Steak \$6.50/lb	Pork Chop \$3.75/lb	Deli Ham \$2.65/lb	Chicken Breast \$3.25/lb	Chicken Wing \$1.75/lb	Beans and Rice \$0.50/lb	Tomato-Pasta \$2.50/lb	If these were the only options, I would buy something else.
I would choose...	 <input type="radio"/>	 <input type="radio"/>	 <input type="radio"/>	 <input type="radio"/>	 <input type="radio"/>	 <input type="radio"/>	 <input type="radio"/>	 <input type="radio"/>	<input type="radio"/>

- ❖ We identify number of ground beef & beef steak choices
- ❖ Examine impact of Food Values and Socio-Economic traits

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**

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**

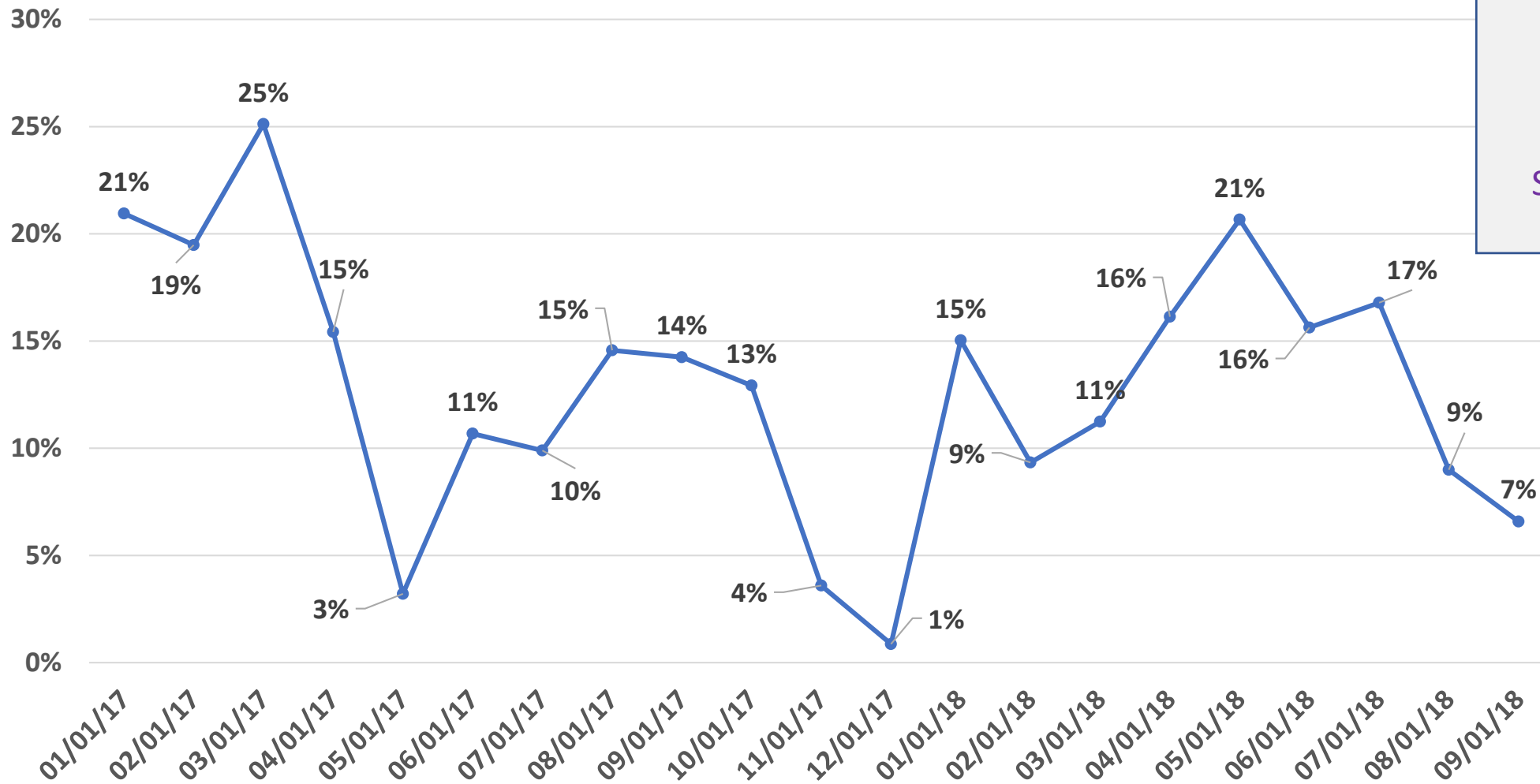
- Several drivers of steak and ground beef demand differ**
 - **Target marketing by beef product type and household type is encouraged**

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

*Where Does Export
Growth Fit In?*

29 consecutive months of volume growth...

Beef & Veal Exports (carcass weight), Year-over Year % Change



Sept 17' to Sept 18'
Total (lbs): +7%
China: +6%
Hong Kong: +4%
Mexico: +6%
South Korea: +25%
Vietnam: +122%

Role of Exports

Tonsor's main points:

- Exports add value by aligning consumers MOST valuing products with suppliers
 - Value of beef tongue NOT THE SAME in Japan & U.S.
- Future protein demand growth IS tied to exports
- **U.S. beef exports CAN increase without reducing domestic demand!**
 - Per Capita Consumption \neq Demand

*Where Do New,
Alternative Protein Items
Fit?*

New, Alternative Protein Items

Tonsor's two main points:

- World needs & wants more protein = new sources will continue to arise
 - ✓ There is “room” for BOTH conventional & new protein items
- MUCH MORE economic research is needed
 - ✓ Largely “working blind” currently

New, Alternative, Protein Items

Key Economic Unknowns:

1. What demographics describe new product buyers?
2. What latent perceptions underlie purchase decision?
3. What proportion become repeated (vs. one-time novel) buyers?
4. How own- & cross-price sensitive are buyers?

Stated differently: *we need research based answers to understand current and future conventional meat substitution effects!*

*Where Can I Find More
Information on Beef
Demand?*

Livestock & Meat Marketing

[Home \(/\)](#) / [Livestock & Meat \(/livestock-meat\)](#) / [Meat Demand](#)

[Livestock & Meat \(/livestock-meat\)](#)

Meat Demand

Add to Favorites (<https://www.agmanager.info/flag/flag/favorites/11709?destination=node/11709&token=78f9d12b3b67c0e7707e215922c737f>)

Meat Demand

Title	Author	Date
Quarterly Choice Beef Demand Index (1990=100) (/livestock-meat/meat-demand/quarterly-choice-beef-demand-index-1990100)	Tonsor (/contributors/tonsor)	August 13, 2018
Quarterly All Fresh Beef Demand Index (1990=100) (/livestock-meat/meat-demand/quarterly-all-fresh-beef-demand-index-1990100)	Tonsor (/contributors/tonsor)	August 13, 2018

Search - beef demand

About 1,450 results (0.49 seconds)

New Beef Demand Indices

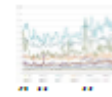
<https://www.beefboard.org/.../170221Beef-Demand-Landing-Page.asp>



Beef demand is critical to understand and monitor as it directly influences overall beef industry prosperity.

Assessing Beef Demand Determinants

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



File Format: PDF/Adobe Acrobat

Jan 18, 2018 ... Assessing **Beef Demand** Determinants. Prepared for the Cattlemen's Beef Board. Glynn T. Tonsor, Kansas State University (gtonsor@ksu.edu).

New Study: Many Factors Impacting Domestic Beef Demand

<https://www.beefboard.org/.../180131Tonsor-beef-demand-print.asp>



Jan 31, 2018 ... **Beef demand** Beef quality, consumer incomes, attention to beef in health articles in medical journals and the general media, and shifts in race ...

<https://www.beefboard.org/news/180131Tonsor-beef-demand-print.asp>

Market Research to Build Beef Demand

<https://www.beefboard.org/.../150702-Market-Research-Landing-Page.asp>



Beef checkoff uses market-research efforts to guide investment of checkoff dollars into promotion and information programs to increase **beef demand**.

2013 Beef Demand Determinant Study

<https://www.beefboard.org/.../130612demanddeterminantstudy.asp>



Links to results of the 2013 **Beef Demand** Determinant Study commissioned by the Beef Checkoff Program.

beef demand in the Northeast region

<https://www.beefboard.org/.../NE%20Beef%20Demand%20Tonsor-2.20.17.pdf>

<https://www.beefboard.org/evaluation/180131beef-demand-determinant.asp>

<https://www.beefboard.org/producer/170221Beef-Demand-Landing-Page.asp>

<https://www.beefboard.org/search.asp?cof=FORID%3A11&cx=000951561340430319383%3Aosws6nacbuw&ie=UTF-8&q=beef+demand>

What Can I Do?

- ✓ *Persistently work to:*
 - ❑ *understand what beef demand is,*
 - ❑ *what current determinants are, &*
 - ❑ *demand's role for the industry*

More information available at:



This presentation will be available in PDF format at:

<http://www.agmanager.info/contributors/tonson>

Glynn T. Tonsor

Professor

Dept. of Agricultural Economics

Kansas State University

Email: gtonson@ksu.edu

Twitter: @TonsorGlynn

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