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EXAMINING MARKETS, TRANSPARENCY, AND PRICES FROM CATTLE PRODUCER TO CONSUMER

HEARING

BEFORE THE

COMMITTEE ON AGRICULTURE, NUTRITION, AND FORESTRY

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C O N T E N T S

Wednesday, June 23, 2021

STATEMENTS PRESENTED BY SENATORS

WITNESSES

APPENDIX

EXAMINING MARKETS, TRANSPARENCY, AND PRICES FROM CATTLE PRODUCER TO CONSUMER

WEDNESDAY, JUNE 23, 2021

U.S. SENATE,
COMMITTEE ON AGRICULTURE, NUTRITION, AND FORESTRY,
Washington, DC.

The Committee met, pursuant to notice, at 2:30 p.m., via Webex and in room SD-G50, Senate Dirksen Office Building, Hon. Debbie Stabenow, Chairwoman of the Committee, presiding.

Present or submitting a statement: Senators Stabenow, Brown, Klobuchar, Bennet, Gillibrand, Smith, Booker, Warnock, Boozman, Hoeven, Ernst, Hyde-Smith, Marshall, Tuberville, Grassley, Thune, Fischer, and Braun.

STATEMENT OF HON. DEBBIE STABENOW, U.S. SENATOR FROM THE STATE OF MICHIGAN, CHAIRWOMAN, U.S. COMMITTEE ON AGRICULTURE, NUTRITION, AND FORESTRY

Chairwoman STABENOW. Good afternoon. I call this hearing of the U.S. Senate Committee Agriculture, Nutrition, and Forestry to order.

A couple of notes. There is a vote scheduled for 3. We will proceed and just ask members to go vote and come back if you have not yet asked your questions. Also, I am told that the only ones that control turning on the mics are ourselves. In this system staff cannot do that. Please push talk when you want to talk, and then turn it off, unless you want everybody else to hear what you are saying after you talked. Thank you.

First I want to thank members of the Committee on both sides of the aisle who have requested that we have this important hearing. We are going to focus specifically on our cattle markets today. Many of us have heard from producers concerned with a lack of transparency and competition. These farmers and ranchers also raised concerns about concentration in the packing industry, potential market manipulations, lack of access to small and mid-sized plants, and a range of other issues.

This is a really important conversation, as the Committee considers reauthorization of the Livestock Mandatory Reporting Act, and as we oversee implementation of the $4 billion in funding to strengthen the food supply chain that I authorized in the American Rescue Plan. USDA announced a broad outline for using those funds earlier this month, which will include supporting new and expanded regional processing capacity. Just this week, USDA also announced a new grant program to help small processors upgrade their plants to meet Federal inspection standards. That would help smaller processors boost their capacity and meet increased demand while providing more opportunities for small and mid-sized livestock producers, nationwide, and certainly I am looking forward to that in Michigan.

Still, we have work to do. Several of our Committee members have introduced proposals to address these issues, issues of transparency, competition, processing capacity, and I look forward to discussing these proposals and working with colleagues as we move forward.

Above all, we need to talk about how to make our food supply more resilient. The pandemic made clear how really important this is. Early last year, shifts in demand forced producers to plow under crops and dump milk. At the same time, consumers panicked at empty store shelves, and food banks faced lines of waiting cars a mile long.

Compounding this disaster was the failure of many meat processors to adequately protect their workers from COVID–19, resulting in tens of thousands of cases and hundreds of deaths. These outbreaks caused plants to shutter and forced many producers to euthanize animals they could not get to market. The price livestock producers received plummeted, while consumer prices surged.

In an effort to stabilize the market, Congress stepped in to provide assistance for workers and producers. Cattle producers, in particular, received $6.45 billion to offset losses. Just last week, Secretary Vilsack announced resources to keep employees safe with pandemic response and safety grants.

However, these only help mitigate some of the effects. Many of the vulnerabilities exposed by the pandemic still exist. We were reminded of that in May when a ransomware attack froze all of Brazilian-owned JBS's Northern American processing. One attack on one company halted one-fifth of U.S. meat processing capacity. The issue was only resolved, according to reports, after JBS paid $11 million in ransom.

Concentration and consolidation clearly play a large role in many issues affecting the industry. For example, USDA's Packers and Stockyards Division data show that four companies account for 85 percent of fed cattle slaughter. With fewer companies and more foreign-owned companies controlling more of the marketplace there is a widening gap between those giant players and the small, and medium-sized processors that many local farmers and ranchers count on.

What happens when farmers and ranchers have fewer options? What are the immediate effects and what are the unintended consequences? Those are the questions I hope we can begin to answer today.

I would now like to turn to my friend, Ranking Member Boozman, for his opening remarks.

STATEMENT OF HON. SENATOR JOHN BOOZMAN, U.S. SENATOR FROM THE STATE OF ARKANSAS

Senator BOOZMAN. Thank you very much, Madam Chair, and thank you for setting the stage for this afternoon's hearing. The topic we are here to learn more about is so very important to a number of Senators, both on and off this Committee. The U.S. cattle industry has a storied history. It is the backbone of many rural economies, and represents the largest segment of agriculture in many parts of the country. Many success stories are associated with the industry, as it has carved out its place as the world's most sustainable producer of high-quality beef.

In 2019, 14 percent of the beef produced in the U.S. was exported, generating $8.1 billion in value. By comparison, in 1990, only four percent of the beef produced in the U.S. was exported. Correlating with this growth in exports is the increased quality of beef produced in the U.S. today. Nearly 85 percent of the beef produced in the U.S. is graded prime or choice. In the early 2000s, only about 50 percent of our beef earned these grades.

This improvement in quality is due to producers making investments in their herds, in genetics, management, and feeding practices to produce higher quality and more diverse products for the global consumer base. These investments are being made across every segment of this complex and interconnected industry, from the cow-calf producer to the backgrounder, packer, and further processor to provide the wholesaler, retailer, exporter, and ultimately the consumer a growing variety of nutritious beef products.

While this industry is diverse and modernizing in numerous ways, the nature of the beef cycle dictates that the industry is slow to adapt to even the most immediate changes. The ribeye I am having for dinner tonight was derived from a steer that was conceived over two and a half years ago. While changes can be made in the cattle industry overnight, the effects of those changes may not be realized for years. When any one segment of this industry experiences an unexpected event, like the fire at the beef plant in Holcomb, Kansas, in 2019, it ripples through the entire supply chain.

When every segment of the cattle industry experienced the effects of the COVID–19 pandemic, that ripple effect was amplified in a manner that has been unmatched throughout modern history. Though we are moving beyond the havoc wreaked by COVID–19, new challenges are now confronting this industry—a worsening drought in the West that is creeping into the Plains, increasing input costs, severe labor shortages that are limiting utilization of packing capacity, supply chain challenges at our ports that have been worsening for months, and the threat of regulatory overreach. The past two years have been some of the most difficult this sector has ever experienced.

Mounting frustration is resulting in calls for widespread reform of the cattle industry due to these difficulties. We must carefully consider reforms in response to the exceptional black swan events that have occurred since 2019, and the consequences both intended and unintended of such actions. An increasing number of producers are marketing their cattle through alternative marketing agreements to manage risk and buffer themselves from market volatility while also capturing gains for the value-added investment made to their herd.

Yet we are hearing questions about whether current market conditions allow for adequate price discovery for fed cattle and the effect that a thinning cash market could be having throughout the supply chain. I am interested in hearing perspectives from our stakeholders on these topics and for the Committee to gain a better understanding of the impacts of proposed reforms on beef producers, processors, marketers, and consumers. I thank all of our witnesses for their participation in this important hearing and helping this Committee learn about this multifaceted industry and the unique challenges that it faces.

Madam Chair, I have received several letters and written testimony from cattle producers and stakeholder groups who are interested in today's hearing, and I request unanimous consent to include these documents for the record.

Chairwoman STABENOW. Without objection.

[The letters can be found on pages 90–185 in the appendix.]

Senator BOOZMAN. With that I yield back.

Chairwoman STABENOW. Thank you very much.

We will introduce all of our witnesses. I will turn first to Senator Thune for our first introduction.

Senator THUNE. Thank you, Madam Chair, and thank you to you and to Ranking Member Boozman for having this hearing. We are here today because we need answers. We have cattle producers who produce the highest quality beef in the world, and they deserve to be able to participate in a marketplace that operates fairly, transparently, and with integrity. I am delighted that you have called this hearing, and I look forward to hearing from all our witnesses, but I, in particular, want to recognize a panelist who is here from my home State of South Dakota, and I want to welcome to the Committee Mr. Justin Tupper, from St. Onge, South Dakota.

Justin is a cow-calf producer who also serves as Vice President of the United States Cattlemen's Association. In addition to his cow-calf operation, Justin manages the St. Onge Livestock Auction, which holds sheep sales every Thursday and cattle sales every Friday. I have been there on a few of those Fridays for those cattle sales.

Justin, thank you for being here today. I look forward to your testimony and input about how we can improve the situation for cattle producers in our State. Madam Chair, with your indulgence, Justin, before you begin your testimony, I am guessing some members of this Committee have maybe never been to a sale barn. Since you are an auctioneer, would you mind demonstrating, for members of this Committee, what they would hear if they were on a sale day at the St. Onge Sale Barn?

Mr. TUPPER. Why, sure. Thank you, Senator Thune. With that, I do not know that we could get them in this room, but if we had a fat steer here we would ask $1.20——

[Demonstrates auction call.]

Mr. TUPPER [continuing]. and hope we get to $2.00. That is where we are trying to head. Thank you, Senator Thune.

Chairwoman STABENOW. I love it.

Senator THUNE. Thank you, Justin.

Chairwoman STABENOW. You know, my experiences at many 4-H livestock auctions, more than probably where you were, but I have heard that many times. When I was bidding, they always bid me up. They always watched what I was doing, and I always ended up paying higher than anybody else. It is wonderful. It is wonderful to have you here, and thank you, Senator Thune, for that example.

Our next two witnesses are going to be introduced by Senator Marshall. We have two people from Kansas. You would almost think that Pat Roberts was still chairing the Committee. Senator Marshall.

Senator MARSHALL. Well, thank you, Madam Chair, and please bow your head when you say the name Pat Roberts here today. I certainly am pleased to see several Kansans participating as witnesses in today's hearing. It is certainly an honor to introduce two of them. First is my good friend, Mr. Mark Gardiner, a fifth-generation Kansas farmer. The Gardiner family is one of five families that traveled in a caravan of covered wagons to the Ashland, Kansas, area in 1885. His ancestors lived in dugouts on the harsh prairie on their homestead land, incidentally just some 70 miles from where my great-grandmother lived in a dugout, subsisting on jackrabbits and biscuits.

Sticking with that pioneer spirit, Mark, his father, Henry, and the Gardiner Angus Ranch are some of the key architects of value-based marketing in the beef industry that pays cattle producers for the quality of their cattle. In 1997, Mark became a founding member of U.S. Premium Beef, and today is the last remaining original board member.

The Gardiners, and many of their friends and neighbors, persevered through great adversity in 2017, when almost the entire ranch was consumed by the largest wildfire in Kansas history. The Starbuck Fire burned more than 450,000 acres in Kansas, after burning nearly 200,000 acres in Oklahoma.

Mark and his wife, Eva, lost their home while the ranch lost hundreds of cattle to the fire, and hundreds more had to be euthanized. The miracle, only one human life was lost. The aid that came from across the Nation to help ranchers certainly was the most outpouring of love and hope I have ever personally witnessed.

Now unfortunately, Mark cannot be here today. Evidently he had a disagreement with his horse, and the horse won. Mark, I want to thank you for being here, and I look forward to your perspective.

The second individual I have the pleasure of introducing is a Professor in the Department of Ag Economics for the ever-optimistic and fighting Kansas State Wildcats, Dr. Glynn T. Tonsor. Dr. Tonsor grew up in Missouri, Kansas neighbor to the east, on a farrow-to-finish swine farm. He obtained his bachelor's degree from Missouri State University, and his Ph.D. from the Kansas State University. While we claim him as a Kansan now, I would be remiss if I did not point out he spent several years as a faculty member at our Chairwoman's alma mater, the Michigan State University.

There is no questioning Dr. Tonsor's academic profile in the agriculture realm. Since 2010, Dr. Tonsor has written over 78 peer-reviewed publications, and has been a wealth of knowledge in the meat and livestock industry. It is difficult to argue with Dr. Tonsor's opinion that "the U.S. beef and cattle industry is arguably the country's most economically important agriculture sector," which underscores the importance of today's topic.

Glynn and his wife, Shauna, live in St. George, Kansas, with their children, Ethan, Levi, and Aubree.

Now it has been a while since we have three K State Wildcats participate in one hearing, and we look forward to your testimony as well.

Thank you, Madam Chair, and I yield back.

Chairwoman STABENOW. Thank you very much, and Senator Roberts and I would be going back and forth between Kansas State and Michigan State. I am glad to see that we have one person representing both. That is wonderful.

I am going to turn to Senator Boozman now for our next introduction.

Senator BOOZMAN. Yes. I would like to introduce Dr. Dustin Aherin, Vice President, RaboResearch Animal Protein Analyst in Chesterfield, Missouri. Dr. Aherin is an animal protein analyst at Rabobank, focusing on beef. Dr. Aherin joined the Rabobank Food and AgriBusiness Group after completing his Ph.D. in pathobiology from the Beef Cattle Institute at Kansas State University. You guys are taking over.

His previous work focused on cow-calf production systems assessing both biological and economic efficiency. Dr. Aherin worked as a feed yard sales representative for an animal health company and was a visiting fellow at the Massachusetts Institute of Technology Sloan School of Management. In addition to his Ph.D., Dr. Aherin has a bachelor's and master's in animal science from Kansas State University.

Thank you, Dustin, for being with us today, and welcome.

Chairwoman STABENOW. Thank you. Last but certainly not least, Dr. Mary Hendrickson. Dr. Mary Hendrickson is an Associate Professor in the Division of Applied Social Sciences at the University of Missouri. She also serves as Co-Director of the Interdisciplinary Center for Food Security. She studies the way food production and consumption has changed over the past few decades and how farmers, consumers, and communities can create more sustainable food systems.

In 2020, she was a Fulbright Scholar to Iceland, teaching sustainable agriculture. From 1997 to 2012, she worked to create local food systems in Missouri as an extension sociologist, gaining valuable, on-the-ground experience in transforming food systems.

Welcome to each of you, and we will begin today with five minutes of witnesses testimony from each of you, and we certainly welcome anything else in writing that you would like to share with the Committee as well.

Mr. Tupper.

STATEMENT OF JUSTIN TUPPER, VICE PRESIDENT, UNITED STATES CATTLEMEN'S ASSOCIATION, ST. ONGE, SOUTH DAKOTA

Mr. TUPPER. Thank you for the opportunity to provide testimony today. We appreciate both the Chairwoman and the Ranking Member for coming together in a bipartisan manner to host this hearing. This is definitely a producer issue. It is not a partisan issue, so we thank you.

I am privileged to be here representing cattle producers and independent meat processors across the U.S. This hearing is critical because there is a crisis in rural America. We are losing our producers at an alarming rate, all the while watching big corporate feeders, and packers, make record profits, with the threat of vertical integration hanging over our head.

As cattle producers, we are natural stewards of the land. These family farmers, ranchers, work day in, day out to produce a high-quality protein product in a safe and sustainable way. As we sit here today, producers in my State, and across the country, are enduring devastating drought conditions. This is just one of the many challenges cattle producers face, year in and year out, all the while managing the land, borrowing money to keep the operation running, fighting drastic shifts in weather, and dealing with rising input costs and a falling bottom line.

Most ranchers who sell their calves at weaning time are selling those calves for less than $1,000 a head. That is somewhere near $100-a-head profit after all input costs, and amounts to less than a one percent return on investment—an incredibly risky business. For those that raise and sell all the way to fat cattle, calving to finish, a finished steer is worth somewhere around $1,600 a head, today. Packers could buy that steer, process it, and sell it for beef alone, not counting byproducts, for over $2,800 a head today, for a gross margin profit of over 80 percent.

We, as cattle producers, understand and want the packer to make money. That makes the whole system work. Since 2015, corporate packers' gross margin has ballooned from an average of $100 to $200 a head to well over $1,000 a head. Packers have enjoyed unbelievable profits, harvesting around 120,000 head per day, while cattle producers go out of business and consumers pay double or even triple at the meat counter. Cattle producers, when they make money, reinvest in their local community, buying and upgrading equipment, paying more for feeder cattle, and reinvesting in the land through conservation practices.

The corporate packer does not reinvest in the industry, or sometimes even in country. Of the four companies that harvest about 85 percent of the U.S. fed cattle, two of those, JBS and National Beef, are owned and operated outside the United States, in Brazil. The main goal of these corporations is not to reinvest in our land or our people, but to create value for their shareholders–not to mention the big four packers are also heavily invested in our direct competition, plant-based and lab-grown alternative proteins.

The packers ability to increase control of supply of cattle solely committed to one packer has made it nearly impossible to have active price discovery. In my years as an auctioneer and operating St. Onge Livestock, I have learned the most important participant in true price discovery is the second bidder. In most cases in the fat cattle trade today, we do not have a second bidder. There are simply not enough market participants.

In traditional market times, it was assumed when boxed beef prices rose, a packer would ramp up chain speed to increase profits. Instead, they are using limited chain speed and shackle space to increase profits and make the same money, or more, harvesting less cattle. Producers see huge losses in equity while the packer reaps all the rewards, despite having the least amount of risk and owning the product the least amount of time, all while exploiting producers and ultimately the consumer.

American cattle producers do not want nor are we looking for a handout. We just want a fair and equitable playing field, staffed by a referee with a whistle and a flag. Producers cannot be sustainable or generational without being profitable. Building a safe and secure food supply starts with ensuring the success of our food producers. These cattle markets are very complex—we know this—but when there is an oligopoly with four packers controlling the industry there are only two ways to level the playing field. We can either work to eliminate the occurrence of anti-competitive practices and market manipulation in the meatpacking sector, or, as we have seen done in the past in other industries, we can break them up so they cannot have as much influence or ownership in the market.

We do not take these challenges lightly. We believe these are critical times. The United States Cattlemen's Association, of who I am testifying on behalf of today, is fighting to secure our food supply system, our rural communities, and our members, and our members' livelihoods.

My graduating class in Kimball, South Dakota, 100 miles down the road from Senator Thune's hometown, was 32 in 1991, in rural South Dakota. Just a few weeks ago, in Kimball, South Dakota, they had 19 graduates out of that same high school. They have also combined in athletics. The towns have not shrunk but the rural areas and the cattle-producing areas have.

I thank you for your time, and I appreciate and look forward to any questions you may have.

[The prepared statement of Mr. Tupper can be found on page 46 in the appendix.]

Chairwoman STABENOW. Thank you so much for your testimony. Mr. Gardiner.

STATEMENT OF MARK GARDINER, PARTNER, GARDINER ANGUS RANCH, ASHLAND, KANSAS

Mr. GARDINER. Thank you, Chairwoman Stabenow, Ranking Member Boozman, and members of the Committee. My name is Mark Gardiner from Ashland, Kansas, and I would like to thank you for the opportunity to visit today. This is a very important topic for the U.S. beef industry, and I am very pleased to represent beef producers who are committed to the industry to raise the safest and highest quality beef in the world. I am a fifth-generation rancher whose 12 family members are all involved in our beef production.

Today our topic is complicated. The cause of this issue is not. A processing plant fire, a pandemic, and a ransomware attack caused extraordinary disruption in processing, resulting in a dramatic drop of the processed beef supply and a bulging oversupply of live cattle. This caused an unprecedented drop in cattle prices while simultaneously leading to a record rise in beef prices, all driven by pure economic market principles.

Today we have too many cattle and too little processing capacity. We have a volatile marketplace, created by outside, unavoidable factors, not any one market player. We have observed similar market disruptions in lumber, automobiles, and other goods.

Now the solution for all of this is very complicated. Processors are adding capacity due to the demand for high-quality beef. Adding this capacity will take time. History tells us we will reach a point when ample processing capacity will compete for a limited supply of cattle. When this happens, the marketplace will shift and the producers will have more leverage. The question for us in the meantime becomes how much damage will regulations do to the marketplace by artificially manipulating the pricing mechanisms? Experience tells us the unintended consequences of these actions can create longer-lasting havoc and even greater volatility to our industry.

Let us look at our industry history. From 1980 to 1995, we were the very picture of an industry in trouble. Consumer satisfaction was at an all-time low, and we were losing market share at a rate that put us in peril of being an irrelevant protein. This loss of market share and dissatisfaction was rooted in the production sector. In other words, producers had to resolve our quality issues at the beginning of the supply chain.

What caused the disconnect between our product and the consumer? It is very simple. All cattle were purchased on the average. There were no incentives. One price fit all. Progressive producers needed and wanted to price cattle on a value-based system that paid for each animal based upon value, not average. Superior cattle have more value. Inferior cattle have less value. These incentives aligned producers to respond to consumer signals.

Today we have record beef demand. Producers designed and negotiated these grids with the processors. The information transfer between the industry sectors establishing pricing mechanisms that rewarded producers who delivered the beef the world desired.

I want to stress the greatest benefit and the greatest added value has been achieved by the very smallest producers. They have reaped the largest dollar value per head and were given market access.

The unintended consequences of regulated government mandates, such as Senate Bill 3693 and 543, could potentially have a negative effect on the beef industry. I am unaware of any data or research that indicates these proposed regulations will have a positive change on the price of cattle going forward.

There is considerable discussion regarding the cash trade. I look at this as a base price, no different than a commodity like wheat. I can call our local elevator and get the base price for wheat. If I hit the target to value with my wheat, due to protein content or baking quality, I am paid for this additional value. Value-based marketing operates on the same concept. We know the target to value for the processor and the consumer. If we achieve these goals we are compensated for producing superior beef.

A possible price discovery we could look at, on the thinly traded cash market, is to have all base prices a formula grid and alternative market arrangements become a part of mandatory price reporting. This base price needs to be inclusive. I remind you that this comes up for renewal on September 30, 2021. Any changes that we make are better if implemented by the industry versus government mandates.

Thank you so much for the opportunity to visit today.

[The prepared statement of Mr. Gardiner can be found on page 58 in the appendix.]

Chairwoman STABENOW. Thank you very much. Dr. Tonsor.

STATEMENT OF DR. GLYNN T. TONSOR, PROFESSOR, DEPARTMENT OF AGRICULTURAL ECONOMICS, KANSAS STATE UNIVERSITY, MANHATTAN, KANSAS

Mr. TONSOR. Chairwoman Stabenow, Ranking Member Boozman, and members of the Committee, thank you for inviting me to be here today.

The U.S. beef and cattle industry is arguably the country's most important agricultural sector. The sheer size and importance of the industry must be appreciated before implementing any proposed policy change, as the potential exists to impact many members of our society.

It is not surprising the industry's markets are complex. I often describe the industry operating as a Rubik's Cube—when one thing changes, so do many others. Industry evolutions are accepted by some, but not all stakeholders, and that is to be expected.

Perhaps no relationship is currently more relevant than the relationship of fed cattle inventories to processor capacity. Prior to 2016, it was estimated, for many years, there was more processing capacity than fed cattle inventories. That relationship changed, and since roughly 2016, fed cattle inventories have often exceeded operational processing capacity in our industry.

The Holcomb plant event in 2019, and developments during the pandemic, occurred in this setting. Economists expect lower fed cattle prices and higher beef prices in this situation. On balance, that is what we have observed. Going forward, it is generally expected fed cattle volumes will decline and some physical processing capacity is likely to be added.

The U.S. meat industry sells products into three main market channels: domestic retail, domestic food service, and export markets. The industry maximizes overall revenue by producing, processing, and marketing distinct products for these market channels that value them most. This results in higher overall carcass and livestock values.

One of the most drastic shocks from the pandemic was extraordinary disruption in the relative demand across these three market channels. These post-farm gate developments directly impact derived demand for livestock and hence, livestock prices. These shocks also highlight the need and value for better data and information.

Over the years, I have worked on multiple projects on the livestock mandatory reporting, or LMR, program. It is important to appreciate a significant amount of more trusted information on the market is now available than was the case prior to LMR, over 20 years ago. Economists have long recognized the substantial value of reliable, accessible, and timely market information because it critically guides resource allocations. I believe USDA AMS does a sound job of implementing LMR, and I encourage ongoing consideration of adjustments and enhancements.

Alternative marketing agreements, or AMAs, have grown in use in recent decades. Initial interest in AMAs from both buyer and seller perspectives originated largely from costs or operational efficiencies. Furthermore, consumer demand signals led to proliferation of beef products. This, in turn, elevated demand for specific cattle, and with that further interest in use of AMAs.

Increased use of AMAs reduces cost and enhances demand in some segments of the industry. That, itself, is a worthwhile outcome. AMAs present a multitude of well-documented economic benefits while reducing the volume of traditional spot-market transactions. For some context, in 2014, 23 percent of domestic fed cattle were sold on a negotiated basis, while 58 percent were sold using formulas. More recently, in 2020, negotiated rates were 23 percent while formula rates were 65 percent.

The core point of that comment is while cattle prices, beef prices, and estimated margins certainly have changed—they are different in recent years than they were in 2014—it is my opinion it is inaccurate to assert this simply reflects how fed cattle are marketed. Rather, in my opinion, core differences in supply and demand reflect these market changes.

I encourage the industry to proceed forward in a manner that does not deteriorate economic benefits of the industry's evolution to improve beef quality and align effort with beef demand signals. This pursuit should include regularly assessing ways to enhance the information content available on markets. I encourage LMR to not only be reauthorized but for enhancements to be considered. I have noted some of those in my written submitted testimony. More research is needed on the types of information contemporary markets need, and how to most effectively collect and disseminate that information.

I will end by highlighting all revenue available to industry participants ultimately originates with consumers. Hence, aligning industry efforts with consumer demand is truly essential. Fortunately, the U.S. beef cattle industry is the envy of many others for several reasons. Comparative advantage of the industry includes being a global leader in the production of high-quality, grain-finished beef desired by consumers around the world. I encourage today's discussion to be mindful of the factors which favorably distinguish the industry, and are core to the prosperity prospects not only of today's industry participants but also those of future generations. Thank you.

[The prepared statement of Mr. Tonsor can be found on page 63 in the appendix.]

Chairwoman STABENOW. Thank you very much. Now we will hear from Dr. Aherin.

Welcome.

STATEMENT OF DR. DUSTIN AHERIN, VICE PRESIDENT, RABORESEARCH ANIMAL PROTEIN ANALYST, RABOBANK, CHESTERFIELD, MISSOURI

Mr. AHERIN. Chairwoman Stabenow, Ranking Member Boozman, and members of the Committee, thank you for inviting me to join the discussion today. As an animal protein analyst for Rabobank, which is engaged across the entire beef supply chain, I assist in strategic decisionmaking for both the bank and the bank's clients offering a research-based perspective on fundamental market dynamics and future trends.

Major U.S. beef supply chain disruptions over the past two years have sent the cattle and beef industry into uncharted, but explainable territory. The imbalance of excess market-ready cattle supplies in the face of reduced operational packing capacity has put downward pressure on cattle prices. Meanwhile, consumer demand for beef and all animal protein has reached record levels, fueled by pandemic stockpiling, increased and reallocated consumer income, and more recently, restaurant reopenings, not to mention export demand. These dynamics, combined with elevated processing costs, have increased the spread between beef price and cattle price, just as economic principles, past research, and historical market relationships would suggest. Both the direction and magnitude of the price spread are well within the range of expectation.

Like many businesses, the pandemic has created enormous challenges for cattle producers. Seeing the price difference between cattle and beef has only added to that emotional strain. I understand the frustration. I have owned and bred cattle most of my life, and I have friends and family that make a living ranching and feeding cattle. However, with stakeholders that are invested throughout the entire supply chain, from rancher to packer to retailer, I have to look at the beef industry from an objective and analysis-based perspective.

First, cattle are not beef. Cattle are one of several inputs into beef production. Other major inputs include labor, physical capital, and technology. These inputs are always seeking, but never finding, the perfect balance between one another. This creates cycles. Input imbalances are communicated through prices, whether that is cattle prices, wages, or investment. Over the past several years, extreme and unexpected events have severely restricted several of these inputs, for example, facilities in the August 2019 Tyson plant fire and labor during the pandemic. A working market sends price signals to adjust. These same price signals created record high cattle prices and record packer losses in 2014 and 2015.

The biology and natural time delays of the beef industry make it slow moving and capital intensive. Adjustments take years. While recent, unforeseen events have exacerbated the situation, free market signals, economic losses, drought, and the natural cattle cycle laid the foundation for today's circumstances over several decades.

Beef packing has historically been a low-margin business. In the year 2000, with total cattle population of 98 million head, the U.S. harvested nearly 30 million head of fed cattle. By 2014 and 2015, the total cattle population was below 90 million head, with 2015 fed cattle slaughter under 23 million head. Throughout this period of largely drought-induced beef cow herd contraction, the most inefficient packing plants were driven out of business as competition for limited cattle supplies drove cattle prices to record highs. From 2000 to 2015, the U.S. beef industry experienced a net decline of roughly 14,000 head per day in fed cattle processing capacity.

Even before the extremes of 2020, recent margins suggest that there is opportunity to add packing capacity. However, that opportunity does not come without significant risk. First, the upfront cost of a new or expanded plant is extremely expensive. Industry sources estimate cost of $100 million to $120 million for every 1,000 head of daily capacity. Increasing construction costs over the past year likely put current costs even above that estimate. Then a new endeavor must meet regulatory requirement, build a labor force, and keep enough cash on hand to absorb losses. It is not just about building facilities. It is about building a business model.

In response to the described market signals, numerous plans for greenfield plants or expansions of existing facilities have been unveiled in recent months. These plans come from new entrants, minor incumbents, and major incumbents alike. If all the announced plans for construction and expansion come to fruition, roughly 8,000 head of daily fed cattle capacity and nearly 2,000 head of non-fed capacity could be added over the next five years. Recognizing current drought conditions, if the beef cow herd declines by less than, say, two percent, there is opportunity for profitability with 5,000 head per day of expansion.

A note of caution. There is a point where industry expansion goes too far and does not withstand tight cattle supplies. The long-term cattle cycle, drought risks, and market fundamentals must be considered.

Technology implementation will also be a critical component of future success. Recently, many packers have revitalized their focus on technology and development as a means to address these labor challenges, manage costs, and reduce product waste. Enlightened by the pandemic to the longstanding labor shortages in the meat industry, many startups are also bringing outside expertise and perspectives to advance technology and automate the supply chain.

In closing, the shocks of the beef industry over the last couple of years have presented the entire beef supply chain with enormous challenges. The resulting price movements have been frustrating, to say the least. Yet these same price movements and supply chain disruptions have accelerated investment in packing capacity, new technologies, and new business strategies that will help keep the beef industry evolving toward changing demands, and that is the market at work. Thank you.

[The prepared statement of Mr. Aherin can be found on page 69 in the appendix.]

Chairwoman STABENOW. Thank you very much.

Dr. Hendrickson.

STATEMENT OF DR. MARY K. HENDRICKSON, ASSOCIATE PROFESSOR, DIVISION OF APPLIED SOCIAL SCIENCES, UNIVERSITY OF MISSOURI, COLUMBIA, MISSOURI

Ms. HENDRICKSON. Thank you. Thank you, Chairwoman Stabenow, Ranking Member Boozman, and members of the Committee. I really appreciate the opportunity to speak about the social impacts of market arrangements in the cattle industry.

As a rural sociologist, I am concerned about the impacts that market arrangements have on people, on people and their communities. My concern centers around these relationships, the impacts of market organization on relationships between farmers, consumers, and communities, in effect the social infrastructure that can make our food system and our communities resilient. This leads me to focus on the broader impacts of competitive markets.

Now competitive markets exist when no one seller, no one buyer can influence the marketplace. It means that no actor has the power to define choices or prices or ways of participating in the marketplace. Competitive markets encourage a diversity of organizational forms and they encourage multiple linkages across actors. They can also decentralize decisionmaking over food.

The power to make decisions about what food is produced, how, where, by whom, and who gets to eat it, has become increasingly concentrated in the hands of a few people that are located in transnational agrifood companies. As has already been stated, the four largest beef packing firms were responsible for 85 percent of U.S. steer and heifer slaughter in 2018. Four of the largest cattle feeders have a one-time capacity to feed over 2.5 million head. This is in contrast to the over 750,000 cow-calf farms in the U.S. that have an average herd size of about 48 head.

Now when looking for a profit, these producers are also concerned with their autonomy and well-being as well as their other relationships with farmers and the community.

What are the impacts of consolidated decisionmaking in the cattle industry as well as in the larger food and agricultural sector? At the farm level, agrifood consolidation reduces farmer autonomy. It means fewer choices for farmers about where they market their animals. My colleague, Harvey James, and I have argued that fewer market options constraints, as in limits or inhibits, the decisions of farmers. It constrains, as in it compels or obliges, them into decisions they might not otherwise have made. We have also argued that basic agrifood liberties, such as the freedom to negotiate and dictate terms, or the freedom to know, can be constrained when agrifood markets are consolidated.

As I stated, I am particularly concerned about social relationships and communities. Rural sociologists conducting a meta-analysis of the relationship between agricultural structure and community well-being found detrimental effects in 82 percent of the 50 studies they reviewed. A Missouri farmer once told me, “I used to look around to see if any farmers were getting out of farming, so I could get their land to farm. Now I look around and I see I have no neighbors.”

Anthropologists at the University of Kansas showed that a consolidated agriculture without people has depopulated western Kansas with an accompanying collapse in social relationships. Researchers in Europe have shown that less concentration of agriculture production enhances social cohesion, and that is the glue that allows groups and communities to accomplish their goals and dreams.

This pandemic has shown us a number of flaws in our food system. I want to highlight that worker health and well-being are very important indicators of food system sustainability, and both were severely impacted by COVID–19. There was a strong relationship between proximity of livestock plans and the incidence of COVID–19 over time. Many of these processing plants were shut down due to COVID–19 infections, causing a backup of live animals to be slaughtered. Now these animals have to be fed, raising costs for farmers, or, in some cases, euthanized, which causes economic and psychological harm. There are ecological concerns about animal welfare and the waste of natural resources, such as the soil and water embodied in those animals.

Now what can we do? I do not believe that there is any one approach, at any given scale, that will prove effective. Instead, we need a combination of actions, strategies, and policies at multiple levels that are ecological, democratic, and equitable, within and across populations, generations, and species, and this is the way we are going to build redundancy and provide fallbacks when some organizations or networks fail.

I thank you for this opportunity, Madam Chairwoman, and I look forward to answering any questions.

[The prepared statement of Ms. Hendrickson can be found on page 82 in the appendix.]

Chairwoman STABENOW. Thank you very much, and we appreciate very much the input from all of our witnesses today.

Mr. Tupper, let me start with you today. As a producer and a livestock auction operator, which we have now had a demonstration of, which we appreciate, you see the negotiated cash market up close. What impacts do you see in the actual sale barn when there are fewer packers and other participants bidding on cattle during an auction?

Mr. TUPPER. Thank you, Madam Chairwoman, for the question, and I respectfully disagree with many of my colleagues that spoke after me about what that is. As we talk about shackle space and limiting the amount of packers that play, they talk about efficiencies that these big packers can make. What we give up in efficiencies, we would get back in competition. Every time that we gain efficiencies, we lose competition.

I think that when we talk about whether shackle space is the most important thing, under their scenarios, it concerns me and my producers that the only way we can make money is if there is less cattle than there is shackle space. That is their theory, that shackle space is the only thing that can determine whether we can be profitable, and I respectfully, definitely disagree.

We need more players in the marketplace and competition is huge. We would definitely give up some of those efficiencies to have more competition.

Chairwoman STABENOW. Thank you very much. Dr. Tonsor, to followup on this, when fewer packers are participating in these markets we often hear concerns about market transparency, because live cattle prices do not get reported, due to USDA's current confidentiality rules under livestock mandatory reporting. Do you have any suggestions on how those confidentiality guidelines could be improved?

Mr. TONSOR. Yes, I do. My first response would be as a point of clarity, is covered packers have to submit information to USDA, and regardless if there is one, two, or five it all gets submitted to USDA. The distinction that is important is what does or can USDA do with that information. That is part of the transparency discussion. It all gets reported to USDA. Not all of it shows up on a report to the public, depending on how confidentiality is approached, is what I am trying to make clear for this body, first and foremost.

The 3/70/20 rule is the common confidentiality approach that is used by USDA. I noted, in my written testimony, that should always be—not always, periodically—re-examined. There is a history of a different approach being used. At the end of the day, anything that USDA does when it comes to implementing LMR is a tradeoff between aggregation and precision. You can aggregate across more categories to get more buyers and more types of transactions, to make it more likely you can report, but then you have the cost of precision.

A simple example I offer in my written testimony is maybe aggregating steers and heifers by definition would add volume, rather than trying to report them separately. That alone may not get you another buyer, but that is a simple example that this body can relate to. I encourage more of those things to be considered.

The second thing, real quickly, is as it relates to the data that is submitted, currently that is done on a whole-State basis—so the State of Kansas is one unit, State of Nebraska is one unit, and so forth. Something that is worth thinking about is whether or not that could be submitted on a more precise level, so think sub-States of a State or even zip code or something, which potentially—and please note, I am saying “potentially”—would allow USDA to report differently and address confidentiality that way. Their hands are sort of tied by the way data is shared with them at the whole-State level, currently. Thank you.

Chairwoman STABENOW. Thank you very much. Dr. Hendrickson, I really appreciate your perspective as we think about how we are going to move forward after the pandemic, and in announcing the framework for funding to improve resiliency in the food supply chain, the USDA identified four pillars of focus: supporting production, improving processing, investing in distribution and aggregation, and creating new market opportunities. I am wondering, what are some of the factors that you think that the USDA should consider as they design the program so that we can assure these investments have real impact and sustainability in the long run?

Ms. HENDRICKSON. Thank you, Chairwoman Stabenow. One of the things that I think USDA needs to consider as they design this program is how will they build in redundancy and resiliency. One of the things that we saw with the pandemic is that we had a very brittle food supply chain, not just in cattle but across the board. We had a very brittle food supply chain. We know that local and regional farmers and businesses were much faster and more nimble at responding to the impacts of the pandemic than were far-flung supply chains.

What we need to do is to figure out how we are going to build in failsafe mechanisms. How can we have a redundancy in processing? These should be priorities as USDA focuses on processing, on aggregation, and so on.

I think it is important to regionalize the food system, to find ways to regionalize the food system so we are not as dependent on these North American or global kinds of production-consumption relationships. Thank you.

Chairwoman STABENOW. Thank you very much. Senator Boozman, for your questions.

Senator BOOZMAN. Thank you, Madam Chair. Mr. Gardiner, we have all heard about the devastating impacts the Holcomb packing plant fire and the COVID–19 pandemic had on many cattle producers. Can you describe your personal experience weathering these events?

Mr. GARDINER. Yes, sir. Thank you, Senator. You know, in this business we all deal with risk all the time, so we work to lay off risk with forward contracting, hedging, and placing cattle at different times. I often talk about our management and our genetics, and the access to these places, based on that quality alone, gives us systems that allow us to hit those targets at varying times.

Yes, that delayed it. That made a bottleneck. Our relationships with these people allowed us, through the pandemic. I will go back to a year ago right now. They were able to take away all of the discounts on our grid, and they incentivized us and helped us get through that. Many of the other processors were offering a base price of 95, and our base price, for all those cattle, cash included, was $1.15.

I think when we look at these things, by nature cattlemen are the ultimate optimists, but they are the ultimate gamble. With weather, drought, market access, and all of these things, it is almost like with the fire, the pandemic, and now the ransomware, what else can they hit us with.

We have to be flexible, and the flexibility of all of these things have allowed us to manage risk.

Senator BOOZMAN. Dr. Tonsor, can you explain the risks and benefits of alternative marketing agreement use and the risks and benefits of a mandated volume of cash market trade? Then also, you talked a lot about data and things and the importance of that. Have the risks and benefits of both of these topics been clearly quantified?

Mr. TONSOR. Of course, it is hard for an academic to answer that in the short minutes here but I will do my best. The benefits and costs of AMAs themselves have been studied extensively over time by economists. To summarize and keep it jargon-free, most of the economic benefits have come down to helping coordinate, so efficiencies of knowing I have a place to send my cattle, efficiencies of knowing cattle are coming in, from both the buyer's and seller's perspective, are substantial. That makes our system more efficient, is what is underneath that statement, as well as aligning the demand signals.

I made the comment about proliferation of beef products. There are a whole bunch of different beef products that go into those three different market channels that I alluded to. Some of that goes back to asking for cattle to be bred differently, raised differently, conveying information with them, and so forth, but does not align well with the spot market, traditionally. A lot of the economic benefits on the demand side align with use of AMAs. That would be my main response on the AMAs.

What is the benefit and cost of bumping up cash spot or mandating cash spot, was the second half of your question. I think an honest answer is economists have not quantified those costs very well yet. I could just give you a personal opinion, because that is the best I can do as long as I am transparent on that, is I get concerned when we add rigidity to a system and we get in the way of people being entrepreneurs and doing things a little bit differently. Any kind of government mandate gives me that pause. Those who have heard me before know that is my M.O. that I respond to.

My concern beyond that, that would certainly be a cost in this specific case, is the more we bump up cash share being required is exactly what would be done to just meet the specs, what would a negotiated trade look like, would it be different than formula and forward, and so forth. LMR, in many ways, was designed to be a price reporting as opposed to a regulatory effort, and that needs to be thought about carefully. Thank you.

Senator BOOZMAN. Very good. Dr. Aherin, there are several new beef processing plants that have been announced in the last year. Ranchers and feeders are investing in these facilities. In many instances, a greater degree of supply chain coordination through AMAs will be utilized to procure the cattle for these plants. Can you speak to why these new market entrants may choose to pursue AMAs over the others? If a certain volume of cash trade were mandated, what might the impact be on these new facilities or other investors considering entering the business?

Mr. AHERIN. Certainly. I think it is important to look at how a lot of these new plants are being designed. They are being designed around niche markets, product differentiation, because they are not going to be able to compete in terms of economy of scale and efficiency, with the large incumbents. They have to separate themselves based on product quality and really truly meeting consumer demands.

If you have specific specs in the beef that you are looking for, you have to have specific specs in the cattle that you are looking for as well. To guarantee that you have enough cattle and you have identified suppliers of the cattle that meet those programs, you are going to want a strong relationship with your suppliers. One of the best ways to build those strong relationships is through AMAs.

If cash were mandated in this situation it would severely hamstring the ability for these smaller, regional plants that are likely going to have to compete in niche markets to be able to differentiate themselves from the large, more efficient incumbents.

Senator BOOZMAN. Thank you, Madam Chair.

Chairwoman STABENOW. Thank you very much. I believe we have Senator Klobuchar with us, virtually. Senator Klobuchar.

Senator KLOBUCHAR. That is right. Thank you very much. Thank you to all the witnesses. Such important issues. I just want to start out with a quick question to Mr. Tupper. The pandemic painfully exposed high risk to our food supplies. Senator Moran and I worked on the RAMP-UP Act, that was included in the December relief package, to help small plants with inspection and get the inspections they needed and the like.

How does having a more diversified meatpacking industry help improve resiliency in our food chain, because clearly the pandemic showed some of the problems.

Mr. TUPPER. Thank you, Senator Klobuchar. I think having more small and regional packing plants is huge, but I think that we have to look at it as more than just shackle space. They have to be sustainable, and we have to make sure that they are able to succeed. We have a history, in building some small and regional plants, of it taking three or four different owners before they can be prosperous. I think another onus on those small plants is when they go to sell that meat, or try to get their market share, it is very difficult when you are dealing with four major packers that are ready to squeeze you out at any time, because you are trying to take a share of their business.

I think it is important, and I think it is definitely better for the security of our food system to have more small and regional packers, but we have to, besides just build them, we have to be able to make sure they can succeed.

Senator KLOBUCHAR. Okay. Very good point. Thank you for that. In Minnesota, around 90 percent of our cattle leave the State for processing, and cow inventories have outpaced processing. We would like to make this work better. I guess I would go to you, Dr. Tonsor. What barriers prevent the expansion of livestock processing capacity?

Mr. TONSOR. Thank you. It has been alluded to. There are many economic drivers of why we have the packing processing sector the way we do today. Economies of scale is the most often noted one. I have used the term "efficiency" at least three times already today. That simply means the larger operations have a cost advantage per unit, to keep it jargon-free.

I will also note that something that has been added, in my opinion, in the last probably 20 years, with the proliferation of additional beef products, is economies of scope. The ability to not only produce a high volume and be cost efficient to run the plants efficiently, but also to be able to sustain large volumes of multiple types of beef products must be noted, and that is something that a smaller operation will have as a challenge.

You can look at that as an opportunity or a threat. You cannot compete with bigger operators on everything, is the point of that. My colleagues to my left noted that as well. You have to narrow your business, and I think that is harder if you are new entrant in a small, medium-sized place, when you are facing not only economies of scale but economies of scope, for a lot of current incumbents.

Senator KLOBUCHAR. Okay. Very good. I am working with the Antitrust Subcommittee on a number of pieces of legislation, as some of you may know, which would be helpful, I believe, in this market, with being more pro-competitive and changing some of the standards we use to analyze not just mergers but looking backward at what is happening in industries. We are also going to be holding a hearing coming up soon on meatpacking as well as the food supply chain in Judiciary, that I am helping to head up.

Mr. Tupper, how important is it that the agencies continue to investigate the current cattle market dynamics and provide updates of their findings, whenever possible?

Mr. TUPPER. Thank you again, Senator Klobuchar. I think very, very important, and we thank USDA and Secretary Vilsack for his willingness to work on these issues. He has stated that he is wanting to look at the Packers and Stockyards Act, and we definitely need these investigations into the antitrust theories to come out.

One of the questions that always gets asked, in a free market system, why aren't any of the big four packers trying to gain more market share, if it is truly a free market system? Why are they not trying to gain market share upon each other? That is something that always comes to mind.

Yes, we definitely encourage and appreciate your work on that, trying to get these antitrust legislations worked through.

Senator KLOBUCHAR. All right. Well, thank you very much. Thank you, everyone.

Senator BOOZMAN.

[Presiding.] Senator Marshall.

Senator MARSHALL. Thank you, Chairman, and again, welcome to all of our witnesses. I will have my first question for Mark Gardiner. Mark, I would like for you just to share a little bit about the story of U.S. Premium Beef. What were the ag economics like when you made the decision to do that, and as I recall it was basically cattle producers that formed this packing plant.

Mr. GARDINER. Thank you, Senator Marshall. It was very similar to some of the things we are talking about today. As I mentioned in my testimony, we were—one out of four steaks ain't bad. Our product was terrible. We were losing market share at a rate that Dr. Harlan Ritchie of Michigan State University wrote a paper that said five years to meltdown. At the rate we were losing market share, we were not going to be relevant in the protein business.

I was 35 years old. We were scared to death about investing. It has been mentioned oftentimes about investing in our community and investing in our infrastructure. We wanted to put some skin in the game to understand what made cattle better. We made the investments, we made that purchase of a percentage of National Beef as a group of 470-plus stockholders, because our cattle were not very good. Ours were not any different than the rest of them.

When we went about doing that, all of a sudden, and we got that information on each and every animal, we started to learn what we needed to do to align our supply with consumer demand. My biggest view of the problem at the time was one price fits all, and that is part of the discussion today on the cash markets. It is very thin, but you are pricing everything on the average. We wanted to go to value-based systems that valued each and every animal, and this was successful because all of a sudden when you realize your animals are not hitting those targets we changed our genetics, we changed our management, we changed our feeding strategies, and we have vertical coordination of information to help all of us become more profitable.

The realization that the beef industry was in so much trouble, losing market share, and our product was not very good, that is what changed it to where we have more beef demand today. That is what we have done, and our cattle have led the charge of improving the quality of the beef cattle in the United States.

Senator MARSHALL. Thanks, Mark. Dr. Tonsor, maybe I will go to you next. Everywhere I travel people tell me that American beef is the best product on the market, that there is no one else that can compete with them. Even if the Australians maybe could beat us on price, the quality of our beef is what drives it. There are huge export opportunities across the world for more markets.

If we lost this value-based system that we have now, how do you think it would impact those export markets?

Mr. TONSOR. Yes, thank you for the question. Remember in my testimony the three different market channels, so domestic food service, domestic retail or grocery, and export?

Senator MARSHALL. Yes.

Mr. TONSOR. We send different products to those three channels. That is part of what you are alluding to and remind this body. Beef products find the market where they are most valuable. I would be concerned, to answer the question directly, if we erode incentives to have quality enhancement in the industry, at what point does the U.S. lose its current comparative advantage and high-quality beef?

That would not happen overnight, right, because some of those things are genetic—feed, management, reputation. Some of those have long legs. We need to think through, very carefully, what the economic signals are for each one of those steps and what that signals to consumers.

Eventually, I would think you would lose market share not only in the export market but domestic food service and domestic retail, because all three of them, you are competing with other proteins. Sometimes it is beef, sometimes it is a non-beef, but it is a protein marketplace globally.

Senator MARSHALL. Thank you for that answer. Then, Dr. Aherin, my phone has blown up like it has never blown up before. Friends that I have grown up with since I was a child, people in the ranching industry, folks that own small feedlots, cow-calf operations just concerned about this situation. Feedlots that I have known, again, for decades, where there used to be 10 or 15 buyers, are having one person show up and offer a price. The sale barn that I worked every week in, from the time I was 16 until I was 20, used to have dozens of buyers show up, and now there are only two or three, maybe four buyers show up.

What would you tell them the why, how come that is where we are today?

Mr. AHERIN. There is not an easy answer to that, but I think a lot of it has been alluded to the fact that the industry has moved toward these value-based marketing systems where we can reward cattle based on their different quality traits.

One point that was mentioned earlier today, that I think helps explain this some, cash trade as a percentage of total transactions really has not changed since 2014, 2015, but what has changed is price. Cattle prices were at record highs in 2014 and 2105, and then they have been challenged recently, but yet that negotiated trade level really has not changed. What has changed over that time is the supply relative to demand for those cattle.

I want to emphasize one thing that we have kind of danced around, is that consumer demand is really what drives the price and the value of these animals, but it is processing capacity that allows that demand to trickle down to the cattle feeder, to the cow-calf producer. While there might be great consumer demand in today's market, it is not necessarily trickling down to the cattle feeder in the same way that it did in 2014, because of that oversupply of cattle relative to packing capacity. That is going to change. Over the next several years, the cow herd will likely decline. We are in a drought situation, liquidation phase. It is frustrating from an optics standpoint, but we are in a national market where total supply and total demand really drive price.

Senator MARSHALL. Thank you, and I yield back.

Senator BOOZMAN. Senator Gillibrand.

Senator GILLIBRAND. Thank you, Mr. Chairman, Mr. Ranking Member. In New York, there is a very high demand for increasing processing capacity at small facilities, and farmers are often booking slaughter dates several months or over a year in advance.

On Monday, USDA announced their new Meat and Poultry Inspection Readiness Grant Program to assist small and medium-sized transition to USDA FSIS inspection, and I am hopeful this program will meet the needs of the processing facilities in New York.

Mr. Tonsor, with the consolidation in processors, this has led to a decreased buyers and processing options as well as increased opportunities for market disruptions if just one facility goes offline. Outside of the aforementioned grant program, what other options need further exploration to increase capacity at smaller facilities?

Mr. TONSOR. There are a whole host of governmental discussions around subsidizing grants, you know, increasing access to credit and the like. Those all have a place there. I do not think it is my wheelhouse to advocate for one of those or not. I think just at the point in time you have a lot of society interest in that. Bodies like this can listen to that. That is my short answer.

Senator GILLIBRAND. Thank you. Dr. Hendrickson, in your testimony you touched on the need for flexibility, particularly in areas like processing, and you also mentioned the social value of communities and neighbors. I have worked to invest in our rural communities and strengthen our local food systems in New York so that more food from New York producers can get to other parts of the State. You also point out the consolidation is an agrifood system-wide concern, in your comments, which is a sentiment that I share.

First, can you speak more about how decentralizing and making our cattle market more resilient can also help our rural communities thrive? Second, can you elaborate about consolidation in the cow industry and its connection to consolidation in the dairy sector, and how this broad consolidation impacts family farms and consumers?

Ms. HENDRICKSON. Yes. Thank you, Senator Gillibrand. The investments that we can make it regional food systems have a lot of impact on communities, farmers, food businesses. We have done some work around local food, economic impacts of local food, and we know that the economic returns stay in the communities and have a larger economic impact. There is quite a body of data on that, that shows that those returns are good for building the economic base of the community.

My concern is on people and the social relationships, and what happens when we do decentralize, when we can build relationships between farmers and eaters, we start to build kind of this social infrastructure that I talked about earlier. That social infrastructure is really important and necessary for communities.

One of the ways I will just point out, during the pandemic those cities that were able to use existing networks, strong networks that had a lot of social cohesion, they were much more effective in getting aid out to people who needed emergency food aid, for instance. That is just one example of the returns that we can have to social infrastructure.

I do not think that this is just a cattle problem or a dairy problem, or a hog problem or a protein problem. What we see is consolidation across the board, and we need to really think about buyer power in that consolidation arena, and that starts with who is buying these food products—the Walmarts, the Whole Foods, the consolidated retailers. That is a buyer power issue, but it goes throughout the system. We see consolidation on the farm side. We see consolidation in processing, distribution, all of these things, and I think we have to address it in multiple fashions. I think one of the things that we need to think about is how are we going to create a diversity of ownership and control where consumers and farmers can negotiate these relationships that they want, that are socially important for them and their communities. Thank you.

Senator GILLIBRAND. Thank you. Even though New York is not a large beef cow producing State, we do still have a fair number of beef operations, over 7,000 farms with over 100,000 beef cows, according to the 2017 Ag Census. In addition, we also have a large dairy cow population, over 4,500 dairy farms with over 600,000 dairy cows, with many of those dairy cows eventually making their way to the ground beef market as cull cows, and finally, we have a fair number of veal calves originating from dairy farms.

Over the past several years, dairy farms have begun to transition lower genetic quality dairy cows to beef to increase their profits for dairy calves. These calves are often then raised as feeder cow for the beef market.

Mr. Tupper, how do smaller beef States like New York remain competitive and ensure that cow producers receive fair prices, and what are the potential opportunities to expand markets for retired dairy cows to be used as beef?

Mr. TUPPER. Thank you, Senator. I think you are exactly right. There is much more done in the dairy sector cross-breeding to bring those cattle into the beef sector. I think ways that they can stay competitive is we have got to keep these markets fair, we have got to be able to make sure that bigger is not always better. The bigger the packer is, sometimes they squeeze out these small and regional packers that we are trying to build and get shackle space for.

I think one of the main ways that they can stay competitive is make sure that they can get market share and that they can fairly be in that marketplace. I think that is the best way that we can keep them competitive.

Senator GILLIBRAND. Thank you. Thank you, Madam Chair.

Chairwoman STABENOW.

[Presiding.] Thank you very much. As we go back and forth here to vote, hopefully everyone who is with us at the moment has voted on the first vote.

Senator Tuberville.

Senator TUBERVILLE. Thank you, Madam Chair. Thank you for being here today. You know, back in Alabama cattle production represents a $2.5 billion industry, so I am thankful we are having this today, because we have got a lot of our farmers and cattle growers in serious trouble.

Let us start with Mr. Gardiner. Mr. Gardiner, your experience using alternative marketing agreements to compensate for the investment your family has made to improve the genetics of your herd is a compelling experience. Alabama is home to thousands of small cow-calf producers, and I am curious to know how these agreements can benefit producers like those in my State. Can you elaborate?

Mr. GARDINER. Yes, sir. Senator, I would first thank you for the question, but I would stress that these AMAs that we have developed are actually the very best for the small producer, that have allowed them to take their genetics and take their managements, and being able to have that market access for those superior cattle and for that superior management. I think we have to look at the marketplace and we have to look at where do we fit into that marketplace and how do we go forward on a demand-driven market. I think when we look at a lot of the discussion—and I agree with much that has been said—the challenge for everybody, whether you are a cow-calf producer or a processor, is how are you profitable. If you look back in history, 100 years ago we had lots more processors, and the blunt truth of the matter why they are not here today is they were not processors, they were not profitable.

I work with customers every day. How do we change our management systems? How do we create cattle that somebody wants? How do we coordinate and align these beef cattle with consumer demand, which ultimately aligns with profitability? It takes organization, coordination, it takes working together.

As we go back to one of the earlier questions, we had all these exact same problems. We still have them today. We work with, whether you are from Alabama, Kansas, or Alaska, how do we reach the market and how do we make all of these systems better, to be more profitable? I would stress that the absolute smallest producers have reaped the highest dollar per head value on our value-based grid, because they can hit those targets better than anybody else has. Quite frankly, that is what has kept my family in business, that is what kept our other families in business, and that is where we go, as we go forward.

My concern is, with mandates, is all of a sudden I have spent all these years, as many others have too, I am mandated to go back to average pricing for one-price-fits-all, and that is why I think when we look at the information and the thinly traded cash market, and Dr. Tonsor alluded to it, if we can put all base prices, a formula grid and AMAs, into the mandatory price reporting, this is the base price and that becomes all-inclusive, then we are going to have a more robust, more transparent market.

Senator, I just would stress to you that when we know where those targets are and we align them with consumer demand, we are rewarded for it. Thank you.

Senator TUBERVILLE. Thank you. Dr. Tonsor, you know, back in my State beef cattle is second to buying broiler chickens. Can you explain how beef competes with other proteins in the market, such as chicken and pork? I would be particularly interested in your thoughts about AMAs and the role they might play as beef's overall competitiveness among other proteins.

Mr. TONSOR. Sure. I do spend a lot of my time monitoring meat demand, and meat is broader than just beef, right, so multiple proteins, as you alluded to. Meat demand is high. It is not unique to beef. We must note that. Over time, some of the work I have done actually says what economists call "cross price effect." The price change on pork and chicken has less of an effect on beef today than it did 20 years ago.

My opinion on why that has happened is there is a quality distinction that has grown over that 20 years, and it is not just price. It is price and other considerations that make somebody switch from Protein A to Protein B, hence why we are here today. I think we, being the beef industry in that statement, there is a quality advantage in the eye of the typical consumer that justifies them paying more per pound, typically, for beef than they do for pork or chicken.

If it is just simply a cost per pound of protein, then the protein that wins is simply who can produce that the cheapest and most efficiently. That is not something that is in the wheelhouse that is favorable for the beef industry, hence my comment on comparative advantage in my oral testimony. Over time, the beef industry has had a comparative advantage on high-quality, good eating experience, that has helped them position themselves well, compared to other proteins.

Senator TUBERVILLE. Thank you. Madam Chair, my time is up but I would like to submit a couple of questions for them to answer.

Chairwoman STABENOW. Absolutely.

Senator TUBERVILLE. Thank you very much.

Chairwoman STABENOW. Absolutely. Without objection.

Senator Booker, and then we will have Senator Grassley. Senator Booker.

Senator BOOKER. Thank you very much, Madam Chairman. I would like to put some questions toward my friend, Dr. Hendrickson.

You know, COVID really showed how fragile our food system is, and we saw our system really break down in pretty stunning ways. Consumers were paying higher prices for meat while ranchers, who were paid less for their cattle but the big, consolidated companies really made record profits. COVID did not create this problem. It really shined a light on what was going on. Many of the witnesses who testified talked about how there is really record concentration going on right now in the meatpacking industries. Companies like Tyson, Cargill, JBS, and National Beef control more than 80 percent of all the U.S. beef processing.

I have been concerned about these extreme levels of concentration for years, and as you know have introduced a number of bills to try to deal with that, bills with multiple colleagues on both sides of the aisle. Senator Tester and I put together a bill that would stop these ag mergers, put a moratorium on them.

I have introduced another bill, the Farm Systems Reform Act, which would make reforms to the Packers and Stockyards Act, including a prohibition on meatpacker ownership of livestock more than seven days prior to slaughter, and a requirement for meatpackers to buy at least 50 percent of all cattle from open-cash auctions. The bill would also address a problem that Mr. Tupper described in his testimony, and would stop the USDA from allowing imported beef to be deceptively labeled as products of the United States of America, which is so against the ideas I think that we have when we label something "Product of the USA." At least it is deceptive to the consumer.

I will be introducing legislation with Senator Lee to reform the Federal checkoff programs, which our ranchers are forced to pay into a program that is used to benefit the giant meatpackers.

There is so much in the system that is clearly unfair, clearly working against producers, and driving many of them out of the market, and as you have talked about, hurting so many of our rural communities.

Dr. Hendrickson, if we actually use the antitrust laws that we have today, I wonder if you can show what breaking up these companies and this unprecedented consolidation, what would the impact have on farmers and ranchers and those rural communities, and what the impact of stopping this kind of consolidation have on the resiliency of our food systems in moments of crisis, whether it be droughts or, frankly, what we just saw with COVID?

Ms. HENDRICKSON. Thank you, Senator Booker. I think the big thing about resiliency is that we have to have a way to have fallbacks or failsafe mechanisms, and what concentration does in the food system, it focuses on efficiency and specialization, and it does not say, oh, what is going to happen if we have like a pandemic or we have a disaster or we have these ransomware attacks? Everybody keeps saying that, oh, these are black swan events, but they happened and we were not very well prepared for them. We have to think about how we can prepare for them in the future.

Resiliency requires a diversity of different kinds of forums, large-scale, small-scale, cooperatively owned, publicly owned, these kinds of things. It requires a lot of diversity in the system, and it also requires a different kind of connectivity, modular connectivity, where if you take out one node it does not crash the whole system.

I think those are really important aspects of it. I am not sure that current antitrust law actually, the way it has been interpreted, it has been difficult for these kinds of questions about resiliency and fairness to be embraced within the current iterations of antitrust.

I think we need to think, you know, some of the policies that you are talking about are potentially ways that we can have a system that really connects farmers and consumers, connects communities, and really pays attention to the ecologies in which these relationships take place. I think that is really important.

Senator BOOKER. You know, we saw this in Upton Sinclair, in The Jungle. We are more concentrated than even at that time. Real quick, in the seconds I have left, the consumer impact also would be affected too, by a more diverse system. Correct?

Ms. HENDRICKSON. That is right, and a lot of my fellow panelists have talked about consumer demand driving everything, but if consumers do not know about their food system, and most of the information about food, they cannot find it out. Anything we can do to make it more apparent for them to choose what they want, I think is really good.

Senator BOOKER. Thank you. Thank you very much. Thank you, Chairman.

Chairwoman Stabenow. Thank you. Senator Grassley.

Senator GRASSLEY. Madam Chairman, I want to put an editorial on the record from the President of the Iowa Farm Bureau.

Chairwoman STABENOW. Without objection.

[The letters can be found on page 191 in the appendix.]

Senator GRASSLEY. Okay. Second, I want to give a couple of takeaways so far from this meeting. We have got one witness that says we have a cozy setup, do not pass any laws to affect any of that cozy setup. That is not going to work for the farmers in my State that are mad about the $1,200 profit that the packers are making, and they get a low price compared to other people, and they have to wait 30 days, in some instances, to market their product. That is going to demand action by this Congress to take care of that unfair situation.

The other takeaway is that I have not heard anybody justify the situation I just described, where farmers do not make a profit, the family farmer, and the packers make a $1,200 profit, and there is no benefit to the consumer.

My first question is to Mr. Tupper, being a cow-calf producer as you are. Over the past 20-plus years there has been a drastic shift in the purchase agreements, where, in the early 2000's, more than 50 percent of the cattle were traded on a negotiated basis, but now it is only about 20 percent cash, maybe even less than that, I have heard. I have also heard from many Iowa cattlemen who fought to keep auction markets open and functioning as close to normal during the pandemic, because they are so vital to price discovery in the cattle industry.

This question to you. Does captive supply create more leverage for packers to pay lower prices for fed cattle in the cash market, and how does the lack of cash trade ultimately impact livestock auction markets?

Mr. TUPPER. Thank you, Senator Grassley, and it definitely is a definite yes, it impacts it hugely. When the Big Four can have all of that captive supply, so they do not have to go out and compete for those cattle, then they can push down the prices.

One of the other things that I would like to say to Mr. Gardiner, when we talk about the differences in cattle and prices, there used to be four or five buyers come out to your State and Iowa and look at cattle, and they could still buy those cattle on an up basis. They do not have to have an Alternative Marketing Agreement (AMA) to give more for those cattle. At any time, they can go to Senator Grassley's feedlot and say he has a superior set of cattle, and the base price that everybody else is given is $1.20, and they can bid them $1.25. I strongly disagree that that helps the market.

I think the other part of your question is that if we had more competition out there and they could not hold captive supply, then when we have high boxed-beef prices, we would directly see the benefit of that. The argument that shackle space, and there is no question we need more, but we do not get to see the direct benefit of higher boxed-beef because we do not have competition and they can have captive supply. Thank you.

Senator GRASSLEY. Okay. Also, Mr. Tupper, you mentioned that alternative marketing agreements like formulas offer advantages to producers but that they also adversely affect price transparency, price discovery, price competition. Iowa leads the Nation in cash trade, nearly 60 percent, and they are frustrated that they are shouldering the burden.

How do we know what cattle are worth in regions that do not have price discovery? Are small, independent producers offered the same opportunities to market their cattle as big producers do through formula contract?

Mr. TUPPER. I would say definitely they are not. We know, and we need a contract library that tell us this. Some of the big corporate feedlots are getting a different deal than the smaller farmer-feeder is. We cannot get those same deals. They are being offered those. I agree, some of the best cattle in the country are raised in your State, come from our State of South Dakota, and are fed in Iowa, and they do cash trade, and they are shouldering the burden for everybody else.

All of those AMAs are set on a base price. If they are getting an up in the market, if the base price was higher than those AMAs may not look like quite so much. The whole base price, the whole of the fed cattle industry would get more. Thank you for the question.

Senator GRASSLEY. Dr. Tonsor, in your testimony you recognized the importance of reliable, accessible, and timely market information. Iowa cattle producers that I have talked to believe that the lack of cash trade in other regions and limited information reported due to confidentiality guidelines impede their ability to make well-informed marketing decisions.

How can we make cattle market work more efficiently so that the small Iowa producer can compete with more transparency and agreements help independent cattle producers get a fair price? That is my last question.

Mr. TONSOR. Thank you. In my written testimony—I saved you from it today because I only had five minutes in oral—I outline several candidate adjustments to LMR. My short response is please look at that list. Some of them get at the heart of we cannot tell, as an analyst, at the moment, how similar cattle quality are on formula versus negotiated. In many ways that is because the formula bucket is a catch-all the way it is currently operated.

I think part of the honest answer to that is we need to pause and say, can we gather more information in a reasonable way, to make sense from an economist's benefit cost perspective of doing so to understand the differences in the type of cattle, the relationships, and so forth. If those prices are very similar once we account for differences in the cattle and the relationships, that is one thing. If they are not, that is a different thing. We do not know, until we understand more what is in that broader bucket. Currently the formula is a catch-all budget the way it operates.

You will find, in my submitted testimony is an encouragement of looking at that.

The second part, briefly, would be currently USDA reports ranges, min and max. I think there is an opportunity to report more on the price distribution. An example I used in my written testimony was maybe the 15th and 85th percentiles. Let us understand more about the distribution of prices, help both buyers and sellers—we are honing in on the seller perspective here, at the moment; I get that—gather more information on that whole distribution, some things like that are fairly feasible, in my opinion, given how things already work, if we could ask AMS to work with us to do that.

Senator GRASSLEY. Thank you.

Chairwoman STABENOW. Thank you very much, Senator Grassley. We will turn to Senator Smith, who I believe is with us virtually, and then it will be Senator Thune and Senator Fischer. Senator Smith.

Senator SMITH. Thank you so much, Madam Chair. Thank you for this hearing, and to all of our witnesses for being with us today.

Cattle producers in Minnesota tell me that they feel squeezed by this marketplace. The lack of transparency and competition means that cattle producers are making pennies on the dollar, in some cases. Meanwhile, consumers are paying more and more for beef while the big processors, which control, as Senator Booker said, over 80 percent of the market, are seeing soaring profits. This imbalance in the market is exactly why Senator Rounds and I led a bipartisan and bicameral letter asking Attorney General Garland to investigate these anticompetitive practices in the marketplace.

I also just want to thank Senator Klobuchar, who has shown important leadership on this issue as well.

I think that we do have a market concentration problem, and certainly the experiences of Minnesota calf producers, cow producers, cow-calf operations really bear that out.

I want to just note I appreciated, Dr. Hendrickson, what you said a bit ago in response to Senator Booker's questions about how diversity contributes to more strength, more resilience, and more fairness in the market, and I certainly see that in the experience of the ag sector in Minnesota.

I want to ask a question with a little bit of a different angle, and I am going to direct it to Dr. Hendrickson and also Dr. Aherin. I would love to know your take on this. It is hard for folks to make a living raising livestock, but it is especially hard for beginning farmers and farmers of color. Cattle producers are not just dealing with market concentration and the power of the big meatpackers but also they have got issues with land prices and hay prices and the general cost of living, which keeps on going up and up. The rising input costs make it especially hard for farm families that are just starting out, because they just do not have a lot of built-in equity. Then, on top of that, you have got the shortage of processing capacity for smaller processing facilities, and that becomes a real problem for beginning farmers and farmers of color.

Dr. Hendrickson, let me start with you. Would you like to comment on this, and what you see as the relationship between this concentration, on the one hand, and then the challenges that beginning farmers and especially farmers of color have breaking in?

Ms. HENDRICKSON. Thank you, Senator Smith. I think one of the big problems we have in the food system today is that it is very capital intensive, and it is very difficult for those without capital to figure out a way to participate, and it does not have to be that way. We can do things that are less capital intensive. I know that a lot of folks have been talking about, you know, building processing plants, and so on, and that is pretty capital intensive. We have got to figure out ways to help people that do not have access to capital to get a part of that.

One of the ways to do that, I think, is to do things cooperatively, to do things collectively, and we have a long history in agriculture of where we cooperatively work together we can make a lot of changes. For beginning farmers, the farmers of color who have been marginalized in so many different ways, and particularly in access to capital, I think that we really have to help those collective strategies, help them work together to access markets and to think about things in new ways.

Senator SMITH. Thank you very much. Dr. Aherin, would you like to comment on this? You were here representing the financial sector. Could you talk a little bit about how the current cattle market has impacted new farmers and what banks can do to help new farmers and farmers of color who historically have challenges getting access to capital, you know, how they can be assisted?

Mr. AHERIN. Certainly. My role, within the bank, is to really be a source of knowledge. I have colleagues in different sectors all across agriculture and all across the world, and really try to engage in information sharing and helping producers to identify potential new markets, help them build new business models.

As it has been alluded to today, several times, consumers are more and more interested about where their food comes from. There is more and more interest in production practices and sustainability, and there are several of my peers who have gone back to their family operations and added a component of a different, kind of more of a niche market to maybe their family's operation or maybe started something brand new on their own, you know, being more engaged with the consumer and really helping to identify trends in the marketplace.

Senator SMITH. Thank you. Thank you very much, Madam Chair. I yield back.

Chairwoman STABENOW. Thank you very much. Senator Thune.

Senator THUNE. Thank you, Madam Chair. Mr. Tupper, help me understand a little bit here. You have heard some of your colleagues on the panel today talk about the prices are being simply a function of supply and demand. I think I heard you say that the livestock producer, in many cases, is generating a margin that may be 1 percent, and that packers were generating margins of 80 percent. I think that was, if I heard you right, in your opening remarks.

If you have got a food chain, a food chain that consists of a producer, maybe in our part of the country it goes to a feeder, but to a processor, ultimately to a retailer and to the consumer, the consumer is paying, I think as it has been pointed out, record high prices, and the producer is going out of business, which means that the profitability in the middle of that food chain is hardly evenly distributed at all.

Now if there is a true market, supply and demand regulating this, you would think that there would be some benefit that would accrue to the folks who are in that supply chain, and maybe at the end of the supply chain, or the start of it, however you want to look at it, and that is the producer.

Could you just respond to the whole question, or I should say answer that has been given by some on the panel to the explanation for prices, that this is simply a function of supply and demand.

Mr. TUPPER. Absolutely, and I think you alluded to it in your question, that it really boils down to competition. When they do not have to compete—we can talk about shackle space and they can bring that up—that definitely is a factor, because then they can control it. They can control the chain speed, they control the price out the back door, as they are pricing the meat. The margins can be very disproportionate.

I do not disagree that there are cycles. As we look back through the history of the cycles, how many farms and ranches, and how many small feedlots do we have to lose, every time we go through a cycle, just because it is just another cycle? Through that cycle, the Big Four corporate packers get filthy rich, and we squeeze out the small guy. Time after time, if you look through history, we have squeezed out the smaller guy. Bigger is not always better, and efficiencies should not always be given up for competition, and I think that is some of the things that get overlooked.

Senator THUNE. For a free market to work, you have to have competition, and from what I hear you saying—so I am trying to figure out, if we are trying to come up with solutions and answers to what is happening out there—there is volatility in the cattle market, these huge spreads that the packers continue to get, that are driving producer, the producer level, out of business—how do we fix that? It sounds like what I hear you saying is that there is a virtual monopoly—you called it an oligopoly, but a virtual monopoly—and there is a choke point there where there is not enough competition. Even though you had huge demand by the consumer, and you have adequate supply at the producer level, that is not making it through the food chain in a way that saves the consumer any money.

Let me ask you a second question, because you mentioned something about having a second bidder. Talk to me, in your business, what that means, how that works.

Mr. TUPPER. Without question, when we have calf sales, especially in the fall which is the big time, many of our cattle move through South Dakota to eastern South Dakota, Nebraska, or Kansas, and we have to have that second bidder to decide what that price may be.

I can tell you, as a sale barn owner, when we have one of these black swan events, it affects us directly too. If it is on a Friday at 2, and I have 6,000 bawling calves in my sale barn, and everybody is running scared because we have another black swan event, that falls on our shoulders, as auction market owners, to make sure that that market stays at a good place.

The only way, in my opinion, that you can have any true price discovery is you have to have a second bidder. You talk to any of these small or medium-sized feedlots that do not already have an arrangement with a packer, they do not get a second bidder, and they cannot get one, and they tell them that you have to take this bid, because otherwise there is not chain or shackle space for you, so here it is. Or you can turn them in on the grid—and hear, "we are not going to tell you what that price is until next Monday."

I think the real key that does not get looked at or analyzed is that the market power that the Big Four packers have dictates and controls the profitability through the whole sector.

Senator THUNE. Well, and if you do not have, if I might add, if you do not have a second bidder, you do not have competition, right? You have got a single buyer setting a price, and in this case a price that is making huge profits for one of those rungs in the food chain, if you will, at the expense of others, and particularly the person who is putting the time and the effort and the energy in the work, into raising that animal in the first place. Is that a fair assessment?

Mr. TUPPER. I think you are spot on in that assessment, Senator.

Senator THUNE. Okay. Madam Chair, my time has expired, but I would suggest that we have to figure out, as part of our deliberations, and whether that is in the form of legislation or working with the Department of Justice, to address this issue of lack of competition, and the fact that there is an oligopoly and that price-setting and market powers being misused in a way that disadvantages the very people that are out there trying to make a living on the land.

Chairwoman STABENOW. Thank you very much. Yes, we have got work to do.

Senator Fischer, and then Senator Hyde-Smith.

Senator FISCHER. Thank you, Madam Chairman, for holding this hearing. Before I begin I would like to request that Nebraska Cattlemen's testimony highlighting their concerns regarding the thinning levels of price discovery, lack of processing capacity, and the need to increase market transparency be added to the record.

Chairwoman STABENOW. Ordered, without objection.

[The letter can be found on pages 192–194 in the appendix.]

Senator FISCHER. Thank you. I would like to start by saying that I am not claiming or arguing that more cash sales will improve prices for producers. I am concerned with price discovery, and I am concerned with market transparency.

Many witnesses mentioned supply and demand impacts on the supply chain, the cattle market, and sector profitability. I spent over 40 years on a ranch in the Sand Hills of Nebraska. I experienced firsthand the drought, changes in herd size, and I saw smaller, regional packing facilities being shuttered around us. I understand the shift in the industry that occurred after 2016, and how we find ourselves with more fat cattle and less shackle space. I also understand that no one could have predicted Holcomb of COVID–19.

Mr. Tupper, I thank you for your testimony. I love your points on the second bidder, I love your points about the cow-calf producer getting squeezed, but you left out our great Nebraska beef.

Mr. Gardiner and Mr. Tonsor, Dr. Tonsor, I appreciate your testimoneys. In Nebraska, I represent every segment of the supply chain—cow-calf operations, backgrounders, feed yards of every size, we have packers of every size, including three of the big four. I understand that every region is different. What works in one State might not work in another. I see the merit in AMAs. I understand why they may be more popular in certain regions. I understand they provide greater economic returns as well as operational efficiencies, both for packers and for feed yards.

In fact, that is why I have included a contract library in my legislation, to provide all producers who want to diversify their marketing but who were not lucky enough to have a seat the negotiating table, that Mr. Gardiner references in his testimony, and they can then have access to examples of what already exists in the marketplace.

Dr. Tonsor, as the economist on the panel I am interested in your opinion on Mr. Gardiner's testimony where he States that his customers, on average, have earned $92.71 per head in premiums, above live-based market price, because of his use of a value-based system. Later in the testimony, he States that cash trades can be interpreted as the base price. If there were no publicly reported cash price for Mr. Gardiner to use as his base, he would not be able to determine that his cattle are worth that $92 more per head than his neighbor's cattle. Base price is important.

Dr. Tonsor, you highlight the value of AMAs to market participants who choose to utilize them. How do you foresee these market participants setting the base price for these agreements in the future if the pool of cash participants continues to shrink?

Mr. TONSOR. Thank you for the comment and questions. Two things come to mind. One is I think we honestly need to, as I noted also in my written testimony, assess if LMR can help us with the discovery and reporting and transparency component. That in itself does not change in the percentage that are negotiated, right? I think that has to be kept in mind as well, not that I have the magic list, but there are some potential helping points there.

The second part would be—and other testimony alluded to—there are other industries that have similar shocks, lumber industry and so forth, but I encourage us to go a little bit further also. There are a lot of other industries that have changed what their base way of doing business is. I do not think we are to that point tomorrow, so please do not overreact to my comment, but there are a lot of other sectors in ag to where the base that you used in how you do business is different today than it was 30 or 50 years ago.

I encourage us to look forward as opposed to backward. I used that phrase in my oral testimony for a reason. At some point, I think the industry will use a different base. I think it makes sense, the best we can, to keep spot-negotiated, reported transparently and the like, but we need to also be open to, if there are ways to discover value for a commodity in a different way, over time, we need to be open to that. There are other sectors in ag that have done that. We are not going to do that tomorrow on fed cattle, but I encourage us to at least be aware of that evolution that exists.

Senator FISCHER. I would be interested to know how you would determine base in the future, because I think the cash sales are important. They provide information to those using AMAs. I do not think that they are receiving the value that they have, the economic value that they have in the system that we currently have. They are important to be able to know what the market price is, to have that transparency, the accountability in a system that should be benefiting every segment of this industry, from cow-calf producers, to my neighbors in South Dakota, close to the Sand Hills, to be able to have that across the board. We need every segment of this industry to be able to succeed.

My time has expired, but I thank you. Thank you, Madam Chair.

Chairwoman STABENOW. Thank you very much. Senator Hyde-Smith.

Senator HYDE-SMITH. Thank you, Chairwoman Stabenow, and thank you, Ranking Member Boozman. I am thrilled that we are having this hearing today. I have been so excited, looking forward to this, and I want to thank our panel of witnesses for being here.

You know, I am pleased that the Committee has decided that we need to discuss price manipulation, collusion, restrictions of competition, and other unfair practices in the cattle market. I applaud American Farm Bureau President Zippy Duvall for establishing a Cattle Market Working Group in April 2020, to investigate and research the volatile activities in the cattle markets, and the findings and suggestions that resulted from that working group's research are quite informative, and it should be taken into consideration.

What we have been seeing in the cattle markets—rock-bottom prices for fed cattle yet sky-high prices for boxed-beef—just defies the basic laws of economics, supply and demand, and we need some solutions. We need some solutions, and we need some answers, and we need to act upon this.

Being a producer myself, as well as a family that operates a stockyard that has had a live cattle auction since 1942, I am getting hundreds of calls from producers, from beef cattle producers that are saying, "Cindy, what is wrong with this market?" They are seeing their prices they are getting and they are seeing what the prices are at the grocery store with boxed beef. Several of my colleagues have put forth legislation that would require USDA to establish a minimum mandatory negotiated trade in the cash markets by the packers. We have talked about many things, but I have never seen so many producers give me calls. They are busy. Right now they are in fields all across America, cutting hay, baling hay, getting ready to put it in the barn for winter so they can feed their cattle. My 87-year-old father-in-law, I assure you, is fixing fence right now, today, somewhere, because we are protecting our herd. We have got to be the voice to protect this industry.

Mr. Tupper, your fellow panelists here, they seem to suggest that the AMAs are the solution to low prices being paid to producers. Tell me how an alternative marketing agreement between a feeder and a packer will benefit a cow-calf producer who unloads a gooseneck trailer-load at your barn every week. How would that benefit that producer?

Mr. TUPPER. It will not, you know, in short. There is no question that there can be some value, and we need to make sure that we get a good product out there. There are other ways to do it than just an AMA.

Senator HYDE-SMITH. Well, I want to be here, because these producers cannot be here, and they know exactly what you just said. They know that. They do not have a seat at this table. Farm Bureau was not asked to be a panelist today, as I requested. I assure you, their chair at this table is not empty because I am sitting in it.

Should this Committee continue further discussions on the legislative proposals in hopes of finding legislative solutions to bring greater price transparency to the market, Mr. Tupper?

Mr. TUPPER. Absolutely. We need to know. One of the big things, the big elephant in the room when you talk to these big feeders, the corporate feeder does not want you to know what price they get versus what price I get when I sell my fat cattle from my feedlot in Nebraska. I am going to throw in the Nebraska section, but they do not want to know the differences that that may be, what I can get versus what they can get.

Senator HYDE-SMITH. We have a lot of customers, you and I. They are being treated very unfairly right now, and I think that it is time for that to stop.

My second question is for Dr. Tonsor. I have a little bit of time left. When an August 2019 fire knocked out one of the largest beef processing facilities in the country, in Holcomb, Texas—and boy, I remember the day, watching it on national news, and that smoke billowing out—cattle prices collapsed while wholesale beef prices rose 12 percent in a week. In seven days, wholesale beef prices rose 12 percent.

During the COVID pandemic, the same trends were amplified and the effect was more widespread. At the height of the pandemic, wholesale beef prices were more than double the previous years, but those gains were never experienced on a rancher's level. Were available risk management tools sufficient for ranchers to manage their risks during these highly volatile events that we did not expect?

Mr. TONSOR. I am not aware of a risk management tool against a fire at a plant if you are a producer, right, because that is a market access thing for something I sell. I am not aware of a tool that would be there for that.

To answer the question, there are risk management tools for somebody that sells fed cattle or feeder cattle for just general price movement, whether that is a traditional hedge using CME products or whether it is a USDA livestock insurance product, or the like. Those tools do exist. That is probably a whole other separate discussion for a day. None of them are specific to a fire or a loss of packing capacity specifically.

Senator FISCHER. Well, I am out of time and I appreciate your answers, and I hope we have another round, because I have a lot more questions.

Chairwoman STABENOW. Thank you very much, Senator Hyde-Smith. Senator Ernst is next, and then Senator Hoeven, and Senator Braun.

Senator ERNST. Yes, Thank you, Madam Chair, and thanks to our witnesses today.

Dr. Tonsor, like you I grew up feeding hogs and walking beans, and those are the typical things us farm kids do on our family farms. I, of course, grew up in southwest Iowa, and I experienced firsthand the hard work that goes into production agriculture. Agriculture has long been the bedrock of our national economy, and Iowa certainly plays a critical part in ensuring folks have access to a safe and affordable food supply. Without transparency, we risk losing that fair, competitive pricing.

What would you recommend to achieve greater transparency in the market, and how can the market send clearer signals to both our producers and our end consumers?

Mr. TONSOR. My response would be similar to what I have given a couple of times, is I would encourage ongoing looking at how LMR works, and there is always room for improvement. Some of the things in my written testimony are easier, closer to the no-brainer kind of edge on that continuum. Others need further assessment. I made the comment about formula, transactions being kind of a catch-all category. I think there is room to potentially gather information better, so we understand what that is a little bit more. I cannot sit here and tell you more without additional information coming back out.

That is my best response, is to pause, and there are periodic reviews of LMR. LMR has been around for 20 years. It is reauthorized roughly every five years. Part of what happens is looking at how that works. I would encourage us to seriously think about that and make sure we are, to the best we are able to while protecting confidentiality—that is embedded in my submission as well, and I think that is important to keep in mind—providing as much information on the market as we can.

I think there are ways to do that without mandates on certain percent cash negotiated, and so forth. That is embedded in several of my responses that have come up today. Thank you.

Senator ERNST. Thank you very much, and, Mr. Tupper, I am going to turn to you. My mother worked at a livestock auction when I was a young girl. She was not an auctioneer, but certainly every Wednesday afternoon she kept the books for the folks in Stanton, Iowa, and that was 1 day a week us kids did not have to ride the school bus home, so we loved it.

Over the past 20 years, we really have seen a drastic shift in purchase agreement. Twenty years ago, over half of all cattle were traded on a negotiated basis, and today negotiated purchases account for just a quarter of all purchase. Instead, alternative arrangements like formula or forward contracts have become more prevalent. Formula transactions are less transparent, because they utilize base prices that are not publicly disclosed or reported.

As a producer, can you accurately describe what is used to set the base price in these formulas, and then would knowing the base price and any premiums be advantageous for cattlemen?

Mr. TUPPER. Yes, and thank you for the question, Senator, and as an auctioneer we appreciate those secretaries. That is what keeps us in line.

Senator ERNST. Yes. It is a good one. Thank you.

Mr. TUPPER. I think the base price is generally set in most of those AMAs, and there are very many different ones. You said it, there are very many different categories to that, so we do not know exactly what some of those are. The five-State weighted average is often used as the base price. So, as the packer can buy less than, as Senator Grassley pointed out, 20 percent in the spot cash market, and use that to set the base price for 80 percent of the cattle that are sold in these AMAs, and then he can tell those guys that are getting AMAs, like Mr. Gardiner has alluded to in his testimony, that you make $80 or $90 a head, that is quite a significant move for the packer. They absolutely can control the base price and then give little incentives to a few of the cattle, and then keep the rest of the cattle at that base price level.

I think when we set those base prices, that is where the bar has to get higher. We have a great product. We definitely need to segregate. I do not disagree that the better cattle and the better breeding and all the things that are put into that need to be rewarded. I think there are other ways to do it than just AMAs.

Senator ERNST. Well, and I thank all of our witnesses for being here today. This is a tough issue, I think, for so many of us. Hearing all different sides coming together, certainly we hope to be able to sort through this and figure a way forward, certainly.

Madam Chair, thank you very much.

Chairwoman STABENOW. You are welcome. Thank you very much. Senator Hoeven.

Senator HOEVEN. Thank you, Madam Chair. Mr. Tonsor, boxed beef prices continue to rise, as we have discussed here. Live cattle prices are struggling to reach pre-pandemic levels. In your opinion, why is that?

Mr. TONSOR. In my opinion, consistent with other peer-reviewed research, is when you have the shocks we have had we would expect beef prices to go up and fed cattle prices to go down. That is what we have seen. The magnitude of what we have experienced stands out, and in many ways that is because the life experience, that I hope we are on the end of, has been very unique. That would be my short response.

Senator HOEVEN. Would reducing concentration in the meatpacking sector alleviate that trend?

Mr. TONSOR. You are getting Tonsor's opinion. That is why I was asked here, so I as long as I remind you, that is Okay. There is an important difference between price discovery and price level. If you erode concentration in the spirit of more smaller facilities, maybe—and please note I said maybe—you help with some price discovery issues, like it depends on what else we do around that discussion. I also think you give up a lot of known economic benefits.

Depending on how far you go with that argument, you are going to squeeze out—actually, you are going to shrink the size of the industry, because the beef cattle industry will be less efficient. I am not hiding the fact I noted the evoluation of industry was because of efficiencies. If you lose those efficiencies, you end up with a smaller industry.

Senator HOEVEN. What changes should be made to the Livestock Mandatory Reporting to improve pricing and transparency? What changes should be made?

Mr. TONSOR. I cannot tell you one that has to be made. I think that is outside my wheelhouse. My written testimony listed out some that need serious assessment. Some that I think are easier to implement without giving up much is things like adding information on the distribution of prices. I think speaking to not just the min-max range, the 15th, 85th percentile, can add information to those that are wanting information, to negotiate differently or to understand the cattle type value and so forth. Those are fairly easy, so those are the ones I am most comfortable saying, and quote/unquote "should."

There are other ones that require changes in how the data is collected. I made the comment earlier, for a different Senator, is currently we have whole-State aggregation. The way the data is reported we know if that transaction was in Nebraska or Kansas or not. Potentially refining that would allow us to examine other ways to report that might help.

Please note I said "potentially" and "might" as I am working through this continuum. There are several things that need to be evaluated. Some of these I am more comfortable advocating for—not like advocate for, I am just more comfortable they can be done without adverse impact. Others need to be examined more.

Senator HOEVEN. Do you think changes need to be made?

Mr. TONSOR. I think some would be beneficial without substantial cost, and if they fall in that bucket then I would say yes.

Senator HOEVEN. For Mr. Gardiner and Mr. Tupper, you both noted the importance of price discovery in your testimony, but you disagree on how best to ensure adequate levels of cash trade to support that price discovery in the cattle market. How should we balance a producer's ability to use alternative marketing arrangements with the need to protect and improve price discovery? What do we do?

Mr. TUPPER. I will tackle that first. To me, one of the very first things we have to do is know what those agreements are. The contract library that Senator Fischer alluded to would be huge. That way we know what those are, though we may not know exactly what they are. I think one of the biggest ways we can do that is make sure we understand what the equal playing field is, and not just the big corporate feeders or the ones that have arrangements with certain packers, that all their cattle that go there can get that price, that the smaller feeder can get the same price.

Senator HOEVEN. Would all prices—what prices would go to that library? All prices?

Mr. TUPPER. One of the things now that is not reported is what those ups might be. We do not get to know, necessarily, in price reporting what one of those contracts that they may have or one of their exclusives that they may have to those. A contract library, if written correctly—because we have a contract library in hogs, so we have something to work from, and there are some problems there, and I think we can work through those—then we can find out what all of those market contracts are and what the true price that some are getting for those cattle are.

Senator HOEVEN. Including the AMAs.

Mr. TUPPER. Including the AMAs, yes.

Senator HOEVEN. Okay. Then, well, I guess, again, any other changes, but you would recommend the library, and then—so I had that for both Gardiner and Tupper. What other changes? Any other changes to the AMA?

Mr. GARDINER. Senator, may I speak?

Senator HOEVEN. Yes.

Mr. GARDINER. Yes, sir. I stated in my testimony and my written testimony, I think all of these things need to be included in there. The confidentiality has caused that to not be there. I think the base price is the base price, just as I sated with wheat. If we do have that transparency and we do have that there, then it is going to be a more robust price discovery.

I will get disagreement, as I have all afternoon, but I would suggest to you if there was not a single AMA or a single formula—and again, like Dr. Tonsor said, this is Mark Gardiner's opinion—our price today on fed cattle would be the same. I am all about robust, transparent, put everything into what creates this base price, and that will allow us to hit these targets.

One of the things I think about in this whole discussion, as we talk about producers and discuss this angst, this discussion, this worry that we all see in all of our families and our customers and just the whole industry, will lead us to a better place. I am asking that the industry go there and not be mandated, because you look back to these niche market processors, I am a niche market producer. We designed U.S. Premium Beef because we wanted to fit the niche to be rewarded for the things that we did.

I happen to agree with Justin Tupper that I think all these things be disclosed, we will have a more robust price discovery, but I do not want to be inhibited on extra options.

Senator HOEVEN. Thank you. Madam Chair, sorry. I went over my time, but thank you for the indulgence.

Chairwoman STABENOW. That is all right.

Senator THUNE. Madam Chair, could I submit for the record—I have received input and consulted with South Dakota Stock Growers and South Dakota Cattlemen's Association. They submitted Statements. I would like to submit those for the record, if there is no objection.

Chairwoman STABENOW. Without objection, so ordered.

[The letters can be found on pages 195–199 in the appendix.]

Chairwoman STABENOW. Thank you. Senator Braun.

Senator BRAUN. Thank you, Madam Chair. I am going to take a little different angle, because there is no doubt about it, the more transparency you have in anything, along with options, many people wanting to buy what you produce, and that is how you get to where, I think, markets really work. There should not be barriers to entry. You should have full transparency. You have to have enough entities on the buying end, because then you turn into what is called an oligopoly, to where they game the system.

What I am afraid of is we have already gotten there. I have been the loudest voice trying to reform health care, and when you end up with only three hospitals in a market, we are going to go after transparency, and I think it would help there because there was zero in that place of our economy, where it costs us 20 percent of our GDP, and we never know what it costs us until we get our bill in the mail and open it up with trepidation. I think that is an issue, along with all the other things I mentioned.

I want to look at the input side. Often, you know, you have got issues with selling your product, or you have got robust competition for it, with transparency. My question would be for Mr. Tupper and then for Mr. Gardiner.

Corn, soybeans. I deal with several of them on land that I rent to farmers, and they complain to me about all of a sudden when corn goes up to $5.50, inputs follow right along. You are not dealing necessarily with more acres. You just got, again, the folks that you buy seed corn from, that you buy herbicides from, pesticides. It is not as broad a selection as you had 15 to 20 years ago, when corn and soybeans cost maybe one-third in variable inputs what it costs now.

Do you own your own farm, Mr. Tupper, grow silage to feed your cattle, or is that something you buy on the market, your corn that would go into silage?

Mr. TUPPER. For myself, we purchase most of that.

Senator BRAUN. That is another way, when you are looking at ways to avoid markets that are not giving you choices on your inputs. There, at least, if you had ways to avoid inputs going up—have you had inputs go up on other things you need to fatten out your cattle? Has that gone up, or does it stay steady? Do you view that side of the equation as something where you have got choice and transparency as well?

Mr. TUPPER. I think we have seen exactly how you explained it. All those input costs have gone up, and one thing that happens in the ranching sector, when they see the rancher bringing money—I alluded to in my testimony—give money to the rancher, they will spend it faster than anybody. The costs go up in rent, just like you alluded to, and it never seems to fail, our costs would go up in seed costs and all through the sector.

Senator BRAUN. It is getting squeezed on both sides of the equation. You have got more concentration, fewer options on selling what you produce, and fewer options to control your input costs along the journey as well.

Mr. Gardiner, would you want to weigh in on that also?

Mr. GARDINER. Well, I think that is all true. We raise wheatlage here and put that up, but our costs skyrocket too. When corn goes up, that adds cost to all of our feed stuffs and all of our inputs. At the risk of sounding like an economist, it is supply and demand. The reason that corn has gone up is because there was less of a supply and a worldwide demand, and I think that is a good thing for corn farmers. At the same time, all these other input costs, that is part of the risk management. That is part of the supply alignment, to hit consumers markets that have more value.

We are actually, lots of us, saying the same thing in different ways. All I want is the opportunity to be able to compete, and know what those targets are, and when we do that—and I think Justin is saying the same thing—if we have this robust price discovery, true supply and demand will go forward. Thank you.

Senator BRAUN. I think the difference there—because I am about out of time—is the fact that your corn and soybeans, you are dealing with generally the same number of acres, give or take, that are produced.

Seed corn, and all the inputs and things that go into that side of is, just because the price of corn goes up, because you have got a short supply, does not mean that the underlying inputs should.

What is happening, across not only agriculture, it is happening across many other industries, we are no longer the markets that we used to have where it is full transparency, many participants in it, robust competition, and you end up with oligopolies, monopolies, high prices, and if you are at the bottom of the food chain you pay the consequences of it.

Thank you, Madam Chair.

Chairwoman STABENOW. Thank you very much. Because of the interest of members, we are going to allow another round of questions, if you are interested in doing it, if someone has a question or two. I think at this point the only thing I would like to ask is, Dr. Hendrickson, if there is anything further that you would like to share with us as it relates to resiliency and what we have talked about today and where your focus would be in addressing these issues.

Ms. HENDRICKSON. Thank you, Senator Stabenow. I actually think one of the things that we have overlooked is the power issue here and the power that comes with being able to control decision-making in the food system. Right now, those decisions are often controlled within the boards of directors, within the managers of these large food firms. It is not just in the meatpacking industry. It is within the supermarkets, like Walmart, it is within the corn traders, that Senator Braun was talking about, like Cargill and ADM. This power of the decisionmaking is something that has to be addressed if we are going to have the ability to implement a diverse number of options, nimbleness in the food supply chain so that people can respond in their particular place.

I would also emphasize the importance of the impact this has on people. We have talked a lot about, well, the industry may be smaller or larger. We have talked about, you know, supply and demand. We are really not talking about what is the impact on people, their communities, and their ecologies. I think we have to keep that impact on people—farmers, workers, consumers. We have to keep that impact on people, front and center. People need to be able to make decisions about their food. Farmers need to be able to make decisions about where they are going to buy and where they are going to sell. That decentralization is absolutely imperative if we are going to have a resilient food supply chain.

Chairwoman STABENOW. Thank you very much. We have with us—Senator Boozman, I do not know if you would like to ask a question.

Senator BOOZMAN. Just very quickly. First of all, thank all of you for being here, either here or virtual. This really has been a good discussion, and a discussion that we need to have. And again, ongoing talks in the future.

It sounds like we have got some consensus in regard to transparency, things like contract libraries, again, understanding price distribution, those kinds of things.

Mr. Tupper, you mentioned that there might be other tools that can be utilized to pay for quality, aside from the AMAs. Have you got any ideas in that regard?

Mr. TUPPER. I do. It used to be, when I was a kid and we sold fat cattle, there were four or five buyers would walk on your yard, and they would walk through the cattle, and they would assess those cattle, and they would bid you a price, according not only to the market but according to those cattle.

One thing I can remember as a kid, a term that used to come out at the sale barn, they called it "grade and steal." I reflect back to that because that is what we are trying to do now. Mr. Gardiner alluded to we want to raise high-quality beef, and we want to get paid for that, and I do not disagree with that, and I do not want to sound like I do.

What I am saying is there are very many ways to do it. They talk about efficiency. Many times today, the packer does not even send a buyer out to any of those feed yards, especially the smaller ones. They never even get a buyer to come out. Because of efficiencies they have eliminated those people they needed, the Big Four packers, so they do not have to send them out. They already do not compete against each other, so if they come to Senator Hyde-Smith's yard, they are only going to see one buyer. For some reason they drew the boundaries. I cannot tell you how many producers tell me they cannot even get one of the other packers to come bid, and whether that has been done anticompetitively, how do you prove that? I do not know, but that is what I hear out there. I think it is huge that we get that second bidder in the marketplace.

Senator BOOZMAN. Thank you very much.

Chairwoman STABENOW. Thank you. I will call on Senator Fischer and then Senator Hyde-Smith.

Senator FISCHER. Thank you, Madam Chair.

Mr. Gardiner, I was going to ask you a question after Dr. Tonsor completed his, so I would like to touch base on one more thing, if I could. In your testimony, you make clear that the preferred route of addressing price discovery is through voluntary programs. You are against mandating. You also cite the ongoing industry efforts. I assume you are referring to NCBA's 75 percent plan. Is that correct?

Mr. GARDINER. Thank you, Senator, for the question. I am certainly aware of that, but I do want a robust, transparent price discovery. The question of mandates—who is going to mandate them? If I want to hit these targets, who is going to tell me I have to sell cash or I have to sell this other way?

I think the unintended consequences have challenges for all of us. We have talked about it, we need more processing, we need more shackle space, we need more buyers. I agree with all that. The reason they are not there is because, if we go back to those times that we all loved so much, in 2014 and 2015, when we had record-high cattle prices, it was because we did not have enough cattle. The cattle supply was there and they needed to fill that. Those processors are gone from that time period.

The growth and capacity today is coming from this increased beef demand. When we put all of these things—and I will just call it a bucket—if we had 1,000 processors and they were all bidding on the cattle, my belief—and I will say it is my personal belief—the fed cattle price today would be the same. If we have that there, transparent, for everybody to see, and then we let the industry come together and solve these arrangements and solve this price discovery, then we are not mandated.

Senator FISCHER. Yes. You know——

Mr. GARDINER. I appreciate the—go ahead. Yes, ma'am.

Senator FISCHER. I thank you for your comments, but the issue is we do not see voluntary reporting. We do not have that transparency under a voluntary method. With that 75 percent plan, there were many States that did not make the cut in the first quarter on it. That is the issue in trying to keep everything voluntary. I think when you compare, you know, what many of us are trying to do on this Committee to have that transparency, to have the information available to all producers so they can make wise market decisions, it is not going to happen on a voluntary basis.

Mr. GARDINER. Senator——

Senator FISCHER. Thank you.

Mr. GARDINER [continuing]. I am saying—I appreciate your comment. I would like to clarify that. I am saying put all of this in mandatory price reporting for full disclosure. Voluntary, I do not believe, is going to—you know, it has proven so far it is not working.

Senator FISCHER. Yes. Thank you, sir, very much. Thank you, Madam Chair—Mr. Chairman.

Senator BOOZMAN.

[Presiding.] Senator Hyde-Smith.

Senator HYDE-SMITH. Thank you, Ranking Member Boozman, and again, today has been so helpful. It really has. No one is out to destroy any company, any industry. The packers are very vital in our industry, and we realize that. We just are so appreciative of the panel and hopefully may be coming to some solutions now that we have had this hearing.

My third question is for Mr. Tupper again, because we are talking about the livestock mandatory reporting. With the authorization for the livestock mandatory reporting set to expire at the end of this September, what is the case to be made for including formula-based pricing in the reporting just as current negotiated cash trade, and would this additional information be beneficial for producers as they strive for more information into the cattle markets, as Senator Fischer has alluded to?

Mr. TUPPER. I think it would be more beneficial. I think the one thing—and this is going to be real layman's terms—your confidentiality kills LMR. When we cannot see, because there is not—and here is the key—there is not enough participants in the market, we cannot report it.

The trouble with that is, in a fat cattle market today, everybody with an iPhone, and you and I know this in the marketplace, if somebody is bidding $1.26, which I got texted this morning, for fat cattle, everybody in the industry knows it. This confidentiality rule that they fall back on, 3/70/20—thank you, Mr. Tonsor—does not fit for this industry. I understand it, and I have been told every time we go to USDA, I get shot backwards, because throw up their hands all over confidentiality. That is one of the big things. We cannot get it all in there.

Senator HYDE-SMITH. Thank you. I have a question for Dr. Hendrickson. In April and May 2020, you know, we saw the grocery stores, just the shelves that were barren, and store meat cases. In portions of our country meatpacking plants at a standstill due to the COVID, and a backup of fed cattle that could not be processed, because the people just were not there to be able to process that.

While larger, more efficient packing plants allow for more daily production of meat, can a case be made for directing more funding to smaller, independent and regional packing facilities to reinforce their role in our supply chains, so we will not experience the grocery stores shelves to be completely empty like we experienced in that totally unprecedented pandemic?

Ms. HENDRICKSON. Thank you, Senator Hyde-Smith. I think that building up more forms of capacity in beef packing and other parts of the food system is absolutely critical. We do not want everything concentrated in one node. We need to have multiple nodes and multiple connectivity between nodes in order for us to be more resilient and nimble in responding to something like the pandemic.

I think that supporting new kinds of capacity at different levels—like right now we do not have anybody between those who can process maybe, you know, 80 or 90 cattle a day and people that are, you know, doing 5,000 or more a day. That middle is missing, and I think that trying to reinforce and build that up is really important.

Senator HYDE-SMITH. Thank you. For Mark Gardiner, some time ago USDA, they consolidated GIPSA under the missionary of the USDA Agriculture Marketing Service. Do you, as panelists, believe this move has limited the agency's ability to investigate any level of the market manipulation in the beef industry, and what level of collaboration do you believe there should be between USDA and the Department of Justice?

Mr. GARDINER. Senator, I do not feel I am qualified to answer that, so I am not going to conjecture.

Senator HYDE-SMITH. Is there any panelist that would like to address that?

[No response.]

Senator HYDE-SMITH. Okay. It will go unanswered.

Thank you, Madam Chairman. My time has expired.

Chairwoman STABENOW.

[Presiding.] Thank you very much. Thank you to all of our witnesses. As you can see, there is no shortage of questions on these issues. It is very, very important. We appreciate your testimony.

There is clearly a need for greater transparency and competition in the marketplace, and we need to make sure that livestock producers of all sizes have options, both in normal times and during unprecedented times like we have seen in the last 18 months.

As I said when we started today, we need to keep exploring ways to make our livestock supply chain and our food supply chain, as a whole, more resilient. Reacting to specific events, whether it is a pandemic or a hack or extreme weather is not enough. We need to build a food supply chain better able to withstand these future disruptions, whatever they are.

One thing is certain. We are not done as a Committee, and I commit to continuing with colleagues, to work with colleagues on both sides of the aisle, to address these important issues going forward.

Thank you very much. The hearing is adjourned.

[Whereupon, at 11:26 a.m., the Committee was adjourned.]

APPENDIX

June 23, 2021

UNITED STATES
CATTLEMEN'S
ASSOCIATION

Written Testimony of Justin Tupper
St. Onge Livestock
St. Onge, South Dakota

On behalf of the
United States Cattlemen's Association

Submitted to the U.S. Senate
Committee on Agriculture, Nutrition, and Forestry

"Examining Markets, Transparency, and Prices from Cattle Producer to Consumer"

June 23, 2021
Washington, D.C.

INTRODUCTION

On behalf of the United States Cattlemen's Association (USCA), thank you for the opportunity to testify on behalf of the nation's cow-calf producers, backgrounders, feedlot operators, livestock haulers, and independent processors.

In 2019, I was nominated by my peers to serve as Vice President of USCA after representing the organization's Region X (North Dakota, South Dakota, Minnesota). Today, along with my role on the USCA Board of Directors, I also serve on the Commodity Futures Trading Commission's (CFTC) Agricultural Advisory Committee and on the Board of Directors of the South Dakota Beef Industry Council as the South Dakota Livestock Auction Markets Association representative.

When I am not in board meetings, my wife, Brooke, and I manage St. Onge Livestock in St. Onge, South Dakota. The livestock auction holds sheep sales every Thursday and cattle sales every Friday. The business is a family affair, and you'll often see at least one of my four children – Emily, Maggie, Taylor, and Cody – helping out in the pens or up front in the office.

We are also cow-calf producers, grazing cows year-round in southwestern Wyoming and southeastern Montana and running yearlings on summer grass.

USCA was founded on the principle that a grassroots effort by U.S. cow-calf producers, feedlot operators, backgrounders, and livestock haulers can work positively and effectively with Congress and the Administration to reform U.S. agriculture policy and ensure a fair, competitive marketplace. I am here before you today to ensure that the U.S. cattle industry that we leave for the next generation is one that can be both profitable and sustainable.

Increasing consolidation and foreign ownership in the meatpacking sector has eroded the foundation of the U.S. cattle market. Congress holds the necessary power and tools to restore solid ground beneath the boots of U.S. cattle producers. We offer the following for consideration by this Committee.

BACKGROUND

In 1977, the number of cattle slaughtered by four firms accounted for only 25 percent of total slaughter capacity. Over the course of two decades, that number increased to 71 percent.

Today, four companies slaughter about 85% of U.S. fed cattle, according to the most recent data from the U.S. Department of Agriculture (USDA)[1]. Two of those companies

[1] (Matilda Coleman, 2021)

– JBS USA and National Beef – are owned and operated outside of the United States, in Brazil.

The holding company behind JBS, J & F Investments, paid $3.2 billion in fines in 2017 for its involvement in a government bribery scandal. That same year, news broke that JBS had paid federal meat inspectors to ignore tainted meat product leaving their processing facilities – with some of that product intended for U.S. borders.

It is a wholly unsustainable model for the U.S. beef production chain to rely on such a concentrated number of players, especially when half are foreign owned. Though the industry has been steadily building to this boiling point, three separate events in 2019, 2020, and 2021 served to heighten awareness of the increased level of concentration in the meatpacking sector.

On August 9, 2019, a fire broke out at one of the largest beef packing plants in the U.S. The Finney County Beef Plant in Holcomb, Kansas, owned by Tyson Foods, accounts for nearly six percent of the nation's slaughter capacity. In the days following the fire, U.S. cattle producers witnessed extreme volatility in the daily feeder and live cattle futures.

A September 16, 2019, report released from Kansas State University listed projected values for finished steers in Kansas feed yards at *negative* $184.99[2]. During that same period, packer margins spiked significantly to nearly four times their annual average, or approximately $549. Within that same report, Kansas State University predicted that cattle feeders would not see a positive net return on finished steers or heifers until May 2020.

Unfortunately, that positive net return never came. Instead, a global pandemic disrupted supply chains across the globe. The arrival of COVID-19 exposed inherent flaws in the U.S. meatpacking industry, resulting in a compromised food supply chain and exposing the vulnerability of our global meat processing workforce. In a report prepared by Brett Crosby of Custom Ag Solutions, Inc.[3], USCA estimated that the total impact of COVID-19 on the cattle industry would exceed $14.6 billion.

Then, on May 30, 2021, JBS detected a ransomware attack that temporarily halted all production at its U.S. facilities, and certain facilities around the world.

The combination of these so-called "Black Swan" events earned the attention of lawmakers, media, and the public. With the spotlight now on the cracks in the system, it is USCA's hope that we can finally make meaningful change to ensure a robust and secure domestic food system.

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[2] (Tonsor, 2019)
[3] (Crosby, 2017)

ENSURING A FAIR AND COMPETITIVE MARKET

USCA supports clarifying definitions within the Packers and Stockyards Act of 1921 (P&S Act). The P&S Act was passed "to regulate the sale of livestock by farmers to the more economically powerful livestock buyers." The Act passed following a long list of existing antitrust laws: the Sherman Antitrust Act of 1890, the Federal Trade Commission Act of 1914, and the Clayton Act of 1914. Congress recognized that while these existing laws addressed issues of anti-competitive and collusive behaviors in U.S. markets, they did not address the subject of individual producers interacting with the highly concentrated meatpacking sector. Thus, the P&S Act directly addressed this issue with its most critical portion of the law, Section 202.

The legislative history and purposes clearly demonstrate that sections 202(a) and (b) were to be distinct from the antitrust injuries illustrated in subsections (c), (d), and (e) based on the absence of anticompetitive language. The congressional intent was clearly to provide remedies for individual producers in the instance that meat packers took unwarranted actions to provide less than fair market value to similarly situated producers. Consistent with the language and structure of the P&S Act, USCA wholly supports the USDA's longstanding position that the protections intended by sections 202(a) and (b) extend beyond the competitive injury required under the antitrust laws.

USCA also believes that the "harm to competition" phrase must be addressed. The interpretation of this phrase has led to preferential contract agreements between meatpackers and select producers that has increased packer's control of supply and decimated price discovery, leading to a favorable position for the meatpacker. The "unreasonable" requirement allows packers to continue paying premiums for higher quality and value-based pricing without the threat of litigation.

USCA urges the USDA Packers and Stockyards Division to carry out its mission of promoting "fair and competitive trading practices for the overall benefit of consumers and American agriculture."

Further, U.S. Senators Jon Tester (D-MT), Charles Grassley (R-IA), and Mike Rounds (R-SD) introduced legislation in June 2021 that would amend the Packers and Stockyards Act to establish the Office of the Special Investigator for Competition Matters.

This bill directs coordination between the U.S. Department of Agriculture, the U.S. Department of Justice (DOJ), the Federal Trade Commission, and the U.S. Department of Homeland Security. It grants subpoena power to aid in the investigation and prosecution of violators of the Packers & Stockyards Act and bolsters the legal power of the USDA by maintaining a staff of attorneys and other professionals with relevant expertise that can elevate cases of corruption.

Regardless of whether anti-competitive practices are occurring, the four largest packers obviously have enough power and market share to manipulate cattle prices. This justifies additional oversight of the packing sector. For this reason, USCA strongly supports the successful passage of the Meat Packing Special Investigator Act[4] into law.

CATTLE MARKETING IN 2021

Historically, packers have purchased most cattle through weekly negotiations with feedlots to agree upon the price of slaughter-ready animals' live weight (Live) or carcass weight (Dressed). Prices are stated either per pound ($/lb.) or per hundred pounds (hundred weight, or $/cwt). The industry generally refers to this pricing method as Negotiated Cash or Cash.

In most regions, packers presently purchase a small minority of cattle through Cash pricing, and instead use Alternative Marketing Agreements (AMAs). AMAs generally use two components, market price and carcass quality, to arrive at a final price for cattle. The market price (Base Price) is usually a function of the Cash price in a particular area, and premiums or discounts are given based on carcass quality (the Grid). AMAs with the Base Price contractually established as a function of Cash or other markets (i.e., futures, boxed beef, etc.) are considered Formula cattle. AMAs with a Base Price negotiated weekly between the feedlot and packer are considered Negotiated Grid.

Formula pricing is by far the most common AMA, and most formulas are based on a regional Cash price. Following is an example of a typical formula, including the timing of the information reported by MPR:

> **Base Price**: Kansas weighted average Cash price.
>
> **Grid**: Premiums for prime, choice, and high-yielding carcasses. Discounts for select, standard, low-yielding carcasses, and carcasses over 1,000 lbs. or under 700 lbs.

a. Day 1 (Monday): Feedlots commit slaughter-ready cattle to a single processor.
b. Day 6 (Saturday): Weekly Kansas Cash trade, reported daily (MPR Reports LM_CT119, LM_CT120), averages $124/cwt for the week.
c. Day 8 (Monday): MPR Weekly Cash trade is released (MPR Report (LM_CT161), setting Base Price at $124/cwt.
d. Day 9-18: Cattle are processed and graded. Grid Premium to seller is $1/cwt.
e. Day 21: (Monday): MPR reports Formula Cattle Net Price of $125 (MPR Report LM_CT151)

While AMAs offer advantages of reduced transaction costs and quality incentives, they also adversely affect price transparency, price discovery, and price competition.

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[4] (Senator Jon Tester, 2021)

ENSURE TRANSPARENCY AND TRUE PRICE DISCOVERY

The livestock industry is a historically up and down, ever-changing marketplace due to its dependence on consumer trends, domestic and international policies, and foreign market factors; however, today's marketplace lacks the transparency and true price discovery indicative of a healthy industry.

Fewer and fewer cattle are sold on a negotiated cash basis, which reduces the ability for true price discovery in the cattle marketplace. Negotiated cash cattle make up less than 20 percent of the market yet set the price for the other 80 percent of cattle sold through formula contracts and or cattle futures market.

The Livestock Mandatory Reporting (LMR) program expires September 30, 2021, following a one-year extension that was granted in December 2020. USCA would like to see changes made to this program to provide more accurate and transparent reports of daily prices and number of cattle purchased via the cash market.

The Base Price and grid structure of formula agreements may vary significantly between feedlots, and the variation of these agreements is currently known only to the packers. This places cattle feeders at a disadvantage when negotiating formula agreements, because packers know what they have negotiated with other feedlots and the negotiating cattle feeder does not. For this reason, the USCA strongly supports creating a contract library and including it in LMR, as set forth in the Cattle Market Transparency Act of 2021[5].

Also, timely live cattle price information presently exists only for Negotiated Cash transactions. LMR currently requires packers to report Negotiated Cash transactions (Cash) twice daily, within at least 16 hours of establishing a price. But LMR only reports prices for cattle purchased under Formulated (Formula), Negotiated Grid (Grid), and Forward Contract purchases only after they have been slaughtered.

Formula, Grid, and Contract price reports are reported once weekly as an aggregated price of cattle slaughtered the prior week and daily prices are not reported. Because Formula and Grid prices include a carcass quality component, a substantial time lag exists for reporting these transactions.

The time lag between base price establishment and slaughter for Formula and Grid Cattle is 7 to 21 days after the base price is established. The result is that prices for Formula, and Grid cattle, comprising roughly 60%-80% of all cattle slaughtered, are reported an average of 2 weeks later than Cash prices.

USCA's proposed solution is to require Base Price reporting twice daily. The Agriculture Marketing Service (AMS) publishes live cattle prices daily, weekly, and monthly through

[5] (Senator Deb Fischer, 2021)

its LMR Datamart web portal. MPR reports include average, high, and low grid premiums and discounts weekly. Daily base price reports, combined with recent weeks' grid reports, offer a good estimate of the final value of formula cattle within the same timeframe of Cash reports.

However, USCA also believes that overly burdensome Cash requirements may incentivize formula traders to bypass true negotiation. Packers and Feedlots who exclusively use Formulas for marketing and procurement may find the transaction cost of overly burdensome negotiation requirements large enough to circumvent the process completely.

Feedlots may circumvent negotiation by simply offering cattle later, after the base price for their formula cattle has been established. A hypothetical example is described below:

a. Feedlot Formula uses the average Kansas Cash price as a base.
b. The feedlot's three-week rolling average grid premium has been $1/cwt.
c. Feedlot waits until Kansas Cash price is reported, then offers cattle to packer for $1 over reported Kansas price.
d. Packer accepts offer because the long-run average of procuring cattle this way is nearly identical to procuring through a formula.

Transactions such as the one described in the previous example will be reported earlier than formula transactions, but they are not truly negotiated, as they rely on other market participants to negotiate the base price.

As the number of negotiating market participants continues declining, market liquidity dwindles, and the possibility of price manipulation becomes a greater risk. The result is the appearance of price discovery without sufficient real price negotiation to keep markets truly competitive. USCA offers four proposed solutions.

The first is to establish Negotiated Cash requirements high enough to facilitate price discovery, thereby reducing marketing costs and incentive for formula traders to circumvent the intent of the law.

The second is to allow a base price proxy peg that is not easily manipulated to satisfy conditions for cash trade under certain conditions. USCA proposes allowing formula contracts with Base Prices that are either negotiated, or that are established using liquid, actively traded markets (e.g., live cattle futures) to satisfy negotiated cash requirements.

A liquid, actively traded market reflects very little risk of price manipulation. Using such a market to establish base prices for formulas substantially decreases the risk that true price negotiation becomes so thinly traded as to be manipulated by any particular packer.

Establishing base prices in this way still relies on others to negotiate, but the sheer volume of market participants ensures a competitive market.

If the base price in the example described above were either negotiated weekly or based on an actively traded market like futures or boxed beef prices, and offered cattle for sale as described, it would be a true negotiated price.

Allowing this type of trade to satisfy negotiated cash prices (assuming timely reporting) may encourage packers and feedlots to move toward a base price that is dependent on something other than Cash because the base price has less potential for manipulation.

The third proposed solution is to limit the number of cattle any one plant can procure in advance, thereby limiting packer control of supply and the need for packers to be active bidders every week.

This solution requires some analysis to determine the appropriate limit, but a packer who has 90% of their kill procured or otherwise committed in advance obviously has less incentive to be an active market participant than a packer who only has 30% of their cattle committed.

This is the one proposed solution that appears certain to require changes to the Packers & Stockyards Act rather than using LMR reauthorization to implement.

Finally, USCA believes packers should be required to offer cash bids or floor prices for cattle they would like feedlots to commit. Currently, most feedlots are required to commit cattle for sale without any cash offer or floor price. This forces feedlots to decide whether to commit cattle without any knowledge or guarantee of a base price or floor price.

BUILD INDEPENDENT PROCESSING CAPACITY

The cost to build a new construction meat-processing facility is estimated at approximately $400 per square foot, inclusive of permits, site prep, utilities, property, building, refrigeration, and other costs.[6] At that estimation, a small 20 head-per-week operation would need at least a 3,000 to 4,000 square feet of facility at an estimated cost of $1.2 million. Repurposing an existing building is slightly more economical, at a cost of approximately $150 per square foot.

Before breaking ground, however, there are pre-occupational capital expenses to be accounted for, including design of the facility, blueprints, consulting, utility prepayments, soil tests and environment impact. These expenses are estimated at 20% of the overall plant. For our small plant example listed above, we estimate $300,000 in pre-occupational capital.

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[6] (Newlin, 2020)

Next, the facility will need to be filled with the necessary equipment for slaughter and processing, which includes rails, hand tools, cookers, smokers, and grinders. New equipment will run approximately $300,000 to $400,000.

Just in our example, this small operation would require $1.8 million just in start-up capital. To meet this need, they may turn to private or public financing depending on their individual situation. Examples of public financing opportunities include Tax Increment Financing; Tax Abatement; the Rural Economic Development loan and grant program; or the Small Business Administration's (SBA) Certified Development Corporation ("504") Loan Program[7].

However, more public funding opportunities are needed; in addition to streamlining and increasing the efficiency of current loan and grant programs. USCA recommends the following programmatic updates:

- Congress should direct funding authority to USDA to provide capital infrastructure improvement grants to communities for water sewage systems to support the development of independent slaughter and processing facilities.
- Congress should provide tax income incentives to individuals who invest in the construction of independent slaughter and processing facilities.
- Congress should direct funding authority to USDA to provide substantial grants, rather than cost-share programs, to individuals for the purchasing of re-use buildings and to upgrade the buildings to meet USDA Food Safety and Inspection Service (FSIS) regulations for the development of independent slaughter and processing facilities.

USCA partners with independent local, state, and federal meat processors to ensure that American beef is an option on every American plate. We value the independent processors' role in our supply chain and believe that our enhanced collaboration can bring policy changes that are both mutually beneficial and economically sustainable. USCA supports increased competition in this sector by increasing the opportunities for independent processors to succeed. Aside from capital investment, the following recommendations would greatly strengthen the bottom lines of independent processors:

- Plants classified by the USDA FSIS as small or very small should be provided a USDA licensed grader by the USDA Agricultural Marketing Service (AMS) free of charge; or be allowed to utilize electronic instrument grade augmentation systems within their plant.
- Congress should immediately halt the payout of federal subsidies to any of the Big Four meat packing plants, distributors, and retailers and instead prioritize subsidy distribution to Very Small/Small independent meat packing facilities.

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[7] (Niche Meat Processors Assistance Network , 2021)

- Congress should direct USDA to set aside a percentage of their bids for meat purchase to Very Small/Small independent meat packing facilities.
- USDA and DOJ need to have stronger, clearer, and enforceable predatory pricing guidelines to protect these new properties and investments.

Finally, an outdated regulation (9 CFR 201.67) that dates back to the terminal stockyards of the 1920s prevents livestock auction owners from owning or investing in a processing facility. In today's environment, where the cattle industry is focused on additional shackle space and wanting more packers to compete for livestock, this dated ban should be removed. Having another local or regional packer would bring more competition for cattle, and we should not be excluding people in the cattle industry that may want to invest in the packing segment.

ESTABLISH TRUTH IN LABELING

Currently, there exists a loophole which allows imported beef product, most often lean ground trim from South America, to be transported to our borders; undergo a "significant transformation", which can be as insignificant as trimming, rewrapping, or blending a small percentage of domestic product; and then claim the "Product of the U.S.A." label on the final product.

With the existence of this loophole, it is virtually impossible to provide assurance to consumers that the product they are purchasing is truly U.S. beef.

Because of the large number of cattle from Canada and Mexico that enter the United States each year and are slaughtered in U.S. packing facilities, the possibility of beef products which are not born and raised as well as harvested in the United States carrying a label indicating "Product of USA" or some such other claim of U.S. origin is very real.

It is our understanding that all products advertised or sold in the U.S., including food products like beef, must meet the Federal Trade Commission's (FTC) "all or virtually all" standard if "made in USA" or "product of USA" (or similar labeling) is to be applied. Without clear guidance from USDA FSIS, product either is already or will likely be mislabeled and cause confusion to consumers who are purchasing beef products and harm to American cattle producers.

To eliminate the likelihood of confusion and to better inform consumers, USCA contends that labels indicating "Made in USA," "Product of USA" or similar content should be limited to beef from cattle born, raised, and harvested in the United States.

In 2019, USCA submitted a petition for rulemaking to USDA FSIS[8] requesting this change. In its official response, FSIS acknowledged that the current regulatory

[8] (U.S. Cattlemen's Association, 2019)

framework "may be causing confusion in the marketplace" and decided to initiate rulemaking.

CONCLUSION

On Monday, May 10, 2021, member leaders of the American Farm Bureau Federation, National Cattlemen's Beef Association, National Farmers Union, R-CALF USA, and USCA met in Phoenix, Arizona.

These groups convened at the request of the Livestock Marketing Association to discuss challenges involved in the marketing of finished cattle with the ultimate goal of bringing about a more financially sustainable situation for cattle feeders and cow-calf producers.

This historic meeting of industry groups underscores the importance of advancing much needed market reform to ensure the viability of our nation's food supply. However, our work is not done. We need bold, immediate leadership from Congress to enact these changes.

With the help of our lawmakers, we will overcome the industry's current challenges and continue to produce a healthy and abundant food supply; while simultaneously serving as stewards of the environment and ensuring a thriving rural and national economy.

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June 24, 2021

The Honorable Debbie Stabenow, Chairwoman
The Honorable John Boozman, Ranking Member
Senate Committee on Agriculture, Nutrition & Forestry
328A Russell Senate Office Building
Washington, DC 20510

RE: Examining Markets, Transparency, and Prices from Cattle Producer to Consumer

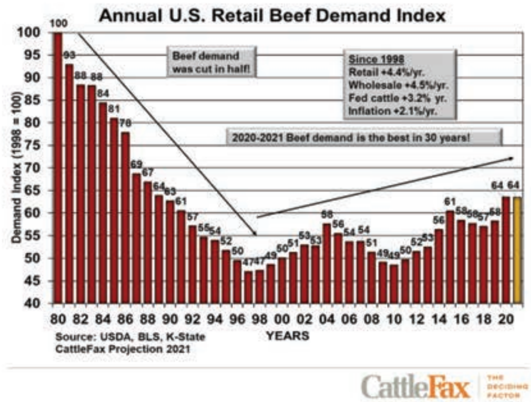
Dear Chairman Stabenow and Ranking Member Boozman
and members of the committee:

Thank you for providing me the opportunity to testify before your committee today. The issues we are currently addressing are of utmost importance to the U.S. beef industry and certainly our family operation based in southwest Kansas. I am honored to be asked to represent beef producers who have committed their livelihood to producing the safest, highest quality beef available anywhere in the world.

Please consider this paragraph closely as I will follow with some background about myself, my family and industry history. I believe the crux of this discussion boils down to the fact this is a very complicated issue. What caused the most recent turmoil in our marketplace is not complicated. A processing plant fire, a pandemic and a ransomware attack caused an unusual and extraordinary disruption in the processing system resulting in a drop in processed beef supply and a bulging over supply of live cattle. The result was an unprecedented drop in cattle prices relative to an equally unprecedented rise in beef prices, all driven by pure economic market principles. We have a volatile marketplace created by outside, unavoidable factors, not any one market player. We are seeing similar market disruptions in lumber, automobiles, etc. Now, the solution is very complicated. The processing industry is adjusting by adding capacity. Processors are adding this capacity due to market demand for more high-quality beef. This additional capacity will take time, but mark my words, history tells us we will likely reach a point where there is ample processing capacity for a limited supply of cattle, and the marketplace will shift once more where the producer will garner increased price leverage. The question for us, in the meantime, is how much damage will regulations do to the marketplace by artificially manipulating the pricing mechanisms? History again tells us the unintended consequences of the actions taken here can create longer lasting havoc and even greater volatility in our industry.

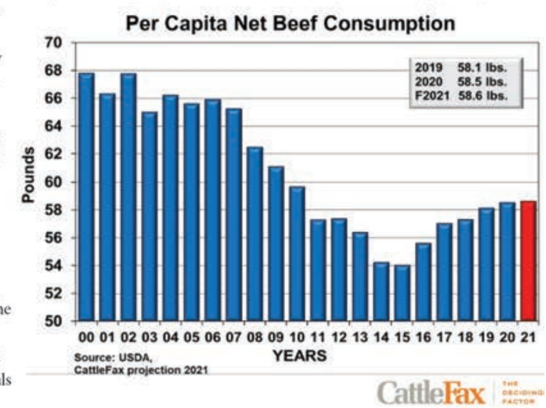
I would like to begin by stating I am a fifth-generation rancher whose family is actively engaged in the production of high-quality beef cattle. Gardiner Angus Ranch is a multi-generational member of the National Cattlemen's Beef Association and the Kansas Livestock Association. Our family was one of five families that traveled in a caravan of covered wagons to the Ashland, Kansas, area in the spring of 1885. My ancestors lived in a dugout for nine years on their 160 acres of homesteaded land where my grandfather, Ralph Gardiner, was born in 1889. Ralph Gardiner began putting together the present Gardiner Angus Ranch in the 1920s. His son, Henry, is my father. Today, the ranch is operated and called home by twelve Gardiner family members.

As a purebred and commercial cattle operation, Gardiner Angus Ranch (GAR) is dedicated to the production of quality beef from gate to plate. We use our experience in beef cattle breeding, state-of-the-art technology and data management to produce Angus cattle that make quantifiable, quality-based contributions to the beef cattle industry. As diversified beef producers, the opportunity to make quality improvements and be rewarded has never been greater.



Allow me to fast forward from our early days at GAR to the mid 1990s. As indicated in the Annual U.S. Retail Beef Demand Index graph (right), the market for finished cattle was broken and in desperate need of repair. This graph is a demand index, taking into consideration data such as per capita consumption and price points of various beef products. From 1980 to the mid 1990s, this is a picture of an industry in trouble. The National Cattlemen's Beef Association (NCBA) conducted field studies indicating consumers were not satisfied with the quality of beef. One out of four steaks were determined to be unsatisfactory for a variety of reasons. Most of the consumer's dissatisfaction was rooted in the production sector. In other words, the resolution of our quality problems had to be addressed by those of us at the beginning of the supply chain.

As a family-owned beef operation, it was up to us to take more control of our destiny. However, it was also up to us to accept responsibility for the quality and inconsistency problems, as well as challenge an antiquated marketing system. We live by a "failure is not an option" mentality. We had to get better to survive. My father, Henry Gardiner, spent his life searching for and implementing the limited science and technology that was available at the time to predictably improve beef. We knew we did not have enough information to make all the genetic improvements necessary to consistently produce high quality beef. Even with the tools to make our cattle better, the live cattle pricing system did not incentivize or reward for producing higher quality beef. All finished cattle, regardless of quality, sold for the same (or very near) average price per pound. In other words, it was "one price fits all," regardless of the quality of the cattle. This was the definition of a true commodity market, where low-cost production was the primary means of achieving profitability.



Domestically and worldwide, beef was losing market share. As indicated in the "Per Capita Net Beef Consumption" graph, from 2000 to 2015, consumption was down at an alarming rate.

The segmented nature of the beef business, from production to processing, made for virtually no information transfer between the many sectors—cow-calf, stocker, feed yard and the packers. Producers needed, but had very limited to no access to, economic signals on the beef products they were producing.

Such data is necessary to enable beef production consumers recognized as more than satisfactory in quality and affordability.

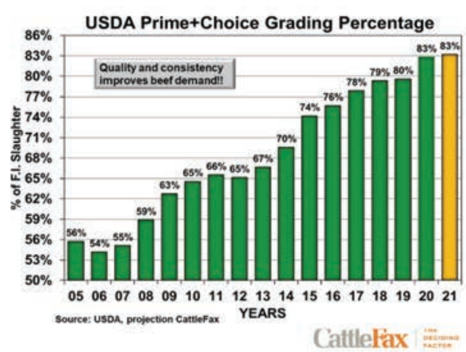
The method of pricing all finished cattle on a live, cash basis was antiquated and needed to change. We felt strongly in the need to price cattle on a value-base system which paid for quality, instead of pricing all cattle on the "average." We needed to have a seat at the table designing a system that valued each animal and rewarded superior cattle that produced beef preferred by consumers and was more profitable to producers.

For all these reasons, GAR made the decision to invest in and become involved with U.S. Premium Beef, LLC (USPB) at its inception in 1997. USPB is a group of beef producers with an ownership position in National Beef Packing Company, LLC (National Beef), one of the nation's largest beef processing companies. As USPB stakeholders, we were able to negotiate and implement a value-based system that changed from simply selling cattle, to marketing specific meat and meals desired by, and in higher demand, by consumers. USPB, through its ownership position in National Beef, provided unprecedented opportunity to grass roots producers such as GAR to be compensated for producing higher quality beef products. I stress that this opportunity has been for ALL SIZES of producers. The families and operations earning the highest value per head are often considered "small family producers." In a value-based system, the very family operation who never had market access due to limited cattle numbers can reap the largest financial benefit on a per head basis.

USPB is a group of cattlemen and women that has its roots deeply planted in the cow-calf segment of the beef industry. The founding members were motivated to form a marketing company for their finished cattle aligning grass roots beef producers from conception to consumption. They wanted to build a production/marketing system incentivizing the production of high-quality beef and have an ownership position all the way through value-added processing.

USPB was an answer to a market experiencing intense challenges. Since the beginning, GAR and those who participate in USPB, market their cattle on a value-based pricing system, based on the quality of the beef produced. This is a market with targeted, well defined, repeatable end points directly influenced by consumer demands. Value-based pricing in the beef industry recognizes and pays premiums for the production of beef products in highest demand. This pricing mechanism also uses discounts for the production of undesirable beef which does not hit the defined targets. The data confirms, through economic signals, what we are doing right as well as areas in need of improvement. We have gone from selling a commodity product on a cash market which does not differentiate quality attributes, to marketing on a value-based program which fully recognizes and pays premiums for quality production.

GAR and producers from 38 states have marketed their cattle from over 1,400 feedlots to National Beef's processing plants in Liberal and Dodge City, Kansas, and Tama, Iowa. The data received back on an individual animal basis teaches me to be a better cattleman and shows how specific changes in genetics, management, nutrition and animal care practices can help me make continual improvements. Producers like our family provide a quality protein product to help feed a global population of approximately 7.7 billion today. We will need to utilize these same parameters for quality improvement, combined with innovation and technology, to feed a growing population anticipated to be 10 billion people by the year 2050. This is a huge undertaking and challenge to the industry.



It is my perspective USPB changed the game for the entire beef industry and certainly GAR. The graph on the right, "USDA Prime+Choice Grading Percentage" shows the improvement in beef quality grades the past 17 years. The top two grades, USDA Choice and Prime, have shown considerable improvement due to the onset of value-based marketing programs such as

USPB. For example, the largest and highest quality Angus branded beef label is *Certified Angus Beef*® (CAB). My father was one of the beef producers who helped negotiate this product line in the 1970s to add value to Angus cattle. Today, CAB is the gold standard label for high-quality beef products found in food service and in many of the top restaurants worldwide. I am convinced the increased demand for beef products would not have been possible if the beef industry had not embraced a value-based marketing system that paid for quality. USPB was the catalyst that pushed the industry to pay for value. We would not enjoy the global demand we do today if we had not changed the system of selling on average to paying for value. It should also be noted that demand for beef products (see graph on page two) has recently hit a 30-year high. Increased beef production of a higher grading product (as detailed in graph on page four) has greatly contributed to the increase in demand. The synergism between demand and the increase in a higher quality product cannot be ignored. Seedstock suppliers such as GAR, are directly tied to the value of beef in the commercial sector. Without USPB, our seedstock would not have the same value.

GAR seedstock genetics are sold to beef producers throughout the nation and in several different countries. We market commercial and purebred Angus females, bulls and semen used by producers employing artificial insemination in their herds. We assist many of our customers in the marketing of their finished cattle. We help them review and interpret the data they receive back on their cattle. When armed with this information, they too become better producers. GAR has customers representing herds of all sizes. Many smaller-sized herds are also those that have earned the largest grid premiums on their cattle.

From the inception of USPB through the end of June of 2021, GAR customers have, on average, earned $92.71 per head in premiums above the live base market on over 122,000 head of cattle totaling approximately $11.3 million. Cattlemen and women that have marketed through USPB since the start of the program in 1997 and through 2020, have delivered 16.5 million head, earning more than $605 million in premiums above the cash market. In 2020, the average premium earned was $50.32 per head above the live cash market. Considering earnings and distributions that have been paid out, along with grid premiums, over $2.1 billion have been returned to USPB shareholders because of their investment in their company and the production of higher quality beef.

Our efforts have been successful. There have been numerous other efforts by producers, like those of USPB, to successfully move the beef industry from a commodity business to a value-based system, by opening the information transfer between beef industry sectors and establishing pricing mechanisms rewarding producers who delivered beef that consumers preferred.

Getting involved with USPB in the 1990s was GAR's answer to a fed cattle market that was broken. It should be noted it was not packers and processors who developed the concept of value-based marketing in the beef industry. It was beef producers, like our family, who met with others in the industry, including the packers themselves, to identify a way to be compensated for producing beef products which more accurately and consistently responded to consumer demand.

It is important to understand packers did not force cattle feeders into Alternative Marketing Arrangements (AMAs). Producers were the brainchild of such ideas to get paid for the value produced. Value-based marketing systems are the "rising tide that lifts all boats."

There is considerable discussion in the industry now over the level of cash-traded finished cattle, and the effect on price discovery. None among us disagree over the importance of price discovery. If there was an easy answer to a different method of addressing concerns over price discovery of commodity cattle, the industry would have already figured it out. Efforts in the industry to increase negotiated trade and ensure robust price discovery are already underway.

CONCERN OVER UNINTENDED CONSEQUENCES

I must also point out the potential chilling effect that regulated government mandates, such as those suggested in Senate Bill 3693 and Senate Bill 543, either with a fixed national level of negotiated trade for live cash cattle or minimums divided into regional levels for the purpose of establishing mandatory minimums, would have on the beef industry. I am unaware of any research or data which indicates a specific threshold or percent of live cash cattle trade, either fixed across the industry or determined regionally would change the price level of cattle going forward. There is considerable discussion regarding "cash trade." I look at this as the base price, no different than a commodity like wheat. I can call our local elevator and get the base price for wheat in our area. If I can hit the targets of value with my wheat due to protein content or baking quality, I am paid for this additional value. Value-based cattle marketing operates on the same concept of negotiated grids. We know the targets of value for the processor and the consumer. If we achieve these goals, we are compensated for producing a superior beef product. One possibility to help with the thinly traded "cash market" would be to have base prices of formula, grid and alternative marketing arrangements become a part of the mandatory price reporting.

The beef industry has worked diligently the past 25 years to develop and produce a high-quality protein product that meets the demands of today's consumer, domestically and internationally. Any changes to pricing solutions are much more effective when created and implemented by the industry, as opposed to government mandates. Cattlemen have historically been a rather independent group. All of us and those that went before us are conditioned to dealing with droughts, economic challenges, opportunities and a market that oftentimes is difficult to figure out. We can overcome this obstacle.

Finally, it is my desire to indicate to this group as strongly as I possibly can, please do not create regulations and legislation that have the unintended consequence of harming value-based marketing. Doing so would undo many years of progress for producers such as my family and those of our customers. Onerous legislation has the potential to result in a reversal of quality that is simply unacceptable to consumers. Legislation limiting progress (and ultimately is a detriment to quality beef production) punishes America's beef producers.

In conclusion, producing cattle and beef is a tough way to make a living, but I personally would not have it any other way. This is an exciting time in our industry, with tremendous opportunities for beef producers. Producers should be applauded and recognized for taking cues from universities, federal and state agencies, but most importantly, consumers. We take great ownership and pride in producing high quality beef products that compete for the center of the plate in the United States and around the world. I would urge this committee to put beef producers in a position to continue to improve our investments in raising safe, high quality beef products which are completely symbiotic with every beef eating consumer around the world. At the same time, please closely scrutinize proposed government regulations that result in unintended consequences of rolling back the vast improvements in quality the industry and consumers have experienced for more than two decades.

Thank you for the opportunity to testify and present to you today.

Sincerely,

Mark R. Gardiner

Mark Gardiner, President
Gardiner Angus Ranch

KANSAS STATE UNIVERSITY | Department of Agricultural Economics

Testimony of Glynn T. Tonsor, Ph.D.
before the United States Senate Committee on Agriculture, Nutrition, & Forestry
Hearing on "Examining Markets, Transparency, and Prices from Cattle Producer to Consumer"

June 23, 2021

Glynn T. Tonsor
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Chairwoman Stabenow, Ranking Member Boozman, and Members of the Committee, thank you for inviting me to be part of this hearing. I currently serve as Professor in the Department of Agricultural Economics at Kansas State University where I have been a faculty member since 2010. Prior to 2010 I was on faculty at Michigan State University. I grew up on a hog farm in Missouri and that background is the foundation of my aspiration to provide a valuable economic resource that aides decision-making of industry stakeholders and policy makers.

The U.S. beef and cattle industry is arguably the country's most economically important agricultural sector with cash receipts exceeding $66 billion in 2019.[1,2] Besides the sheer size of the industry, the vast number and diversity of operations differs from many other agricultural sectors. The unique importance of the industry to society was reaffirmed with President Trump invoking the Defense Production Act classifying meat and poultry processors as essential infrastructure.[3] The sheer size and economic importance of the U.S. beef-cattle industry must be appreciated before implementing any proposed policy changes as the potential exists to impact MANY members of society.

It is not surprising the U.S. beef and cattle industry's markets are complex. I often describe the industry operating as a rubik's cube – when one thing changes so do several others. Moreover, the array of interests spanning from seedstock operations to end consumers (both domestically and abroad) continues to evolve. Industry evolutions are accepted by some, but not all stakeholders – that is also to be expected in a large and diverse industry.

Perhaps no relationship is currently more central to economic discussions in the U.S. beef-cattle industry than the relationship of fed cattle inventories to processor capacity.[4] This relationship is ever-evolving reflecting cattle cycles, drought-induced liquidation, investment interest, and many other dynamic factors. To briefly summarize, prior to 2016 it was estimated for many years there was more processing capacity than fed cattle inventories. That relationship subsequently changed such that since 2016 fed cattle inventories have often exceeded operational capacity to process them.[5] The Holcomb

[1] Annual cash receipts by commodity are estimated by USDA ERS: https://data.ers.usda.gov/reports.aspx?ID=17832. Estimated cash receipts for cattle and calves are regularly larger than other industries including hogs, dairy, poultry and eggs, rice, wheat, corn, cotton, tobacco, oil crops, vegetables and melons, fruits and nuts, and other crops tracked by USDA ERS.

[2] Furthermore, while large in their own right, these cash receipts understate the industry's economic importance. When one also considers the impact on feed and other input suppliers along with the impacts of value-added activity occurring post farm-gate the economic importance of the U.S. beef-cattle industry is extensive.

[3] Similarly the unprecedented societal interest in meat availability was affirmed by significant media attention (https://time.com/5830178/meat-shortages-coronavirus/).

[4] Robust estimates of packing capacity do not exist and rather use of historical federal-inspected slaughter levels are often used as a proxy. For instance, Tonsor and Schulz (2020) used the maximum federal-inspected slaughter over the past three years to approximate current capacity (https://www.agmanager.info/livestock-meat/marketing-extension-bulletins/price-risk/assessing-impact-packing-plant-utilization).

[5] Here the distinction between physical capacity (from an engineering, or optimal no-problems perspective) and operational capacity is important. Operational capacity is often below physical capacity given constraints on labor, maintenance schedules, etc. and the gap between physical and operational capacity expanded during the COVID-19 pandemic.

plant event of 2019 and developments during the COVID-19 pandemic occurred with this backdrop of fed cattle inventories being large relative to operational processing capacity. Economists expect lower fed cattle prices and higher beef prices when a system is at or near operational capacity - on balance that is what we have observed in markets.[6] Going forward it is generally expected fed cattle volumes will decline and some physical processing capacity may be added – these are also expected market evolutions.[7]

The U.S. meat industry sells products into three main market channels: domestic retail (grocery), domestic food service (restaurants and institutions), and export markets. These three market channels disproportionally demand different parts of each animal. The industry maximizes overall revenue by producing, processing, and marketing distinct products for market channels with the greatest demand for that specific product. This results in higher overall carcass values and subsequently livestock prices. Historically individual meat products disproportionally relied on one of these three consumer markets. For instance, it is common for domestic consumers to buy ground beef at the grocery store and steaks at a restaurant while foreign customers buy variety meat items. One of the most drastic shocks from the COVID-19 pandemic was extraordinary disruption in relative demand across these three market channels and with-it unprecedented challenges for supply chains to adjust – nearly all these market channel adjustments occurred post-farm gate.[8] These post-farm gate developments directly impact derived demand for livestock and hence livestock prices. Furthermore, these COVID-19 market channel shocks not only directly impact various aspects of the industry's markets but also highlight the value of better data and information. The critical importance and need for high-quality data specific to each market channel (and level) continues to grow.

Over the years I have worked on multiple projects with various colleagues involving an array of specific aspects in the Livestock Mandatory Reporting (LMR) program as required by the Livestock Mandatory Reporting Act of 1999 and implemented by USDA's Agricultural Marketing Service.[9] It is important to appreciate with implementation of LMR a significant amount of market information is available in a manner much more trusted than was the case of voluntary reporting prior to LMR being implemented in April of 2001.[10] LMR at best can work as a "mirror" on markets which themselves reflect fundamentals of supply and demand that underlie meat and livestock

[6] Related research and past literature is provided by Lusk, Tonsor, and Schulz (2021): https://onlinelibrary.wiley.com/doi/full/10.1002/aepp.13101

[7] For instance, long-term projections (https://www.usda.gov/sites/default/files/documents/USDA-Agricultural-Projections-to-2030.pdf) suggest U.S. beef cow inventories may decline from 31.7 million in 2019 to 30.8 million in 2023.

[8] Some of these changes are reflected in Meat Demand Monitor reports published since the pandemic's inception (https://www.agmanager.info/livestock-meat/meat-demand/monthly-meat-demand-monitor-survey-data).

[9] Additional details on LMR are available here: https://www.ams.usda.gov/rules-regulations/mmr/lmr/background

[10] In the mid-1990s concerns were growing over packer concentration and asymmetric information between livestock buyers and sellers. Meanwhile a situation (not unlike recent years) of large livestock supplies relative to available processing capacity corresponded with lower negotiated livestock prices. Ultimately one outcome of this situation was Congressional action leading to the LMR program.

price levels. Economists have long recognized the substantial value of reliable, accessible, and timely market information because it critically guides all resource allocations. Going further, the specific details of how the LMR program works continue to evolve over time. On balance I believe USDA AMS does a sound job of implementing LMR and I encourage ongoing consideration of adjustments to reflect evolution of the industry and the value of market information.

Alternative marketing agreements (or AMAs) have grown in use in recent decades for several reasons.[11] Initial interest in AMAs from both fed cattle buyer and seller perspectives originated from cost efficiencies (coordinating logistics, lowering marketing and procurement expenses, etc.). Furthermore, consumer demand signals leading to proliferation of beef products concurrently elevated demand for specific cattle and with it, further use of AMAs. The above noted production of beef items for specific market channels would be seriously constrained without this increased use of AMAs. In short, increased use of AMAs reduces costs and enhances demand in some segments of the industry – both worthwhile outcomes that "increase the economic pie" for industry participants. Accordingly, it is important to appreciate the situation presented by AMAs: they present a multitude of well-documented economic benefits to the industry and society while by definition reducing the volume of traditional, spot-market negotiations that historically have been the base of valuing fed cattle. Understanding this situation underpins prudent assessment of any proposals that involve changes in how fed cattle are marketed.

It is useful to briefly note national trends in negotiated transactions with formula transactions.[12] In 2014, 23% of domestic fed cattle were sold on a negotiated basis while 58% were sold via formulas. Negotiated rates were 21% (23%) and formula rates were 66% (65%) in 2019 (2020), respectively. The core point is that while cattle prices, beef prices, and estimated margins in the industry certainly differed in recent years from 2014, it is dangerous and inaccurate to assert this simply reflects changes in how fed cattle are marketed. Rather in my opinion, consistent with a large and ever-growing body of published research, core differences in supply and demand underlie these market changes. Stated directly – without contemporary use of AMAs I believe cattle prices would be lower as production efforts would not align as well with consumer demands.

I encourage the industry to proceed forward in a manner that does not deteriorate economic benefits of the industry's evolution in recent decades to improve beef quality

[11] Details on AMAs are available from multiple sources. This includes the 2007 GIPSA Livestock and Meat Marketing Study prepared for the Grain Inspection, Packers and Stockyard Administration (https://www.gipsa.usda.gov/psp/publication/livemarketstudy/LMMS_Vol_1.pdf) and the broad discussion recently provided on fed cattle price discovery issues by seven other land-grant economists (https://extension.okstate.edu/fact-sheets/print-publications/e/fed-cattle-price-discovery-issues-and-considerations-e-1053.pdf).

[12] Here formula trade represents cattle committed for slaughter by any means other than cash negotiated, forward contract, or negotiated grid trade. This leads to, suspected but not formally confirmed due to current procedures, wide heterogeneity in transaction types and hence prevalent wide ranges in reported formula trade prices.

and align effort with beef demand signals. This pursuit can also include regularly assessing the viability of ways to enhance the information content available on actively negotiated cattle and/or consider increased use of alternatives to traditional, spot markets in establishing base cattle values. To this later point, the above noted evolution in LMR is important.

I encourage LMR to not only be reauthorized but for enhancements to be considered. More research is needed on the types of information contemporary markets need and how to most effectively collect and disseminate that information. Potential exists for the industry to largely sustain practices desired by many buyers and sellers while gaining confidence in reported market information. The ceiling on market information content feasible under LMR is impacted not only by well documented confidentiality protocols but by the depth of information obtained in raw LMR data submitted to USDA AMS.

Candidate adjustments (in no particular order) include:

- report percentiles (e.g. 15^{th} and 85^{th} percentile) to increase informational content of reports
- remove forward contract data from the currently reported weekly fed cattle comprehensive report to better reflect the current price environment
- aggregate some categories to increase reporting frequency (e.g. perhaps merge steer and heifer values) without losing critical information
- alter regions to improve information quality and/or merging regions to increase volume reportable
- report price information using statistical methods such as hedonic models that produce new information while retaining confidentiality
- periodic reassessment of procedures used to assure confidentiality
- consider adjusting collection of raw LMR data
    - gather details required to possibly support narrowing how formula transactions are reported and improve on the current large, "catch all" category
    - gather meat yield data more frequently and/or completely
    - refine location information (e.g. whole state vs. by zip code) to enable alternative approaches to current whole-state aggregations

Each of these candidate adjustments warrants prudent assessment.[13] Beyond sheer feasibility of implementation, the net gain in reporting frequency and quality of information subsequently reported needs examined. Answers in these assessments are bound to be dynamic and evolve as the industry itself evolves. To that end, I encourage explicit consideration of support for ongoing assessment of LMR – this suggestion

[13] Several of these possible adjustments are further discussed in previous reports provided to USDA AMS (https://www.ams.usda.gov/rules-regulations/mmr/lmr/generalinfo).

reflects both the essential role LMR plays in the industry and the need for LMR to "keep up" with the industry's evolution.

I will end by highlighting all revenue available to industry participants ultimately originates from consumers - hence aligning industry efforts with realities of consumer demand is of paramount importance. Fortunately, the U.S. beef-cattle industry is the envy of other countries in several ways. Comparative advantages include being a global leader in production of high-quality, grain-finished beef desired by consumers throughout the world. I encourage today's discussion and other related conversations to be mindful of the factors which favorably distinguish the U.S. industry and are core to the prosperity prospects of not only today's industry participants but those of future generations. In truth, with collective recognition of the industry's many strengths and contemporary opportunities with an eye forward to the future, I believe current challenges can be reasonably addressed.

Testimony on

Examining Markets, Transparency, and Prices from Cattle Producer to Consumer

to

The Committee on Agriculture, Nutrition, and Forestry of the United States Senate

Dustin Aherin, PhD

Vice President, RaboResearch Animal Protein Analyst

Rabobank

June 23, 2021

Chairwoman Stabenow, Ranking Member Boozman, and members of the committee, thank you for inviting me to join the discussion today. As an animal protein analyst for Rabobank, which is engaged across the entire beef supply chain, I assist in strategic decision making for both the bank and the bank's clients by offering a research-based perspective on fundamental market dynamics and future trends.

Summary

Major US beef supply chain disruptions over the past two years have sent the cattle and beef industry into uncharted, but explainable territory. The imbalance of excess market-ready cattle supplies in the face of reduced operational packing capacity has put downward pressure on cattle prices. Meanwhile, consumer demand for beef and all animal proteins has reached record levels, fueled by pandemic stockpiling, increased and reallocated consumer income, and more recently, restaurant re-openings, not to mention export demand. These dynamics, combined with elevated processing costs, have increased the spread between beef price and cattle price, just as economic principles, past research, and historical market relationships would suggest. Both the direction and magnitude of the price spread are well within the range of expectation.

Like many businesses, the pandemic has created enormous challenges for cattle producers. Seeing the price difference between cattle and beef has only added to the emotional strain. I understand the frustration. I've owned and bred cattle most of my life, and I have friends and family that make a living ranching and feeding cattle. However, with stakeholders that are invested throughout the entire supply chain, from rancher to packer to retailer, I have to look at the beef industry from an objective, analysis-based perspective.

First, cattle are not beef. Cattle are one of several inputs into beef production. Other major inputs include labor, physical capital, and technology. These inputs are always seeking, but never finding, the perfect balance between one another. This creates cycles. Input imbalances are communicated

through prices, whether that's cattle prices, wages, or investments. Over the past several years, extreme and unexpected events have severely restricted several of these inputs. For example, facilities in the August 2019 Tyson plant fire and labor during the pandemic. A working market sends price signals to adjust. These same price signals created record high cattle prices and packer losses in 2014 and 2015.

The biology and natural time-delays of the beef industry make it slow moving and capital intensive. Adjustments take years. While recent, unforeseen events have exacerbated the situation, free market signals, economic losses, drought, and the natural cattle cycle laid the foundation for today's circumstances over several decades.

Beef packing has historically been a low margin business. In the year 2000, with a total cattle population of 98 million head, the US harvested nearly 30 million head of fed cattle. By 2014 and 2015, the total cattle population was below 90 million head with 2015 fed cattle slaughter under 23 million head. Throughout this period of largely drought induced beef cow herd contraction, the most inefficient packing plants were driven out of business as competition for limited cattle supplies drove cattle prices to record highs. From 2000 to 2015, the US beef industry experienced a net decline of roughly 14,000 head per day in fed cattle processing capacity.

Even before the extremes of 2020, recent margins suggest that there is opportunity to add packing capacity. However, that opportunity does not come without significant risk. First, the upfront cost of a new or expanded plant is extremely expensive. Industry sources estimate that a new plant costs USD 100m to USD 120m for every 1,000 head of daily capacity. Increasing construction costs over the past year likely put current costs near or even above the high end of that estimate. Then, a new endeavor must meet regulatory requirements, build a labor force, and keep enough cash on hand to absorb losses. It's not just about building facilities, it's about building a business model.

In response to the described market signals, numerous plans for greenfield plants or expansions of existing facilities have been unveiled in recent months. These plans come from new entrants, minor incumbents, and major incumbents alike. If all of the announced plans for plant construction and expansion come to fruition, roughly 8,000 head of daily fed cattle capacity and nearly 2,000 head of daily non-fed capacity could be added to the US beef industry over the next five years. Recognizing current drought conditions, if the beef cow herd declines by 2% or less, there's opportunity for about 5,000 head per day of profitable packing capacity expansion.

A note of caution. There is a point where industry capacity expansion goes too far to withstand cyclical periods of tight cattle supplies. The long-term cattle cycle, drought risks, and market fundamentals must be considered.

Whether in new or existing plants, increased technology implementation will be a critical component of future success. Recently, many packers have revitalized their focus on technology development as a means to address labor challenges, manage processing costs, and reduce product waste. Enlightened by the pandemic to the long standing labor shortages in the meat industry, many startups are also bringing outside expertise and perspectives to advance technology and automation in the meat supply chain.

With any luck we will work through the long tail of 2020's cattle backlog in Q3 2021. As such, year-over-year cattle prices will rise in 2H 2021 and beyond. In conjunction with tightening cattle supplies, capacity expansion will come online over the next several years and new technologies will reduce labor constraints, further shifting margins to the benefit of cattle producers.

In closing, the shocks to the beef industry over the last couple years have presented the entire beef supply chain with enormous challenges. The resulting price movements have been frustrating for cattle producers, to say the least. Yet, these same price movements and supply chain disruptions have also contributed to the accelerated investment in packing capacity expansion, new technologies, and new business strategies that will help the beef industry adapt and evolve to ever changing demands. That's the market at work.

Beef Production is a Balancing Act

Before advancing the conversation, it's important to note the difference between cattle and beef. In a simple equation form, a recipe if you will, beef can be represented as the output from the combined inputs of cattle, human labor, physical capital (e.g. facilities), and technology.

$$Beef = Cattle + Labor + Physical\ Capital + Technology$$

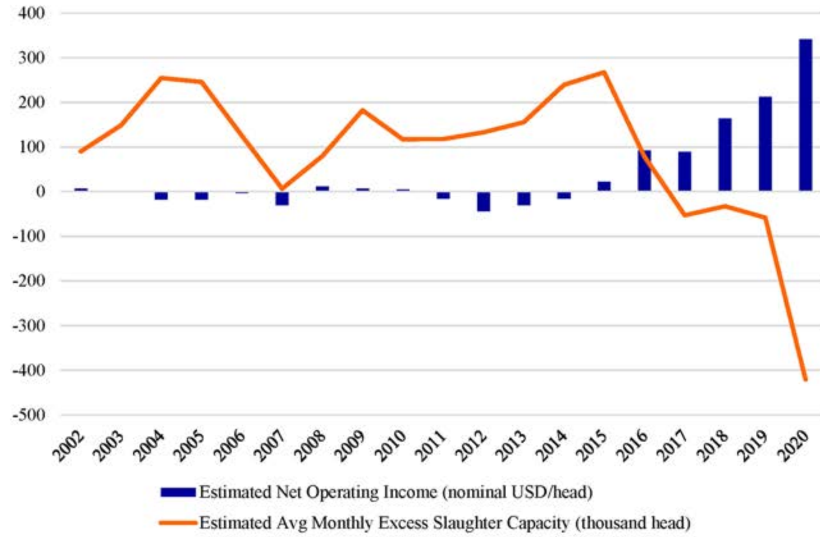
The inputs of this equation are always seeking, but never finding, the perfect balance between one another. Input imbalances are communicated through prices, whether that's cattle prices, wages, or investment/divestment in physical capital and technology. As expected in commodity markets, whether it's natural gas or cattle, the over-expansion/over-contraction and subsequent price signals responding to imbalances generate cycles (e.g. the cattle cycle). If any two inputs in the beef production equation are unbalanced, either the limiting input has to expand or the surplus input has to contract. For example, packing capacity (facilities, labor, technology) expands, or cattle numbers decline. Often, it's cattle numbers that are the most responsive to imbalance. Between the two possibilities, the decision to retain or sell a few head comes much easier for the multitude of cow-calf producers than the high-risk, capital-intensive, regulatory-complex endeavor of packing capacity expansion.

Historical Perspective

Beef packing has historically been a low margin business (*see Figure 1*). Precise estimates of individual company performance are extremely challenging with publicly available, industry average data, but estimates can get close and identify trends. Based on the estimates shown in *Figure 1*, beef packers averaged an annual loss of USD 11 per head from 2002 to 2014. In the year 2000, with a total cattle population of 98.2 million head, the US harvested 29.6 million head of fed cattle (*see Figure 2*). By 2014 and 2015, the total cattle population was below 90 million head with 2015 fed cattle slaughter at only at 22.7 million head. Throughout this period of largely drought induced beef cow herd contraction, the most inefficient packing plants were driven out of business as competition for limited cattle supplies drove cattle prices to record highs. From 2000 to 2015, the US beef industry experienced a net decline of roughly 14,000 head per day in fed cattle processing capacity. Today's *maximum* US fed cattle processing capacity (no absenteeism, no equipment breakdowns, flawless logistics, etc.) is estimated at just above 100,000 head per day.

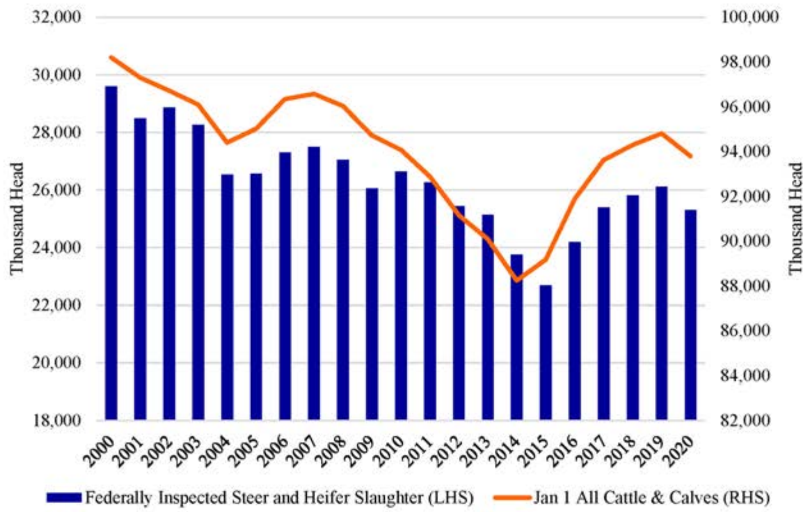
The remaining plants are those that have best managed operating costs through optimal geographic location, supply chain relationships (both suppliers and customers), and economies of scale. However, as cattle herd expansion has outpaced packing capacity and shifted the balance of the beef production equation, packers have been strategically positioned to capture record margins in recent years. This shift was well in place in the years prior to the pandemic. The Tyson-Holcomb fire and Covid-19 only magnified the shift by creating acute and unexpected massive imbalances between cattle numbers and suddenly limited availability of labor and/or facilities. As of mid-June 2021, beef packers are still struggling to utilize more than 90%-92% of daily capacity as a result of labor shortages and additional Covid-19 precautions, even in the face of ample cattle supplies.

Figure 1. Estimated annual beef packer operating income per head and estimated annual average monthly excess fed slaughter capacity, 2002-2020



Note: Operating income = (cutout value + by-product value) - (cattle purchase cost + estimated processing cost). Estimated monthly capacity is the maximum federally-inspected steer and heifer slaughter for a given month over the previous three years, except for 2020, during which Covid-19 related impacts and cattle backlogs were considered.
Source: USDA NASS, USDA AMS, LMIC, Rabobank 2021

Figure 2. Annual Fed Cattle Slaughter and Total Cattle Inventory, 2000-2020



Source: USDA NASS, LMIC, Rabobank 2021

The Relationship Between Cattle and Beef Prices

Packers are margin operators. Thus, operating costs influence the spread between cattle and beef prices, as packers attempt to capture some profit above operating costs. As operating costs increase, packers will attempt to pass some of those costs to their suppliers or customers, depending on who has the most leverage in the negotiation. This is no different than cattle feeders adjusting their feeder cattle bids based on feed prices and expected fed cattle prices.

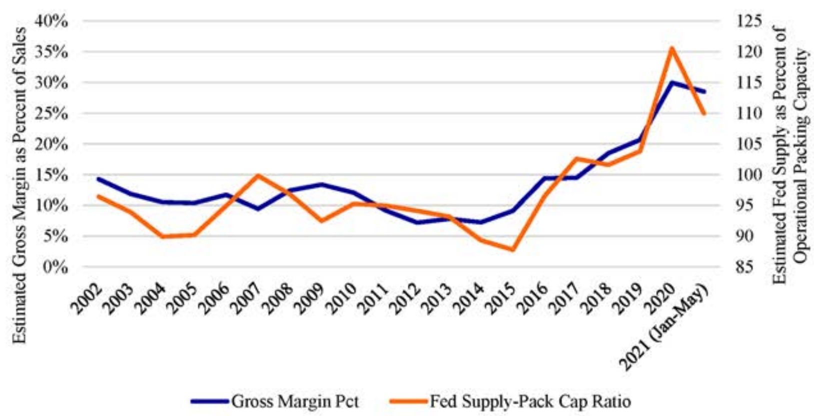
The relationship between fed cattle prices and beef prices is also driven by the relative balance between fed cattle supply and operational fed cattle processing capacity (the capacity actually achievable given labor conditions, equipment function, weather, and logistics). The greater the fed cattle supply in relation to processing capacity, the greater the spread between cattle prices and beef prices. In such a scenario, packers don't have to compete as aggressively to buy cattle and cattle feeders are more willing sellers because packers can more easily find cattle elsewhere to meet their needs.

Throughout the pandemic, packers simply haven't had the operational ability to harvest all of the cattle ready to be marketed. Under such extreme circumstances, cattle price could even be interpreted as how much cattle feeders were willing to pay (i.e., receive a lower selling price) to get an available harvest slot and clear their cattle backlog.

Increased beef demand, which translates to a higher price for the same quantity of available beef, also seems to contribute to higher packer margins. Using quarterly data from 2002 through 2019, a structural supply and demand model was developed, representing the cow-calf, cattle feeder, and packer segments, along with consumer beef demand. The results indicate that a 1% increase (decrease) in wholesale beef price (comprehensive cutout) is associated with a 0.8% increase (decrease) in live fed steer price. Upon inserting 2020's market conditions into the model, accounting for consumer beef demand, fed cattle supplies, and operational packing capacity, it was predicted that the average spread between wholesale beef price and live fed steer price would increase by 18% vs 2019. The actual price spread in 2020 increased by 20% compared to 2019. This model does not account for the increased operating costs due to Covid-19 impacts, which would be expected to further increase the predicted gross margin.

Packer gross margin as percent of sales revenue has also behaved within the realm of expectation. From 2002 to 2019, the correlation between annual estimated packer gross margin percent and annual estimated ratio of fed cattle supply to operational packing capacity was +0.73 (*see Figure 3*).

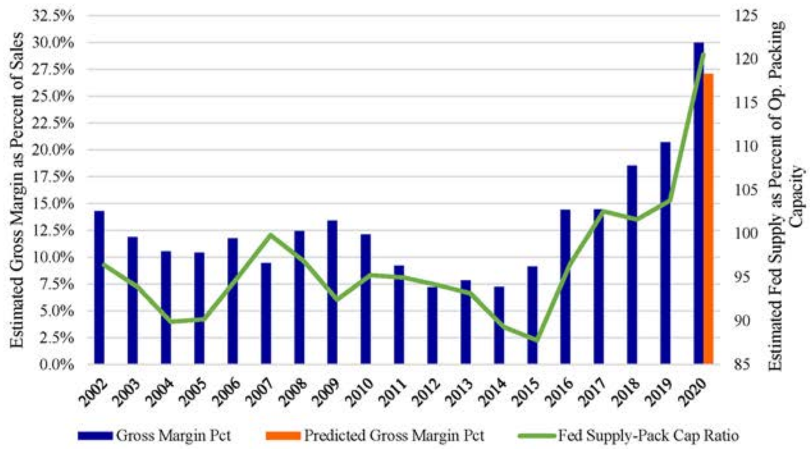
Figure 3. Estimated US beef packer gross margin as percent of sales and estimated fed cattle supply as percent of operational packing capacity.



Source: USDA NASS, USDA AMS, LMIC, Rabobank 2021

A simple linear regression model to predict packer gross margin based on the ratio of fed cattle supply and operational packing capacity using the 2002 through 2019 data was estimated. When the resulting equation is applied to the estimated ratio of fed cattle supply to operational capacity for 2020, the predicted packer gross margin for 2020 is 27% (*see Figure 4*). The calculated packer gross margin based on market data was 30%. Again, this analysis does not account for the increased operating costs due to Covid-19 impacts, which would be expected to further increase the predicted gross margin.

Figure 4. Predicted 2020 US beef packer gross margin as percent of sales



Source: USDA NASS, USDA AMS, LMIC, Rabobank 2021

In both of the exercises described above, it's important to note that 2020 data was not used to train the models. Supply and demand relationships present in the beef industry prior to 2020 were used to estimate price relationships in 2020 with very respectable accuracy. This provides evidence that the same market relationships that were in play when packers were losing money in the early 2010s were also at play during 2020. Based on the conditions of the market in 2020, the spread between beef and cattle price has responded well within the bounds of expectation in both direction and magnitude.

The Opportunity for Packing Capacity Expansion

Even before the extremes of 2020, recent margins suggest that there is opportunity to add packing capacity. However, that opportunity does not come without significant risk. Escalating drought conditions coupled with a currently contracting cow herd foretell of cyclically tighter cattle supplies over the next few years.

Several considerable hurdles must be addressed by both incumbents and new entrants to achieve success regarding new capacity. First, the upfront cost of a new or expanded plant is extremely expensive. Industry sources estimate that a new plant costs USD 100m to USD 120m for every 1,000 head of daily capacity. Increasing construction costs over the past year likely put current costs near or even above the high end of that estimate. Putting together and allocating that kind of capital is not a simple exercise, particularly for a potential newcomer.

Second, it's challenging to compete with the established supply chain networks, markets, and efficiencies of existing plants, even if a new plant were opened by one of the large incumbent packing companies. Not only have major packers achieved economy of scale, but most all have also achieved economy of scope. Packers are increasingly involved in value-added processing that targets specific customers, such as case-ready retail cuts or ground beef products. Most existing plants already proved their competitiveness and fitness for survival when the last cattle cycle forced less-efficient plants out of business in the early and mid-2010s. It's not just about building a facility, it's about building a business model.

Third, the packing sector has been facing labor challenges for years. Building a skilled and dependable work force in what may likely be a region that already has a packing plant presence will be a formidable task.

Finally, the capital depth and longevity required to build and maintain a new plant through its first cattle cycle precludes most would-be investors from considering such a project. If a packing plant project is initiated at peak cattle numbers when packing margins look favorable, it's likely that the cattle cycle would turn over in the multiple years required to build the plant, meet regulatory requirements, and start harvesting and that the new plant would have to operate with tight cattle supplies and negative profit for its first few years of business. That's not a recipe for thin capital or weak hearts.

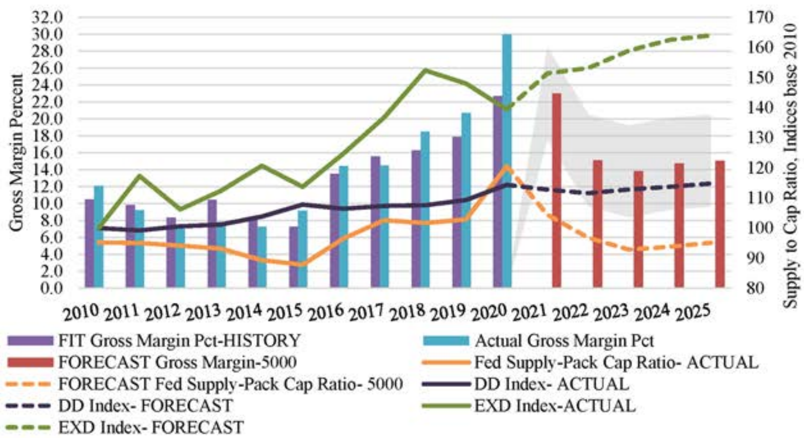
Beef Packing Plant Gross Margin Outlook

Figure 5 and *Figure 6* apply a model that includes the fed supply to operational packing capacity ratio, percent of weekly slaughter on Saturday (which accounts for the strain being put on employees and facilities), US domestic beef demand, and US export beef demand to predict beef packer gross margin as percent of sales. Both figures assume a 5,000 head per day expansion in total industry operational packing capacity by 2023. The key difference is beef cow inventory.

With the Jan 1, 2021 beef cow inventory at 31.2 million, *Figure 5* assumes that beef cow inventory bottoms at 30.5 million head in 2023. *Figure 6* assumes that beef cow inventory bottoms at 30 million head in 2023. *Figure 5* forecasts gross margin to return to levels similar to 2016 and 2017. However, the gross margin forecast for 2023 in *Figure 6* is 2.5 percentage points below the same year in *Figure 5* and dangerously close to the unprofitable early 2010s.

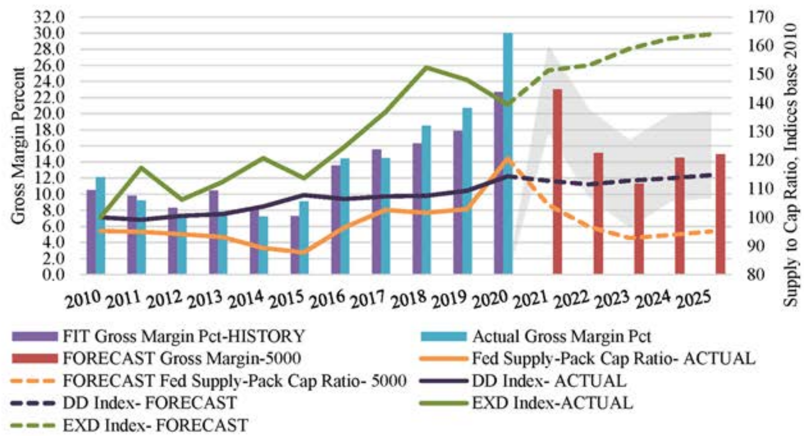
Predicting the future is hard. The point of this exercise is to illustrate that if the beef cow inventory only declines moderately, 5,000 head per day of new packing capacity should have relatively favorable conditions to initiate operations. If the beef cow inventory declines sharply, the first few years of new capacity could be incredibly challenging from a profitability perspective.

Figure 5. Forecast of US beef packing gross margin percent assuming total industry operational packing capacity expands by 5,000 head per day by 2023 and US beef **cow inventory declines to 30.5 million head in 2023**.



Note: Shaded area represents 2 times the 2010 to 2020 RMSE. DD = US beef domestic demand index, EXD=US beef export demand index.
Source: USDA NASS, USDA AMS, LMIC, Rabobank 2021

Figure 6. Forecast of US beef packing gross margin percent assuming total industry operational packing capacity expands by 5,000 head per day by 2023 and US **beef cow inventory declines to 30 million head in 2023.**



Note: Shaded area represents 2 times the 2010 to 2020 RMSE. DD = US beef domestic demand index, EXD=US beef export demand index.
Source: USDA NASS, USDA AMS, LMIC, Rabobank 2021

Industry Response

1) New construction and expansion

In response to the economic signals being sent from the imbalance of cattle supplies and operational packing capacity, numerous plans for greenfield plants or expansions of existing facilities have been unveiled in recent months. These plans come from new entrants, minor incumbents, and major incumbents alike. If all of the announced plans for plant construction and expansion come to fruition, 7,000 to 8,000 head of daily fed cattle capacity and 1,500 to 2,000 head of daily non-fed capacity could be added to the US beef industry over the next five years.

Most all of the greenfield construction or new entrant plans are small to medium sized (500 to 1500 head/day capacity), supply chain coordinated, and focused on product differentiation. If these smaller plants are going to compete with the efficiency, economic scale, and scope of the large incumbents, they will have to be successful in these supply chain relationships and product differentiation. Again, entering the meat packing space is not just about building a facility, it's about building a business model. Not only are cattle supply relationships critical, but strong relationships with buyers (for every piece, not just the high-value cuts) are critical.

Current consumer and investor trends suggest that moving forward there's real opportunity for beef companies with traceable, well-informed, coordinated supply chains that can verify production practices and differentiate product on more than just eating quality. Thriving export markets and growing export opportunities also point to ever growing demand for US beef. Many of the current plans to build new capacity are a long way from realization with many of the previously described challenges yet to be tackled.

Local lockers and 'micro-plants' have a place in direct-to-consumer marketing and can play an important role in rural communities, however they simply don't offer enough scale to make a measurable, industry-wide impact in the balance of cattle numbers and packing capacity. That said, with the proper business model, they can offer great opportunities for some operations.

2) Technology

Whether in new or existing plants, increased technology implementation will be a critical component of future success. Recently, many packers have revitalized their focus on technology development as a means to address labor challenges, manage processing costs, and reduce product waste. Enlightened by the pandemic to the long standing labor shortages in the meat industry, many startups are also bringing outside expertise and perspectives to advance technology in the meat supply chain.

Maintaining necessary skilled labor has long been a challenge for packers. Covid-19 has magnified labor challenges and revealed the necessity of additional employee safety measures. Although hazard bonuses, additional sick leave, and other costs most directly associated with the pandemic will diminish with time, many additional labor costs associated with employee well-being, including base wages, benefits, and in-plant safety measures will persist into the future.

As the packing plants of the future gradually become more automated, efficiency will improve and throughput volatility will decrease. Operating hours may also become less restrictive, particularly if technology allows for a smaller Saturday workforce. While increased automation in carcass breakdown and fabrication is certainly a long-term goal, improved production-line data collection and machine monitoring have the most near-term promise. Increased real-time production-line monitoring will help identify choke points and inefficiencies while preventing breakdowns and the introduction of foreign material. Estimating current industry daily fed slaughter capacity at roughly 100,000 head, even a 1 percent improvement in efficiency across all existing plants could add 1,000 head daily fed cattle capacity. The final result will be an inherent increase in operational capacity at existing plants. However, these changes will take time.

A Note of Caution

As already described, current market fundamentals suggest that for those willing to take the capital risk and do the work to build a viable, competitive business, today may offer the best opportunity in decades to expand packing capacity. Yet, there is a point where industry capacity expansion goes too far to withstand cyclical periods of tight cattle supplies. Support for new packing capacity that is given too freely, without enough private risk, and with disregard to long-term market fundamentals, may invite over-expansion, putting all market participants in jeopardy, particularly new entrants.

Price Spreads Will Narrow

The biology and natural time-delays of the beef industry make it slow moving and capital intensive. Adjustments take years. Total US cattle numbers peaked in 2019 at 94.8 million head and will likely contract for another couple years. If not for the pandemic disruptions, cattle supplies and packing capacity would already be much better aligned. In such a "No-Covid" scenario, current packer gross margin percent would likely be closer to 2018 levels, 18%, rather than today's 30%.

With any luck we will work through the long tail of 2020's cattle backlog in Q3 2021. As such, year-over-year cattle prices will rise in 2H 2021 and beyond. In conjunction with tightening cattle supplies, capacity expansion projects will come online over the next several years and new technologies will reduce labor constraints, further shifting margins to the benefit of cattle producers.

Markets At Work

The shocks to the beef industry over the last couple years have presented the entire beef supply chain with enormous challenges. The resulting price movements have been frustrating for cattle producers, to say the least. Yet, these same price movements and supply chain disruptions have also contributed to the accelerated investment in packing capacity expansion, new technologies, and new business strategies that will help the beef industry adapt and evolve to ever changing demands. That's the market at work.

Statement of Dr. Mary Hendrickson

College of Agriculture, Food and Natural Resources (CAFNR)

University of Missouri-Columbia

Before the U.S. Senate Committee on Agriculture, Nutrition and Forestry

June 23, 2021

Chairman Stabenow, Ranking Member Boozman and Members of the Committee, thank you for this opportunity to testify regarding the social impacts of market arrangements in the cattle industry. I am a Rural Sociologist at the University of Missouri and have spent the last twenty-five years examining the ways we have organized markets for agricultural commodities and foodstuffs, and the social and ecological impacts of those arrangements on farmers, workers and eaters, their communities and ecologies. I have also spent considerable time on the ground working with farmers and others in the food system to build alternatives to the dominant food system through direct marketing, cooperatives, alternative processing and retailing, community policies and other community efforts.

As a rural sociologist, my concern centers around the impacts of market organization on relationships between farmers, consumers and communities, in effect the social infrastructure that can make our food system and our communities resilient to natural and socio-economic disasters – like the pandemic. This training and concern leads me to focus on the broader impacts of competitive markets in livestock and other agricultural commodities, in particular the benefits they may offer to society that are larger than the impacts to individual competitors.

Competitive markets exist when no one seller and no one buyer can influence the marketplace, which means no one actor has the power to define choices or prices or ways of participating in the marketplace. Competitive markets can encourage a diversity of organizational forms (everything from single buyers or sellers to cooperatives to worker-managed firms), as well as multiple linkages across actors, both of which are necessary for resilience and innovation.[1] Competitive agrifood markets can decentralize decision-making over food, something that every human being needs every day. For example, many farm and food businesses focused on local food markets were able to adjust more quickly than far-flung supply chains during the initial stages of the pandemic. Researchers found these enterprises were more nimble and connected to their supply chain partners, which allowed them to quickly innovate.[2]

The distribution of power in the food system, embodied in the power to make decisions about what food is produced, how, where and by whom, as well as who gets to eat and what they get to eat, becomes a focus of concern when that decision-making power is concentrated in the hands of managers and boards of directors of transnational agrifood companies. To meet shareholder expectations these firms look to their bottom line, not their impact on farmers, communities, consumers or the natural world. As you are certainly aware, the four largest beef packing firms were responsible for 85 percent of the U.S. steer and heifer slaughter in 2018.[3] Four of the largest cattle feeders have a one-time capacity to feed over 2.5 million head.[4] Meanwhile, there are a little over 750,000[5] cow-calf farms in the U.S., with an average herd size of 43.5 head,[6] producing the steers and heifers that will funnel to these large firms. While looking for profit, these producers are also concerned with their autonomy and well-being, as well as their relationships with other farmers and their community.

[1]Worstell, J., and Green, J. 2017. "Eight qualities of resilient food systems: Toward a sustainability/resilience index." *Journal of Agriculture, Food Systems, and Community Development*, 7(3), 23–41.http: //dx.doi.org/10.5304/jafscd.2017.073.001
[2] Thilmany, D., E. Canales, S.A. Low, and K. Boys. 2021. "Local food supply chain dynamics and resilience during COVID-19." Applied Economic Perspectives and Policy 43(1): 86–104.doi:10.1002/aepp.13121.
[3] USDA GIPSA Packers and Stockyards Annual Report, 2019, p. 9. Available at https://www.ams.usda.gov/sites/default/files/media/PSDAnnualReport2019.pdf.
[4] Hendrickson, M., P. Howard, E. Miller and D. Constance. 2020. *The Food System: Concentration and Its Impacts*. Report to Family Farm Action Alliance. https://farmactionalliance.org/concentrationreport/ Sources of information compiled to obtain these numbers are cited in the report and include various trade publications and company press releases.
[5] USDA. 2017. Census of Agriculture – Table 12. Available at https://www.nass.usda.gov/Publications/AgCensus/2017/Full_Report/Volume_1,_Chapter_1_US/st99_1_0011_0012.pdf
[6] See USDA Agricultural Census data at https://www.ers.usda.gov/topics/animal-products/cattle-beef/sector-at-a-glance/.

What are the impacts of consolidated decision-making in the cattle industry as well as in the larger food and agricultural sector? At the farm level, agrifood consolidation reduces farmer autonomy and redistributes costs and benefits across the food chain, squeezing farmer incomes.[7] The fact that four firms process over four-fifths of steer and heifer slaughtered means fewer choices for farmers about where they market their animals. My colleague, Harvey James (an agricultural economist), and I have argued that fewer market options "constrains – as in limits or inhibits – the decisions of farmers by restricting choice options or the types of decisions they can make. ... Second, it constrains – as in compels or obliges – the choices of farmers by forcing them into the kinds of decisions that they otherwise would not have chosen for ethical or other reasons."[8] We have also argued that basic agrifood liberties, such as the freedom to negotiate and dictate terms or the freedom to know (to be informed), can be constrained when agrifood markets are consolidated.[9]

As I stated, I am particularly concerned about social relationships and communities. Over a decade ago, Lobao and Stofferahn conducted a meta-analysis of the relationship between agricultural structure and community well-being.[10] They found detrimental effects of industrialized farming on communities, such as increased income inequality or poverty and population decline, were reported in 82 percent of 51 studies. One of the most poignant moments of my professional life occurred when a northeast Missouri farmer told me: 'I used to look around to see if any farmers were getting out of farming so I could get their land to farm. Now I look around and see I have no neighbors.' In the same vein, Jane Gibson and Benjamin Gray, anthropologists at the University of Kansas, showed that a consolidated agriculture "without people" has

[7] Hendrickson et al 2020.
[8] Page 283 in Hendrickson, M. K., and James, H. S. 2005. The ethics of constrained choice: How the industrialization of agriculture impacts farming and farmer behavior. *Journal of Agricultural and Environmental Ethics*, 18(3), 269–291.
[9] Hendrickson, M. K., and James, H. S. 2016. Power, Fairness and Constrained Choice in Agricultural Markets: A Synthesizing Framework. *Journal of Agricultural and Environmental Ethics*, 29(6), 945–967. https://doi.org/10.1007/s10806-016-9641-8
[10] Lobao, L., and C.W. Stofferahn. 2007. "The community effects of industrialized farming: Social science research and challenges to corporate farming laws." *Agriculture and Human Values* 25(2):219–240. https://doi.org/10.1007/s10460-007-9107-8

depopulated Western Kansas with an accompanying collapse in social relationships.[11] It's not just happening on the American Great Plains. In discussing linkages between farming, rural prosperity and well-being, researchers in Europe found "less concentration of (agricultural) production and wealth will, almost inevitably, enhance social cohesion."[12] Social cohesion, as well as social capital, is the glue that allows groups and communities to accomplish their goals and dreams.[13] That glue is imperative when communities are confronted by shocks. For instance, we know that strong social networks were critical for communities in addressing emergency food provisioning during COVID-19.[14]

The organization of our agrifood system impacts its social and ecological resilience. The global pandemic showed a number of cracks and flaws in how our agrifood system currently operates – especially in the livestock sector. Worker health and well-being are important indicators of food system sustainability, and both were severely impacted by COVID-19. In addition to the real-time analysis of reported infections in meatpacking plants, conducted by Leah Douglas at FERN[15], Columbia University researchers documented a "strong relationship between proximity of livestock plants and the incidence of COVID-19 over time."[16] Beef, pork and chicken processing plants were shut down at various times due to COVID-19 infections, causing a back-up of live animals waiting to be slaughtered. These live animals had to be fed,

[11] Gibson, Jane W. and Benjamin J. Gray. 2019. "The Price of Success: Population Decline and Community Transformation in Western Kansas." Pp. 325–62 in *In Defense of Farmers: The Future of Agriculture in the Shadow of Corporate Power*, edited by J. W. Gibson and S. E. Alexander. Lincoln, NE: University of Nebraska Press.
[12] Knickel, K., Redman, M., Darnhofer, I., Ashkenazy, A., Calvão Chebach, T., Šūmane, S., Tisenkopfs, T., Zemeckis, R., Atkociuniene, V., Rivera, M., Strauss, A., Kristensen, L. S., Schiller, S., Koopmans, M. E., & Rogge, E. 2018. Between aspirations and reality: Making farming, food systems and rural areas more resilient, sustainable and equitable. *Journal of Rural Studies*, 59:197–210. https://doi.org/10.1016/j.jrurstud.2017.04.012
[13] Flora, C. and J. Flora. 2007. *Rural Communities: Legacy and Change*. Boulder CO: Westview Press.
[14] Jablonski, B.B.R. J. Casnovsky, J.K. Clark, R. Cleary, B. Feingold, D Freedman, S. Gray, X. Romeiko, L. Schmitt Olabisi, M. Torres, A. E. . van den Berg, C. Walsh, and C. Wentworth. 2021. "Emergency food provision for children and families during the covid-19 pandemic: Examples from five U.S. cities." *Applied Economic Perspectives and Policy* 43(1):169–184. doi:10.1002/aepp.13096. See also this look at food pantries in particular: Hermsen, J., D. Chapman, F. Carlos Chavez, A. Iftekhar, M. Lee and M. Staab. 2021. "Food pantry operations during COVID-19." Presentation at the annual meeting of the Midwest Sociological Society. March.
[15] See https://thefern.org/2020/04/mapping-covid-19-in-meat-and-food-processing-plants/.
[16] Taylor, C., C. Boulos, and D. Almond. 2020. "Livestock plants and COVID-19 transmission." Proceedings of the National Academy of Sciences 117(50):31706-31715.

raising costs for farmers, or, in some cases, euthanized, causing economic and psychological harm. In addition to harms to farmers and workers, there are ecological concerns about animal welfare and the waste of natural resources such as soil and water embodied in those animals. Shutdowns such as these, or the 2019 fire that closed the Tyson beef packing plant in Emporia, Kansas,[17] illustrate the lack of redundancy and flexibility in today's agrifood system.

What can we do? One of the keys to social and ecological resilience is diversity. No one approach at any given scale will prove effective. Instead, we have to create a resilient food system through a combination of actions, strategies and policies at multiple levels that are ecological, democratic, and equitable within and across populations, generations and species. These experiments need to keep front and center the main goal of any food system – to provide healthy, nutritious food for all people, now and in the future, as we deal with a changing climate and declining natural resources. To accomplish that fundamental goal, we need a diversity of public, private and cooperative food and farm businesses, both small and large, that are transparently interconnected through multiple networks, to build redundancy and provide fallbacks when some organizations or networks fail.[18]

I don't have just one recommendation that policy-makers can pursue – as I tell my students, the food system is a wicked problem which has no one right answer. But we can learn from the negative social, economic and ecological impacts we have experienced. We can prioritize social and ecological resiliency and redundancy in business arrangements. We can invest in building social infrastructure to prepare ourselves better for the climate and social shocks of the future. We can understand that worker rights, animal welfare, farmer viability, food security and ecological sustainability are all bound together, requiring special attention to tradeoffs and who has the power to make these decisions. We can gain the necessary flexibility and adaptability to cope with emerging natural and social shocks while keeping humanity

[17] https://www.kansas.com/news/politics-government/article233949422.html
[18] Worstell and Green, 2017.

fed by building a decentralized system of production and consumption, with power distributed from the bottom up.

Madame Chairwoman, thank you for the opportunity to discuss the social impacts of how we organize agricultural markets. I look forward to answering any questions you may have.

DOCUMENTS SUBMITTED FOR THE RECORD

JUNE 23, 2021

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June 23, 2021

The Honorable Debbie Stabenow, Chairwoman
The Honorable John Boozman, Ranking Member
Senate Committee on Agriculture, Nutrition & Forestry
328A Russell Senate Office Building
Washington, DC 20510

RE: Senate Bill 3693 & Senate Bill 543

Dear Senator Stabenow and Ranking Member Boozman
and members of the Senate Committee on Agriculture, Nutrition & Forestry:

I am writing to oppose Senate Bill 3693 and Senate Bill 543. The spirit of these bills is, at best, detrimental to our current robust value-based marketing system. At its worst, the bills have the potential to turn the quality clock back three decades.

I am a senior veterinarian and small business owner in Southwestern Kansas. Our clinic is a five-veterinarian practice serving 13 Kansas counties, five in Oklahoma and several counties in Texas. I am a livestock producer and charter member of U.S. Premium Beef (USPB). Our business has evolved and changed over the last 30 years. However, one factor that has enabled Southwestern Kansas to be sustainable and prosper is the reality that our producer/clients have invested in a marketing system that provides opportunity for them to be more profitable by earning premiums for higher quality beef production.

Value-based marketing has proven, over decades, to be a win-win for the entire beef supply chain, including the consumer. Producers flourish because of their investment in a system that creates incentives to produce higher quality beef. They understand that high quality beef production is a lifetime process that begins with their genetic, nutrition and herd health management decisions. Because of their discipline and financial commitment to quality production, they have access to a marketing system that systematically yields greater returns on their investments.

The evolution of Alternative Marketing Arrangements (AMA) is the result of nearly thirty years of producers seeking a pricing system to capture the complete value of their livestock. Progressive producers have used scientific tools to manage genetics, health, and nutrition on the ranch. Capturing value on investments in beef cattle is at harvest time when the animal produces a higher quality carcass with more value throughout the supply chain, including the meat case.

Most producers choosing to ignore sound science and opportunity are commodity stakeholders averse to competition. Commodity stakeholders have resisted change, refused to make improvements in their production systems and cow herds. Senate Bill 3693 and Senate Bill 543 appear to be driven by those invested in a commodity system that signals all beef, regardless of quality or retail value, is equal.

We all know the pitfalls of populism, especially when it is driven by a population largely disconnected from how safe, nutritious, and high-quality meat protein gets to their tables. Uninformed populism devolves to inequality as tangible value and competitive differences are disincentivized. Value-based marketing systems are the "rising tide that lifts all boats."

A study conducted in 2018 predicted the demand for USDA Select (i.e.: commodity beef) would be reduced to less than 25% of market share in just a few years. Market reports during the third quarter of 2020 documented the demand for USDA Select (commodity) beef fell to "14%, the lowest seven-month average on record and 3.5 percent lower than the first seven months of 2019." Conversely, today more than 80% of beef cattle processed grade USDA Prime and Choice. The dramatic increase in beef quality is largely the result of a robust marketing system rewarding stakeholders for making investments in higher quality beef production. SB 3693 is an antithetical attempt to force the supply system to pay less, yet, expect the same higher quality, and ignores the consumer's signal consistently sent down the supply chain for decades. If SB 3693 is passed, the unintended consequences to our county in Kansas will be catastrophic. Today, livestock sales account for 85% of Clark County revenue. The five largest taxpayers in the county are large, family-owned beef producers. Commodity beef production does not enable us to remain economically solvent.

Senators Stabenow and Boozman and members of the committee, we are depending on you to be our advocate and ally for sound science, limited government intervention and a free market system. SB 3693 is a grasp for equal pricing for less quality and has serious long-term consequences to the production of higher quality beef. SB 3693 will result in producers being paid less for their years of investments in quality production and force the reduction of investments in their cowherds. We will have a less desirable product, potentially decreasing domestic and export demand. There will be no incentive for the meat processing companies to reward a higher quality product when 50% must be purchased by an arbitrary bid. There is no proof that SB 3693 or SB 543 will result in a higher base price.

None among us argue the importance of price discovery. In fact, value-based marketing over the past three decades has done more to improve transparency and price discovery that any government regulation. Many of our industry critics have no connection to the supply chain past their farm or ranch gate. They militantly discount the prosperity that value-based marketing has returned to progressive producers willing to invest. They deny the reality that our supply issues are largely cyclical. Their memories are short, and they forget that in 2015, the beef market was historically high, and they were likely overpaid for their product. Many also fail to recall the dramatic reduction of national cow herd numbers a mere decade ago, forcing packers to close plants and reduce capacity because the supply of fed cattle was not enough to keep the plants solvent. No doubt processing disruptions and the pandemic have created significant pressure on the cash market. Our marketing system based on quality, supply and demand continues to work precisely as it was intended. The difference today is the reality the majority of stakeholders marketing beef prefer to work within a quality-based system that creates opportunity and the incentive to continue to improve.

SB 3693 and SB 543 will result in turning back the clock more than 30 years and ignore a consumer's preference and willingness to pay for higher quality beef. It will be an industry travesty to succumb to the pressure of uninformed or misinformed constituents, disrupt an economic marketing system based on quality and value. The beef industry, from gate to plate is incredibly complex and, at times, precarious. We must find solutions that do not involve government intervention. Please reject SB 3693 and SB 543.

Sincerely,

Randall K. Spare DVM

Randall K. Spare DVM
Ashland Veterinary Center Inc

F Cross Cattle Company, LLC

June 14, 2021

Senator Debbie Stabenow
Chairwoman
Senate Committee on Agriculture, Nutrition and Forestry
328A Russell Senate Office Building
Washington, DC 20510

Senator John Boozman
Ranking Member
Senate Committee on Agriculture, Nutrition and Forestry
328A Russell Senate Office Building
Washington, DC 20510

Re: SB 949 & SB 543

Dear Senators Stabenow and Boozman:

I write as a 4th generation beef cattle producer from Colorado concerned about the potential loss of markets resulting from proposed legislation in Senate Bills 949 and 543. If these bills were to become law, it would reduce marketing options for my cattle and significantly diminish my rewards for meeting consumer demands.

Senator Grassley's proposed legislation requiring covered meat packers to purchase 50% of their daily needs on the spot cash market is arbitrary and is without statistical foundation. There is no research that defines a specific threshold for fair market value, so there is no reason to believe a 50% cash purchase requirement would change the price level of cattle traded today or going forward. Currently approximately 20% of production is marketed via negotiated cash sale, which can be argued is a valid test of the cash market.

The "Cattle Market Transparency Act", sponsored by Senator Fischer, is potentially even more subjective requiring the USDA Secretary to "establish regional mandatory minimums (of cash negotiated sales) for the purpose of enhancing price discovery..." This leaves the essential function of price discovery at the whim and discretion of an administrative officer who has no vested interest in the benefit of producer, processor, or consumer.

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Presently, a large majority of cattle producers choose to market their cattle via an Alternative Marketing Arrangement (AMA) where value is established by the quality of product; producers are rewarded and paid for what they produce. Under the proposed "50/14 Rule" if packers are required to purchase 50% of their needs on the cash market then 50% of producers will be mandated to sell production on the average and unable to capture market premiums created by superior quality. Owners of 30% of production will be involuntarily forced to "take one for the team," which is a large sacrifice to ask for a phantom benefit to appease a few outspoken cynics.

The beef industry has worked diligently to develop and produce a high-quality protein that efficiently meets the needs and desires of today's consumer and receives strong export demand as well. Our complex market structure has evolved to include economic incentives to produce what consumers want while putting more dollars into ranchers' pockets. Animal genetics and modern production practices have made tremendous gains in response to market incentives that reward doing the right thing and doing it well. Legislation that pairs the term "required purchase" with "price discovery" is simply at odds with itself.

An actively traded cash market is vital to the US beef cattle industry and is in fact the foundation on which AMA's are built. The producing and processing segments of our business are diligently working hand in hand to preserve market integrity and cash signals that accurately reflect the functions of supply and demand. The present disparity between live cattle and retail beef prices is clearly a function of processing capacity, not price discovery. Kinks in the supply chain will straighten as entrepreneurs respond to opportunity, not by the heavy hand of government intervention. These bills reflect an emotionally impulsive influence of populism, devoid of factual basis, arbitrarily applied, and are destructive to the interests of consumers and producers alike.

I urge the Committee to reject this misguided effort to skew an active market and impair our national beef supply chain.

Respectfully,

Mark Frasier
F Cross Cattle Company

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BLAIR BROTHERS Angus Ranch

June 14, 2021

The Honorable Debbie Stabenow
Chairwoman
Senate Committee on Agriculture, Nutrition and Forestry
328A Russell Senate Office Building
United States Senate
Washington, D.C. 20510

The Honorable John Boozman
Ranking Member
Senate Committee on Agriculture, Nutrition and Forestry
328A Russell Senate Office Building
United States Senate
Washington, D.C. 20510

Dear Senators Stabenow and Boozman,

I am writing to provide my comments on Senate Bill 3693along with Senate Bill 543, and to share my perspective on the issue of price discovery. Along with my brother, son and nephew, I run a diversified Angus seedstock operation in western South Dakota. We focus on genetics that produce high quality beef and have expanded our operation to include a calf buy-back program. Through this program we purchase calves from our seedstock customers that we finish in feedyards in Kansas. Blair Brothers Angus Ranch is also a founding member of US Premium Beef, which is a marketing cooperative established by producers to enable them to produce high-quality beef and own it all the way through the beef supply chain. We rely on the grid pricing structure of US Premium Beef and their association with National Beef Packers to capture value from our efforts to produce high-quality beef.

I have also spent over 40 years as a cattle market analyst and have a broad understanding of the cattle and commodity markets. From my perspective both as a market analyst and as a rancher I am very concerned with the unintended consequences of these bills. It is important to understand that packers have not forced feedyards into marketing agreements. Feedyards managers have used these agreements as highly effective risk management tools, and they have in turn made feedyards more efficient. Further, mandatory price reporting actually made USDA market reports slower and incomplete in some areas due to confidentiality issues. If the 50/14 bill were passed, the current price reporting system would still not allow for rapid price reporting due to these limitations.

While the present system is not perfect, it has evolved over time into a workable system. When it stops working for the majority of feeders then they will make a change, because again, they are not forced into these arrangements. If there was an easy answer we would already have a different method of price discovery, however it is my sincere opinion that a legislative mandate fueled by a vocal minority is not the answer. The 50/14 plan would effectively reward the inefficient and uninformed beef producer. In our experience, many of the small producers we have sold seedstock to are very progressive in their desire to improve their genetics and produce higher quality beef. This bill would hurt small producers that are working to find a niche in the market and add value to their cattle.

The central issue driving this discussion in the cattle market today has been a lack of slaughter capacity. Capacity limitations have been exacerbated by the Holcomb packing plant fire that eliminated that plant from production for 5 months followed shortly thereafter by packing plant slow-downs and shut-downs due to COVID-19. The cattlemen that have worked on their genetics and are producing the kind of cattle that the packer, retailer, and consumer desires are not having a hard time selling their cattle and furthermore they are able to sell them at a premium to the cash market because value-based marketing arrangements exist. We personally have cattle that beat average prices by $200-270 per head. This is possible because premiums were paid based on the quality of beef we are producing. If the 50\14 rule went into effect, the incentives to produce high-quality beef would be minimized, resulting in lower prices for quality cattle, lower quality beef for consumers, and loss of the competitive edge U.S. beef holds in the world market.

Efforts to increase negotiated trade and ensure robust price discovery are underway. I would urge the Senate Ag Committee to allow these joint efforts by various industry segments to continue to develop without the mandate that would be created by the 50/14 Bill and the Cattle Transparency Act of 2021, along with the unintended consequences these bills would cause.

Best regards,

Richard Blair

Rich Blair
Blair Brothers Angus Ranch
Rich Blair Commodities
605-347-1212

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June 14, 2021

The Honorable John Boozman, Ranking Member
Senate Committee on Agriculture, Nutrition and Forestry
328A Russell Senate Office Building
United States Senate
Washington, D.C. 20510

Dear Senator Boozman,

I write you today in opposition to Senate Bill 3693 (S. 3693), also known as the "50/14" plan introduced by Senator Charles Grassley (R-IA).

In our 154 years farming and ranching in the Flint Hills of Kansas, our family has seen its share of market challenges. In nearly all of these market downturns, we have witnessed a few vocal cattlemen asking for help from the government. And usually, the well-intentioned programs that were designed to "help" ranchers resulted in even more pain for producers in the long run. We believe that industry-led solutions are much more effective than government mandates.

I graduated from Kansas State University in 1996. It was a bleak time in the cattle business, with low prices for both cattle and beef. Consumer demand was at its lowest point in history. Nearly all fed cattle sold in the negotiated cash market, and most sold for the same price. It was a true commodity scenario, with little incentive to produce higher-quality beef. Meanwhile, consumers turned to other proteins, because much of the beef purchased did not meet their expectations for quality.

About that same time, a group of cow-calf producers had a few meetings to address this issue of the "one size fits all" pricing structure of fed cattle. These cattlemen knew there were quality differences in beef, and they believed that consumers would pay more for "the good stuff." They were also businessmen, and they realized that no one would produce better beef if they were not paid premiums to do so. They saw the long-term effects of falling consumer demand, and they knew we had to build more consistent profit opportunities into the beef production system.

So they gathered support for their value-based marketing "grid" concept, and then they sat down with representatives of the beef processing segment until they found someone who would give them a chance to put their model into practice. This was the start of US Premium Beef, and in reality, the beginning of the quality revolution that has regained beef's position as the premium protein across the world.

As with any novel concept, there were unintended consequences. One of these is a large movement of "negotiated cash cattle" toward grids, formulas and other alternative marketing arrangements (AMAs). Most cattlemen will agree that we need to address this reduced number of "cash" cattle, which

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effectively sets the base for most of these AMAs. I agree--our beef community needs to find better ways to establish adequate price discovery.

But no one can convince me that a requirement of 50% "cash traded" cattle sold each week will result in long-term profitability for cattlemen. Regardless of what supporters of S. 3693 may say, our industry has not shown the ability to equitably price fed cattle based on their true value to the consumer. Therefore, we will quickly be back to a "one price takes all" scenario of commodity pricing, which will move us back toward low-cost production instead of the consumer-focused mindset that the industry has moved toward in recent years.

From my perspective, this is a discussion of short-term vs. long-term benefits to cattlemen. S. 3693 may take us back to the tough-guy image of cowboys squeezing a few more dollars out of the packer's pocket when we have leverage, just to give it all back when market leverage shifts back in the packers' favor. Meanwhile, we'll leak billions out of the entire beef industry as consumers see beef quality and consistency decrease. Let us remember that the true source of additional value (DOLLARS) injected into the beef industry must come from the consumer purchasing our products.

Cattlemen have historically been an independent bunch. We believe in smaller government and less market intervention. When faced with challenges, we sit deep and find ways to improve our profitability. The 50/14 plan flies in the face of everything in which we have historically believed. It would not only invite a government mandate to send false market signals, it would jeopardize our ability to create value at the consumer level and incentivize producers for meeting that demand.

Do we need to address price discovery in fed cattle? I believe that indeed we do. But let CATTLEMEN address this complex issue ourselves instead of making government mandates that force us to retreat to a commodity market. Beef producers have made huge strides in the areas of beef quality, consistency and carcass utilization in the last two decades. It is not worth erasing that progress, when we could simply address the true issue of price discovery.

Thank you for your time and attention to this important issue. Those of us who are busy improving our cowherds and the beef they produce ask that you give us the opportunity to address our marketing issues instead of adding regulations that will likely create even more problems.

Sincerely,

Matthew D Perrier

Matt Perrier
Dalebanks Angus Ranch
Eureka, KS

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June 14, 2021

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Sincerely,

Matthew D. Perrier

Matt Perrier
Dalebanks Angus Ranch
Eureka, KS

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PERFORMANCE BLENDERS

Where Performance is an Ingredient

The Honorable Debbie Stabenow
Chairwoman
Senate Committee on Agriculture, Nutrition and Forestry
328A Russell Senate Office Building
United States Senate
Washington, D.C. 20510

The Honorable John Boozman
Ranking Member
Senate Committee on Agriculture, Nutrition and Forestry
328A Russell Senate Office Building
United States Senate
Washington, DC 20510

June 11, 2021

Dear Senator Stabenow and Senator Boozman,

Comments: Senate Bill 3693 - "50/14 Bill" and
Senate Bill 543 – "Cattle Market Transparency Act of 2021

I am a small business owner and livestock producer. I have been in the livestock feed business for 40 years. In the late 1990's the production and marketing of swine made some dramatic changes which affected many of my small customers. About this same time the finished cattle markets in my area began to disappear. In an effort to keep my smaller cow/calf, farmer feeder customers in business with a marketing program, I became affiliated with U.S. Premium Beef (USPB). I leased and later purchased shares/units of USPB to gain market access and collect carcass data for my producers. Since the beginning, we have worked with over 180 producers, marketed over 30,000 head of cattle, and made tremendous improvement in genetics and created a marketing program that is consumer driven and focused. Every animal has been sold on a value-based carcass merit program. The captured quality and brand premiums have allowed my customers and me to survive and thrive in a very competitive industry. Some of our accomplishments will follow.

The national average of cattle that grade USDA Prime is 6%. My customers have improved their genetics and feeding practices over the last 20 years. In the 2019 marketing year, we sold 97% Choice and Prime, of which 36% was Prime (6 times the national average). 71% qualified for Certified Angus Beef, and 7% Black Canyon Premium Reserve. After the first case of BSE was found in the U.S in December of 2003, we provided Age and Source verified cattle that were eligible for export to Japan and other countries. We have also provided cattle that were eligible for natural programs where no animal by-products, antibiotics or implants could be administered. All of these accomplishments by my producers have given them the opportunity to compete by capturing premiums in the marketplace. Last Spring, in worst of COVID-19, we sold a pen of cattle that graded 85% USDA Prime. Most recently, a small local producer produced 75% USDA Prime on 20 head. There is still a way to make a profit with the cash cattle reporting/pricing structure that is in place along with Alternative Marketing Arrangements (AMA's).

PERFORMANCE BLENDERS

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In the past 20 years we have only had to delay the delivery of cattle ONE time for ONE week. Most of the time the cash market is significantly higher than the "local cash" if we can even find that price. Many times a local cash price is on one or two animals….not any volume.

Our program has worked well for those producers with replacement heifer development programs, selling freezer beef and small producers selling one or two head at a time. We become their back-up marketing option. Many times we have five to seven owners on one semi load. This involves working together, focusing on genetics and quality, being consumer driven, and the beef producers being more responsible for what, where, and how they market their cattle. I DO NOT believe this bill would improve the marketing and/or pricing opportunities for small producers. We have proven that the present program of price discovery and marketing has worked for me and my participating producers. Now there are other individuals in my area doing the same thing as we have been doing for the past 20 years. I think that says there is opportunity to make more money for everyone while improving the quality of beef for the world and supplying the wants and the needs of the American consumer.

Thank you for reading my comments. I appreciate your time and consideration of my viewpoint.

Gerald E. Shinn

Gerald E. Shinn
Owner

Performance Blenders, LLC
P.O. Box 200
Gordonville, MO 63752-0200

BRUNING FARMS
BRUNING, NEBRASKA
est. 1880

June 16, 2021

The Honorable John Boozman
Ranking Member
Senate Committee on Agriculture, Nutrition and Forestry
328A Russell Senate Office Building
United States Senate
Washington, D.C. 20510

Dear Senators Stabenow and Boozman,

I'm writing to you in opposition of Senate Bill 3693 (S. 3693). I manage our family's cow/calf and feedlot operation in southern Nebraska. Producers have marketing avenues available to them, the most beneficial being value-based marketing and without doubt, S. 3693 will cripple those options.

Beef producers conceived the value-based marketing system in order to incentivize quality and set the U.S. apart from other countries. If packers were regulated under S. 3693, who decides what cattle are given the mandated cash price? This bill will give too much power to the purchaser allowing them the option to pay a spot market price for cattle that typically grade well and eliminate their potential for premiums. These changes will eventually reshape the U.S. cattle industry and shrink export demand for our product.

We currently utilize value-based marketing to our price advantage. Processors are willing to pay more as we assume more risk. We understand the value of high-quality beef and the consumer's willingness to pay a higher price for that product and can control the quality beef we produce through proper management of genetics and diet.

What is popular is not always correct, and it seems the loudest proponents of S. 3693 have not considered the potential negative effects of this bill or its rule-making process that follows. It is not the government's job to regulate markets or assist producers that do not have marketing plans. The Tyson fire and COVID-19 pandemic should be seen by cattlemen as wake-up calls to explore the copious amounts of marketing options and risk mitigation available to them. This bill threatens the longevity of my family operation that utilizes the premiums for our beef as part of our marketing strategy. We have put too much effort in developing high-quality beef that consumers desire to potentially be paid a government mandated base price.

I understand that increasing price discovery is the intention of S. 3693, however an expansion of mandatory price reporting achieves that goal without carrying the consequences of S. 3693. I have yet to hear an economist that sees the value in a price mandate. One economist commented, "Don't stress a hyper stressed market." S. 3693 is a reactionary response and call for unjustified change to a proper functioning economy. Cattlemen cannot afford to have fewer marketing options.

Sincerely,

Reiss Bruning

Reiss Bruning
Bruning Farms
402-768-3332
reiss@bruningfarms.com

BRUNING FARMS
BRUNING, NEBRASKA
est. 1880

June 16, 2021

The Honorable Debbie Stabenow
Chairwoman
Senate Committee on Agriculture, Nutrition and Forestry
328A Russell Senate Office Building
United States Senate
Washington, D.C. 20510

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Sincerely,

Reiss Bruning

Reiss Bruning
Bruning Farms
402-768-3332
reiss@bruningfarms.com

Means Ranch Company, LTD.

Post Office Box 489

Van Horn, Texas 79855

June 14, 2021

The Honorable Debbie Stabenow
Chairwoman
Senate Committee on Agriculture, Nutrition and Forestry
328A Russell Senate Office Building
United States Senate
Washington, D.C. 20510

and:

The Honorable John Boozman
Ranking Member
Senate Committee on Agriculture, Nutrition and Forestry
328A Russell Senate Office Building
United States Senate
Washington, D.C. 20510

Dear Senators Stabenow and Boozman,

I am writing this letter to you to express my concern and opposition to Senate Bill 3693 (S. 3693) introduced by Senator Grassley and Senate Bill 543 (S. 543) introduced by Senator Fischer.

While I understand and appreciate the concerns many cattle producers have over the current process by which cattle prices are determined when sold to packers, I must disagree with Senators Grassley and Fischer that either of these bills they propose are a good option for addressing those concerns.

Let me say first that everyone agrees vigorous price discovery is necessary for all market participants. However, it is my belief these bills are potentially damaging to value-based marketing, and Alternative Marketing Arrangements (AMA's) in general. Government intervention in how I ultimately market my finished cattle is concerning. Senate bills 3693 and 543 call for just that kind of intervention.

My first question is: if S. 3693 or S. 543 were to be approved, who determines how finished cattle are marketed? Whether it be the feeder, owner, processor or the government, this question remains unanswered. Recently, actions have been taken by the beef industry to include all segments working to increase negotiated trade. It is the industry's hope that this will ensure robust price discovery is occurring. Senators Grassley and Fischer and those pushing for this legislateion should give this process time to work. The industry voluntarily reaching a workable solution would be highly preferable to a legislative mandate.

I am aware that the increase in the percent of USDA Choice and Prime grading carcasses has been significant in the past few years. Data exists which confirms that the consumer is willing and wanting to consume higher quality beef at higher prices. It was producers, not packers who conceived, developed and implemented value-based marketing and AMA's which have helped to fuel this higher quality/higher price beef market. With value-based marketing, the risk surrounding potential carcass quality shifts to the producer. I believe this shift in risk is one of the reasons why processors are willing to pay premiums for targeted beef products that result in the greatest revenue. If it is mandated for the industry to shift a percentage of the risk back to the packer as a spot market transaction will surely do, it is unlikely this action will be healthy for value-based marketing or put more money in the pocket of producers like myself. Setting an arbitrary level of spot market transactions could ultimately force many producers to abandon our desire to participate in an AMA.

I urge you to resist Senator Grassley's and Senator Fischer's ill-conceived bills and to allow those of us in the industry to utilize ingenuity and hard work to produce excellent quality beef that is safe and healthy for all Americans and consumers worldwide at prices that reward producers fairly.

Sincerely,

Jon Means

Jon Means

Wayne Peek
4125 Harper Rd.
Mason, Mi. 48854

June 13, 2021

The Honorable John Boozman
Ranking Member
Senate Committee on Agriculture, Nutrition and Forestery
328 A Russell Senate Office Building
United States Senate
Washington, D.C. 20510

Dear Senator Boozman

Ref. Senate Bill 3693 (50/14 Bill)

I am writing to express my concerns on the 50/14 Bill. As an initial unit holder in US Premium Beef, have seen the advantages of value based marketing. In the last 25 years there has been a large increase in the percent of USDA Choice and Prime grading carcasses. This was made possible because producers adjusted there herds to produce the higher grades. This was done to get a premium when the fed cattle were marketed.

Everyone agrees vigorous price discovery is necessary for all market participants. However this bill is potentially damaging to value-base marketing, and Alternative Marketing Arrangements (AMA's). Goverment intervention in how we market our cattle is very concerning. If S 3693 were to be approved, who determines how finished cattle are marketed, will it be the feeder, owner, procrssor or the government? Mandating procurement is not synegistic with the manner USPB members market their finished cattle. It was producers, not packers who conceived, developed and implemented value based marketing and AMA's. With a spot market transaction, much of the risk regarding carcass quality is squarely with the packer.

With value-based marketing this risk shifts to the producer. This is one reason processors are willing to pay premiums for targeted beef products that result in greater revenue. Shifting the risk back to the packers will not be healthy for value-based marketing. I have been down the spot market road and the results were not good.

Sincerely yours,

Wayne Peek

Wayne Peek

Wayne Peek
4125 Harper Rd.
Mason, Mi 48854

June 13, 2021

The Honorable Debbie Stabenow
Chairwoman
Senate Committee on Agriculture, Nutrition and Forestry
328 A Russell Senate Office Building
United States Senate
Washington, D.C. 20510

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Sincerely yours,

Wayne Peek

Wayne Peek

Harp Farms,Inc.
Larry and Rebecca Harp
Post Office Box 452
Green Forest, Arkansas 72638

June 15, 2021

The Honorable John Boozman
Ranking Member
Senate Committee Agriculture, Nutrition and Forestry
328A Russell Senate
Washington, DC 20510

Senator Boozman,

I am writing you regarding my opposition to Senate Bill 3693 or "50/14 Bill". If enacted, this bill would require certain processor, National Beef, to procure 50 percent of their fed cattle needs via the spot market. The bill defines spot market sales as one where a firm-based price that may be equated with a fix dollar amount on the date the agreement is entered.

As a member of the U. S. Premium Beef, associate from 36 states share a belief that quality beef begins at the ranch and end with satisfied consumers. We have made a commitment to select the right genetics and to use the best possible production practices to produce consistent,high-quality beef Senate Bill 3693 will be detrimental to the value-based marketing and Alternative Marketing Arrangement overall. Government intervention is how we ultimately market our finished cattle and this bill is leaving many major questions and concerns unanswered, the most obvious in mind is who determines how finished cattle are marketed?

USPB members have worked for many years to understand all aspect of the beef production industry. Data clearly exists which confirm consumer inclination and want to consume higher quality beef at higher prices. Mandating procuremet as describe in Senate Bill 3693 is not cooperative with the ways USPB members market their finish cattle. This bill places much of the risk factors regarding quality and availability of product out of the hands of the producers and into the pocket of the packers and processor. I believe this type of change will force many producers to abandon their desire to participate in an alternative marketing arrangement.

Please review and consider this when making a decision on Senate Bill 3693. I would appreciate your vote against this bill as it is will negatively impact beef producers nationwide.

Sincerely,

Larry D Harp

Larry D Harp

Harp Farms,Inc.
Larry and Rebecca Harp
Post Office Box 452
Green Forest, Arkansas 72638

June 15, 2021

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Sincerely,

Larry D Harp

Larry D Harp

Fed Cattle Price Discovery Issues and Considerations

E-1053

Division of Agricultural Sciences and Natural Resources
Oklahoma State University

EXTENSION

Fed Cattle Price Discovery Issues and Considerations

Derrell S. Peel, Chair
Breedlove Professor of Agribusiness and Extension Livestock Marketing Specialist
Oklahoma State University

David Anderson
Professor and Extension Livestock Marketing Specialist
Texas A&M University

John Anderson
Professor and Head, Department of Agricultural Economics & Agribusiness
and Director, Fryar Price Risk Management Center of Excellence
University of Arkansas

Christopher Bastian
Professor and Paul Lowham Professorship
University of Wyoming

Scott Brown
Professor and Extension Livestock Marketing Specialist
University of Missouri

Stephen R. Koontz
Professor and Extension Livestock Marketing Specialist
Colorado State University

Josh Maples
Assistant Professor and Extension Livestock Marketing Specialist
Mississippi State University

Preface

This report was commissioned by the National Cattlemen's Beef Association to provide guidance in support of cattle industry policy considerations, especially related to price discovery in fed cattle markets. The task force of agricultural economists that produced this report collectively have more than 120 years of experience as cattle industry economic analysts and researchers. In about three weeks' time, this task force assembled, considered, synthesized and summarized available research, information and knowledge about the economics of the cattle industry.

Some will be disappointed that we are unable to provide more specific, simple answers to industry questions. While we try not to make things harder or more complicated than necessary, we recognize that making things simpler than they actually are is very dangerous. The U.S. cattle and beef industry is arguably the most complex set of markets on the planet. This report provides guidance to the industry to understand the economic forces that have shaped the industry and the implications of policies that would propose to change industry structure and/or behavior.

In the end, the industry must decide on policy direction for itself, and that is as it should be. Our responsibility is to make sure industry participants are as informed as possible about the implications of policy proposals.

Every member of this task force is committed to supporting the cattle and beef industry through turbulent times and the coming challenges and opportunities of dynamic global protein markets. We look forward to continued collaboration with producers in research and education to ensure the success of the U.S. cattle and beef industry.

Executive summary

The massive and unprecedented shocks that have buffeted the cattle and beef industry since August 2019 have resulted in understandable anger and frustration among cattle producers. It also has revived many long-standing concerns about price discovery, competition and potential impacts of market concentration. Specifically, there is much industry interest surrounding the volume of negotiated fed cattle trade. The industry is currently considering proposals that will dramatically alter the future of the industry. Some proposals would take the industry away from the free-market philosophy that has guided the industry throughout its history to this point. This report is a comprehensive review of beef and cattle market issues with a primary focus on issues surrounding price discovery.

Summary Conclusions

- Improved price discovery may improve knowledge of market conditions for sellers and buyers but will not, by itself, change overall market price levels. Current price pressures are largely related to fundamental changes in the balance of supply and demand in the industry. These changes are neither the result of, nor can they be fixed by, changes in price discovery.
- Price discovery is impacted by a number of factors other than just the volume of trade. Overweighting the importance of volume in proposed changes to price discovery, both mandated and voluntary options, could have unintended consequences resulting in market inefficiency.
- Research confirms alternative marketing arrangements (AMAs) provide significant economic benefits to AMA users, and thus, significant disincentives to participate in cash price discovery.
- Much of the improvement in cattle and beef quality in the past two decades is largely attributable to the increased use of AMAs.
- Reported negotiated prices appear to be valuable to the majority of market participants and are used informally as well as formally (in AMAs). It is not known how much sellers and buyers value cash prices and if participants are willing to incur additional costs to improve them. Additional research is needed.
- Cash price discovery represents a public good nature in that the industry values price discovery, but individuals have incentives not to participate in price discovery. Eventually, this type of market failure can result in less price discovery than is optimal and may require intervention.
- Any mandatory or voluntary intervention will result in higher costs to the entire industry. Trade-offs exist between better price discovery and the cost of better price discovery. Higher costs are born by all market participants including cow-calf producers.
- Most research shows that relatively small percentages of high-quality cash trades are sufficient to ensure good price discovery in many cases.
- Price discovery interventions in which market participants retain the ability to choose how to respond to market conditions will have the least negative impact on the industry.
- Prescriptive solutions, such as mandates of fixed behavior, compromise market efficiency, will impose higher costs on the industry and greater negative impacts on market price than voluntary solutions. Moreover, mandated solutions stifle creativity and innovation and will likely inhibit the industry's ability to grow and respond to dynamic competitive environments.
- Current Livestock Mandatory Price Reporting (LMPR) transaction type definitions are not designed to regulate volume among types. If industry participants are forced to increase "negotiated" trades at the expense of "formula" trades, market participants will (1) find ways to meet the "negotiated" definition while minimizing the cost of doing so; (2) packers and feeders with the best relationships will be better positioned to minimize such costs; and (3) the percentage of negotiated trade would increase but the value of the negotiated price report would be diminished due to the presence of what are really formula trades.
- Impacts of concentrated industry structure are largely separate from price discovery issues. Research shows market power in fed cattle markets has small negative impacts on prices that are offset by substantially larger cost efficiencies to the benefit of cattle producers and beef consumers.

Summary Recommendations

Negotiated transactions and the price discovery they support benefit everyone in the market and sensible efforts to increase the volume of negotiated transactions in the fed cattle market are well-founded and worth supporting. The most promising route to this goal is through voluntary industry initiatives. Viable strategies are readily identifiable. The first step toward any of these strategies will be to identify reasonable volume targets. Since even a small number of representative transactions can lead to effective price discovery, these targets do not have to be large. The industry should consider voluntary initiatives to define consensus-based volume targets for negotiated transactions in the neighborhood of 5% to 10% of all transactions. Targets will need to be defined regionally and perhaps seasonally, with enough flexibility to allow deviations from targets over shorter time frames (e.g., certainly weekly and perhaps even monthly). Possible mechanisms for facilitating negotiated transactions include a voluntary market-maker program or electronic exchange to which feeders offer cattle for negotiated sale each week. Either would require industry buy-in and ongoing support.

Of course, once a negotiated transaction target has been agreed upon, some may perceive the logical approach to implementation would be through regulatory channels instead of through voluntary, industry-led action. Such a simplistic approach is unlikely to be effective and would almost certainly degrade the quality of price discovery in the fed cattle market because the current price-reporting system is not suited to a regulatory role. Clearly and cleanly distinguishing bona fide negotiated transactions from bona fide formula transactions will be next to impossible. The quality of reported information, across all transaction types, could be seriously compromised, with negative implications not only for fed cattle market participants, but also for the industry as a whole.

Even without a volume mandate for particular transactions types, the quality of data in LMPR reports could be improved. Improvements in the information available from these reports, by itself, could contribute to significant improvement in price discovery and help confirm reasonable levels of mandated levels by transaction type. Three specific changes are recommended:

- Revise confidentiality restrictions so more data can be reported.
- Provide more detailed reporting on formula transactions.
- The industry should consider asking for yield data to be a mandatory report.

Regional Market Maker Programs could be used to encourage more voluntary price discovery. The program recognizes that AMA sellers benefit from price discovery, but do not participate in price discovery. A program, such as described in the report, increases incentives for cash trade among all fed cattle sellers. As with any program that attempts to change market participation behavior, the details of a program like this are critical to its success. These voluntary approaches also could create unintended effects, but would likely provide the needed flexibility to be adjusted more quickly and easily as the industry evolves. Additional details of a sample market maker program structure are included in the full report.

A basic possible structure of such a program is presented below:

- Fed cattle sellers who market cattle using non-cash (i.e. other than negotiated cash or grid base) methods, i.e. AMAs would be subject to a per head assessment.
- When the level of cash trade drops below threshold levels, fed cattle sellers who engage in negotiated cash trade may receive payments, based on the AMA assessments as incentives for additional negotiated trade.

A market maker program similar to this allows for larger market-based outcomes because individual firms are free to participate or not and figure out the most efficient way to do it. The program would have to be administered after the fact, i.e., based on previous trade (weekly or monthly). This means possible assessments and payments would not be known during the trading week, thus, would minimize distortions in negotiated prices. Careful consideration would be needed to not make the program incentives too strong, which could lead to inefficient results similar to those from a volume mandate.

Finally, price discovery also could be improved through enhanced use of transparent, technology-based trading platforms, such as the Fed Cattle Exchange. A relatively small volume traded consistently in such a transparent fashion can contribute significantly to price discovery. There are no doubt some costs to using electronic trading; otherwise it would be more heavily used today. Overcoming the existing disincentives to participate in price discovery means success of an electronic exchange will require a commitment and willful action of market participants to regularly use this mechanism.

Fed Cattle Price Discovery Issues and Considerations

Until the 1990s, the feedlot industry priced fed cattle largely as commodities with very little differentiation of value by carcass quality attributes. Fed cattle were priced on average with perhaps slight differences across regions based on average quality but little variation across or within pens. In that world, sellers and buyers recognized that pricing fed cattle to better differentiate quality was costly in time and trouble, and both sellers and buyers had little incentive to incur the costs for such quality and price differentiation. It was common for feedlots to sell, and packers to buy, entire show lists at a single average price. Cattle producers with better-than-average cattle had little means to benefit from higher quality, thus, little incentive to improve cattle. Simultaneously, low-quality cattle usually received an average price, thus, ensuring low-quality cattle would continue to be produced and marketed.

In the 1990s, the industry became increasingly aware the lack of quality signals and rewards was a dead-end for the industry. Beef demand was declining, quality-grading percentages were low and stagnant and the beef industry was losing competitiveness in protein markets. Numerous initiatives were put in the category of "value-based marketing." Grid pricing developed and, for the first time, cattle quality was differentiated and fed cattle producers were rewarded for producing high-quality cattle.

Grid pricing improved price signals but the transaction costs of differentiated pricing were immediately apparent. Both sellers and buyers had incentives to reduce transaction costs, manage volumes and reduce risk. Driven by cost considerations, grid pricing concepts were incorporated into forward contract and formula price arrangements, which often use a cash price as a base. In the 2000s, industry concerns turned to the impact of "captive supplies." Livestock Mandatory Price Reporting (LMPR) was initiated in 2001 to provide more information to market participants and others. These concerns culminate today in the debate over alternative marketing arrangement (AMAs), as they are known, and the thinness of cash trade in fed cattle markets. While there is no doubt improved quality signals have increased beef demand and beef industry competitiveness, cost efficiencies of AMAs have led to thinning fed cattle negotiated trade and concerns about the viability of price discovery in fed cattle markets. Price discovery concerns are sometimes compounded by USDA-AMS price reporting limitations.

The lesson of fed cattle market history is that the business practices predominating today occur for strong economic reasons that are not new and have impacted fed cattle markets in one way or another for many years. Legitimate concerns about the viability of cash fed cattle markets and price discovery, and solutions proposed to address them, must consider and incorporate these incentives into any proposed changes.

Problem Statement

Fed cattle markets use a combination of negotiated cash and alternative marketing arrangements (AMAs) to price fed cattle. AMAs typically rely on cash market prices to drive formula and grid prices. The incentives and benefits of AMAs have increased the use of AMAs to a point where the reduction in negotiated cash trade has been sufficient to raise legitimate concerns about adequate price discovery. The value of negotiated cash trade to the industry is greater than the individual incentives to participate in the price discovery process. Price discovery in fed cattle markets, therefore, has a public good nature and can eventually be underprovided in freely operating markets.

Recent NCBA policy is based on a desire to maintain market-based trading and the ability of sellers and buyers to pursue preferred and beneficial business methods while simultaneously encouraging voluntary participation in sufficient negotiated cash trade to ensure robust price discovery in fed cattle markets. Allowing market participants to determine how best to increase negotiated cash trade will minimize costs to firms and to the industry. The policy calls for developing triggers or benchmarks by which to monitor and evaluate the success of voluntary trading and the adequacy of price discovery in the industry.

Objectives

1) Develop guidelines the industry can use to specify appropriate triggers or benchmarks to monitor and evaluate the success of voluntary market trading to ensure adequate levels of negotiated cash trade and robust price discovery. These guidelines will address regional considerations, seasonality and other relevant market factors to evaluate the adequacy of price discovery in the short- and long-term time frames.
2) Prepare a comprehensive report summarizing available research and economic principles related to incentives for market participants to choose

various trading methods; the costs versus benefits to individuals and the industry of alternative pricing methods; and the role of pricing methods in providing incentives for quality improvement in the industry.

3) Provide an assessment of the current competitive environment in the fed cattle industry and summarize research related to the impacts of market concentration.

Summary of Fed Cattle Pricing

Figure 1 shows how fed cattle pricing methods have changed through time. During the 2002-2011 decade, negotiated cash trade declined and formula trading increased. From 2012 to the current, negotiated cash trade has not changed significantly. During the last decade, formula pricing was mostly steady but did show slight growth recently (Table 1). Fed cattle pricing methods vary widely by region (Table 2).

The Need for Price Discovery

In a market where all participants have perfect information, there is no need for price discovery – everyone knows all information about the market. Perfect information is, of course, an abstract concept. Freely operating markets often rely on prices to reveal information useful to market participants in making decisions that achieve the efficient allocation of resources for which markets are known and valued. Lack of information is, therefore, a hindrance to market efficiency.

Fed cattle markets, as they operate today, utilize and value market information in the form of publicly revealed prices. However, price discovery is not costless. Sellers and buyers that negotiate cash price information for the market incur transaction costs, higher fixed costs and additional risk. Therefore, sellers and buyers have an individual incentive to utilize mar-

Table 1. Fed cattle pricing, average monthly % by method.

	Jan 2012-Jul 2020	*Jan 2017-Jul 2020*
	Domestic % of Domestic Total	
Negotiated Cash	23.8	23.8
Negotiated Grid	4.85	3.98
Formula	59.7	62.4
Forward Contract	11.63	9.78

Table 2. Fed Cattle Pricing, Region by Type, Jan 2017- July 2020.

Region	*Negotiated Cash*	*Negotiated Grid*	*Formula*	*Forward Contract*
			% of Total	
Texas/Oklahoma	6.50	2.61	86.74	4.36
Kansas	16.38	1.24	78.31	4.14
Nebraska	36.78	3.90	48.21	11.11

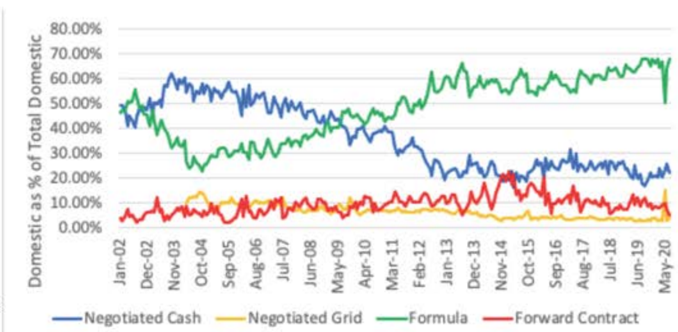

Figure 1. Fed cattle pricing.

ket prices but not contribute to the discovery of those prices. Some market participants are therefore "free riders" who utilize a product (i.e., market prices) without paying for it. Price discovery is, in economic terms, a public good. Public goods have the characteristics of non-rivalry (meaning one's of the product does not preclude another's use of the product) and non-excludability (meaning that one cannot keep another from using the product) (Varian, 1992). In the case of fed cattle prices, this means one may contribute to price discovery, but cannot keep another from using those prices (and the information contained therein) for free, and one's use of fed cattle prices does not preclude another's use. The result is a freely operating market can provide less price discovery than is optimal for the market. This could eventually continue to a point where market prices no longer have value to the industry.

Price Determination versus Price Discovery

The terms "price determination" and "price discovery" are used interchangeably in a great deal of non-technical communication about markets. However, these are scientific terms with specific meaning and refer to different, but related concepts relevant to any discussion of commodity pricing. It is helpful to clearly distinguish between these concepts to productively assess the impacts of changing institutional arrangements in the fed cattle market on price behavior.

Price determination refers to how the forces of supply and demand for a particular product or commodity interact to produce an equilibrium price. It is concerned not with the outcome of any particular transaction, but rather with the general price level that prevails based on fundamental conditions in the broader market. Price discovery, on the other hand, refers to the means by which a buyer and a seller arrive at a price on a specific transaction. It is concerned directly with the mechanics by which individual transaction prices (and other terms of trade) are established rather than with broader, and generally more theoretical, issues of how supply and demand fundamentals affect the general price level (Tomek and Kaiser 2014). In effect, price determination represents a macro-level perspective on the equilibrium price, while price discovery represents a micro-level perspective on the variability of prices around that equilibrium.

With respect to the present situation in the cattle market, it is worth noting clearly what improving price discovery can and cannot do. Most importantly, improving price discovery cannot be expected to change the overall level of prices if prevailing supply and demand fundamentals are consistent with the low or high prices existing at the time. More than 20 years ago, Schroeder et al. (1998a) noted the tendency for price discovery concerns to proliferate in a low-price environment. Current conditions in the cattle and beef industry are challenging for all market participants, and it is understandable dissatisfaction with market outcomes is widespread. Improving price discovery is a worthwhile goal. It has the potential to benefit all market participants – both producers and consumers; but it will not provide higher prices when market fundamentals do not support higher prices.

Factors Affecting Price Discovery

It is important to understand the factors affecting price discovery for two reasons. First, such knowledge helps us understand what impacts buyers and sellers as they interact in the market. Second, for the purposes of this report, it puts in perspective the potential impact the volume of trade has on the price discovery process and the determination of average, or equilibrium, prices.

What are the factors that affect price discovery? Simply put, anything that impacts a buyer's and/or seller's behavior when making bids and/or offers affects the agreed upon transaction price. Both research and economic theory offer insights into a number of factors that affect buyers and sellers when negotiating price.

Factors affecting price discovery include the type of trading institution, risks such as advance production risk, matching risk, negotiation failure risk, risk preferences of the individuals involved in the transaction and information used to form expectations about the value of the cattle being traded. These factors will be discussed in more detail in this section as well as several of the following sections including: Price Discovery, Risk and Incentives to Use Marketing Agreements; The Impacts of Market Information and Expectations of Value on Price Discovery; and Trade Volume and Market Thinness: How Thin is Too Thin?

One of the more important factors that impacts price discovery is the trading institution. Trading institution refers to the set of rules in place defining how buyers and sellers may interact when making bids and offers (Davidson and Weersink, 1998). Research indicates that trading institution alone can impact price discovery to the point that price determination results in very different equilibrium or average price levels (Menkhaus, Phillips, and Bastian, 2003). The research finds prices discovered in an English Auction are 17% higher than the predicted equilibrium. The double auction (same institution as fed cattle futures) yielded just slightly more than predicted equilibrium price levels, and a market where price discovery occurred with individual buyers and sellers being paired and privately negotiating prices yielded average prices nearly 10% below equilibrium.

What accounts for the substantial differences in price across trading institutions? Buyers compete in an ascending bid process in the English Auction, and as that occurs, buyers know their bids as well as those of the other buyers. Sellers are passive in the price discovery process, resulting in the highest price level being determined in an English Auction. The Double Auction allows all buyers and sellers to make bids and offers, and all market participants see those bids and offers, resulting in prices being discovered relatively quickly and reaching the predicted level for a competitive equilibrium. Research indicates privately negotiated transactions, however, resulted in the lowest price levels even though the number of buyers, number of sellers and underlying supply and demand conditions were the same as the other two institutions. Can the conclusion be, on the basis of the lower resulting price, that the price discovery process was broken in private negotiation? No; the different result is because of a number of factors impacting the behavior of buyers and sellers in this institution, particularly advance production risk, matching risk, negotiation failure risk and risk preferences of individual traders. These factors affect price discovery and trader incentives regardless of market information and trade volume.

Price Discovery, Risk and Incentive to Use Alternative Marketing Agreements

One important set of factors impacting price discovery relates to actual or perceived risks faced by participants in the market. Research indicates what is termed advance production risk, matching risk and negotiation failure risk greatly impact trader behavior when transactions are privately negotiated, which is primarily how prices are discovered for negotiated cash trades in fed cattle markets (Menkhaus et al., 2007; Sabasi et al., 2013; Jones Ritten et al., 2020). The avoidance of these risks are a major factor or incentive explaining the use of alternative marketing arrangements.

The tremendous growth in the use of AMAs in the fed cattle market clearly represents a significant change in trader behavior. It is reasonable to conclude risk, and market participant perceptions of that risk, have played a role in the change. In fact, the advantages of AMAs for both feeders and packers with respect to risk mitigation have been widely documented over years of study. For example, Ward et al. (1996a) identified risk mitigation as a significant motivation for AMA utilization by both packers and feeders. Similarly, a 2003 Congressionally-mandated study on the impact of captive supplies on the cattle market documented that AMAs substantially reduced costs for both feedlots and packing plants and the long-run cost to the cattle and beef industry of a loss of AMAs would amount to almost $50 billion (Koontz, 2010). Such cost savings largely derive from the fact that these arrangements reduce the non-price risks – that is, advance production risk, matching risk and negotiation failure risk – associated with fed cattle marketing. Understanding these risks is essential to understanding the ongoing evolution of pricing methods in the fed cattle market.

What is advance production risk? Simply put, having invested in the production of fed cattle (i.e., purchased the feeder animal, paid ongoing feed costs, investment in the feedyard, etc.), sellers generally feel pressure to make sure they come to a negotiated price with a buyer because they risk not covering those costs, or incurring more costs, if a deal is not struck. This phenomenon similarly applies to buyers if they feel pressure to meet the volume requirements of a plant.

This advance production risk is then coupled with what has been called matching risk. This is the risk of being matched with someone in the market who is better at bargaining, or who has already made trades, thus feels less pressure to trade. For example, if you are matched with a buyer less interested in your cattle, they may bid less aggressively, making it harder to come to an acceptable price agreement. This also can occur if a buyer matches with a seller who has already sold what they planned to that period. This risk creates a potential cost for the trader to attempt to find someone else interested in trading. Again, traders affected by this risk are more willing to make concessions when they bargain in order to ensure a trade is made rather than risk being matched with someone they are unable to trade with at all.

Matching risk also is somewhat related to another risk termed negotiation failure risk. Negotiation failure risk is the risk of not coming to agreement. Time and effort is spent bargaining but no price or terms of trade are agreed upon (Jones Ritten et al., 2020). If such a risk is realized, the persons involved must search for someone else to make the trade. At that point, valuable time has been lost, increasing the chance the next trading partner has either acquired or sold what they need to; that is, matching risk increases. In the case of the fed cattle market, this realized risk could result in sellers having to keep cattle longer, incurring more costs until a willing buyer can be found.

Cattle producers in a focus group in Wyoming reported they generally felt they had to accept a buyer's terms rather than risk a failed negotiation (Bastian et al., 2018). Generally speaking, advance production, matching and negotiation failure risks all tended to affect sellers more than buyers when transactions are privately negotiated. Thus, private negotiation led to price discovery contributing to price determination that resulted in lower prices than the predicted equilibrium even though supply, demand and market structure were the same as in tests of other trading institutions (Menkhaus et al., 2003; Menkhaus et al., 2007; Sabasi et al., 2013)[1].

Risk preferences also impact bargaining behavior and the resulting price discovery process. Those agents who are more risk averse (buyers or sellers) tend to bargain in a manner that results in less advantageous transaction prices and lower individual earnings (Muthoo, 1999; Krishna, 2010). Jones Ritten et al. (2020) test risk preferences across groups that first participate in a privately negotiated market experiment, then a risk experiment and those that just participate in a risk experiment. The authors found those who participated as a seller in the market experiment had significantly higher loss aversion compared to buyers, and those with higher loss aversion earned significantly less in the market.

The Impacts of Market Information and Expectations of Value on Price Discovery

The above factors, trading institution, various risks and risk preferences all interact with other factors traditionally discussed in regard to price discovery in fed cattle markets. These traditional factors generally can be thought of as factors affecting expectations of value when buyers and sellers enter into a transaction. One factor affecting expectation of value is quality. Expectation of value generally increases as perceived quality increases. Increased quality in turn alters the levels at which bids and offers and resulting transaction prices occurs (Jones et al., 1992; Ward et al., 1996b; Ward, 1992).

Related to expectation of value for a specific quality of a commodity is market information. Research indicates several sources of market price information affect price discovery and price determination for fed cattle. These market price sources include negotiated cash prices, boxed beef prices and live cattle futures prices (Jones et al., 1992; Matthews et al., 2015; Ward et al., 1996b; Ward, 1992; Ward, 1981). These market prices are typically one day to one week old when traders enter into negotiation. Thus, these prices give traders a general idea of price level, but this information is augmented with additional current information relevant to the value of cattle in the current week. For example, let's say the number of cattle coming out of feed yards in a given week is expected to be lower than the prior week. This signals that current supplies could be less than last week, so bids and offers should reflect that newer information. Perhaps recent news indicates an increase in demand for beef in the near future. Again, this signals to traders that current supply and/or demand conditions are changing compared to last week. Thus, the price discovery process is impacted by past price information, but traders also are adding any other new knowledge or updated expectations to their bids and offers. In this way, individual knowledge of current supply and demand is incorporated into the bid and offer price, thereby impacting agreed upon transaction prices.

It is important to note if only old prices are used when discovering this week's price, average price levels and market signals this week will almost certainly omit important current supply and demand information. This, in turn, would create prices that are not adjusting quickly to new information. Thus, past price information and its accuracy is important, but overweighting its importance with prescriptive policy or mandate could have unintended consequences and cause market inefficiency.

In a market with effective price discovery, the price discovery process becomes dynamic, with traders constantly updating past information with new and incorporating all of it into individual transaction prices. It is important to recognize all the other factors discussed previously also are affecting price discovery along with market information and current supply and demand information. Different individuals with different risks and risk preferences in different market institutions are using that information, weighting its importance, forming expectations and making bids and offers to discover price.

1 These results come from laboratory market studies. Some have criticized that typical subject pools used in such experiments do not behave the same as agricultural producers. Nagler et al. (2013) test behavior in laboratory market experiments across students and agricultural professionals containing primarily agricultural producers. They find the same treatment effects across the two subject pools. Bastian (2019) examines bargaining behavior across market experiments using students and agricultural professionals and generally finds no difference across the bargaining strategy variables tested.

In technical terms, when price discovery works effectively, prices are efficient. Again, the term – efficiency – has a specific meaning. A market is efficient if prices reflect all available information (Fama, 1970). Janzen and Adjemian (2017) note that effective price discovery accomplishes the task of reflecting underlying information in a timely manner and does so via "bona fide transactions or standing bids and offers whose prices are known to all market participants" (p. 1192). Unfortunately, the question of how many bona fide transactions are sufficient to support effective price discovery is rather difficult to answer.

Trade Volume and Market Thinness: How Thin Is Too Thin?

A market in which negotiated transactions during a given period of time are not sufficient to support efficient price discovery is a thin market (Anderson et al., 2007). Typically, three problems are associated with thin markets: prices don't reflect supply and demand conditions (either because of insufficient volume or transactions that are not representative of market values), prices are more volatile and the incentive for market manipulation increases. In financial literature, thin markets are characterized slightly differently as low trading volume, high price volatility and large bid-ask spreads. What these thin market problems amount to is that prices become a less reliable guide to actual value as supported by underlying market fundamentals. (Adjemian, Saitone, and Sexton, 2016).

As an empirical matter, defining a thin market versus a market with sufficient trade volume is difficult. Despite a great deal of research, a definitive standard for objectively defining a market as thin does not exist. What empirical research has shown is the number of transactions needed to achieve a competitive price outcome can be quite small (see, e.g., Tomek, 1980). In light of this, it is important to consider other factors beyond just volume are important in identifying and assessing the performance of thin markets.

As discussed earlier, price discovery is a dynamic process involving individual bid and ask (offer) behavior. This process is impacted by a number of factors including trading institutions, risks traders face, risk preferences of traders and expectations of value formed via multiple sources of old and current market information. Increased volume of negotiated cash trades is expected to improve accuracy of last week's reported prices, but those prices are only one of many factors affecting price discovery and related price determination. Thus, any interventions in the price discovery process that focus solely on trade volume may not have the expected impact and may well entail negative unintended consequences as traders still have the incentive to reduce risks or transactions costs they face.

Evaluation of thin markets is further complicated because thin markets may arise from a number of factors that may represent legitimate, even desirable, market developments. For example, market differentiation has been a factor in creating thin cattle markets. Several characteristics have led to increased differentiation. One is regional fed cattle markets. While related, each regional fed cattle market has unique characteristics, including small farmer-feeders, very large feeders with relatively high turnover and varying USDA quality grade by region. These characteristics often represent a rational and efficient response to incentives in the regional market area. Moving to quality, or value, based pricing and away from average pricing during the last 30 years also has contributed to market differentiation and increased value in fed cattle markets.

Differences in the type or quality of cattle traded by negotiated cash arrangement compared to formula cattle could be evidence of adverse effects of thin markets. It appears there is little evidence of differences in cash and formula prices. More than just monitoring the volume of cash transactions, this means evaluating the difference between the quality of cattle traded by each method may be necessary. It is important the cattle traded in the cash market are "representative" of cattle traded by other methods. USDA quality grade might be one measure. Another important measure is yield. Yield has become a more important "quality" measure of cattle in pricing cattle in the Southern Plains compared to other regions. If the cattle traded by each method are generally consistent in terms of characteristics affecting value then the market may not be too thin, even with a relatively small volume of negotiated transactions.

Thin markets also may be indicative of changing or evolving markets. There are many examples of agricultural markets that have changed. Today, most hogs are sold using carcass prices, compared to live prices not long ago. Numerous futures contracts for agricultural commodities have disappeared including potatoes, live hogs, and pork bellies. Yet, clearly those commodities are still produced, bought and sold. There is evidence of price discovery occurring in futures markets in addition to underlying cash commodity prices and that information being used by traders. Cheese markets offer a case in point.

Price Discovery and Free Riders in Cheese Markets – A Case Analysis with Implications for Fed Cattle

Although nearly every agricultural commodity market could be described as thinly-traded, the dairy industry often is mentioned first when discussing a thinly-traded market. The National Cheese Exchange (NCE) operated as the national market for cash-traded cheese until April 1997 when the cash-traded cheese market moved to the Chicago Mercantile Exchange (CME).

Although the weekly determined NCE cash-traded cheese price represented less than 2% of national cheese production in the early 1990s, nearly all cheese produced in the nation was sold through formulas based off the NCE reported cheese price. The lack of volume traded on the NCE relative to national production led to many comments about manipulation of NCE prices.

Many dairy economists who analyzed the NCE cheese market failed to conclude price manipulation was an issue even though it was very thinly traded. Hamm and March (1995) conclude that, "While the Exchange market has been described as "thin" and the industry concentrated, experience has shown that any firm attempting to buy or sell cheese at levels which differ from that of the general consensus of the industry must be prepared to buy or sell large quantities of cheese in order to raise or lower the market." They further conclude, "The relevant issue is not whether the Exchange represents a small volume but whether it does reasonably reflect the supply and demand conditions in the U. S. cheese industry. If members reflect national market conditions in their transactions, then the Exchange performance is acceptable."

The movement of the NCE to the CME did not solve the issue of a thinly-traded cash cheese market. The CME cash cheese market still operates today and most trading sessions result in very few transactions. In fact, the CME is even more thinly traded than the old NCE. The addition of mandatory price reporting of cheese prices provided information on cheese transactions from processors with annual capacity of 1 million pounds or more and provides the average price across all transactions and can be compared to the thinly traded CME cash price.

The cheese example provides insight that even an extremely low volume or thinly-traded market (only 16 train carloads of cheese were sold on Aug. 31, 2020 at the CME) can be seen as an adequate price discovery mechanism, especially with the addition of mandatory price reporting that shows how all cheese was priced.

The cheese market provides evidence of the cost of price discovery and the public nature of price discovery allows free riders to avoid the cost of price discovery yet take advantage of the market information provided. Important to these free riders is the thinly traded cash market correlates with their own beliefs about the level and movement of prices.

The analysis of cash cheese markets can help focus the research on cattle markets and adequate levels of negotiated trade. Perhaps the most pressing question to answer is whether cattle market participants can enter the negotiated cattle market when they observe prices different from their own observations about market level and direction.

If others can easily enter the negotiated fed cattle market in periods where they feel market prices are too high or too low, then it may provide an indirect check-and-balance system to what is a thinly-traded market. There may exist constraints or costs in cattle markets that do not allow new buyers and sellers to easily enter and affect price discovery relative to the experience found in cheese markets.

It remains important to focus on whether more negotiated cattle trade would provide better price discovery. That is, would prices found with additional negotiated trade better reflect underlying supply and demand fundamentals? Adequate price discovery should not be confused with whether a particular feedyard has a buyer(s) willing to purchase cattle on a regular basis. The latter may have more to do with the cost of assembly of fed cattle supplies and avoidance of risk and less to do with price discovery.

Although legislative or regulatory approaches can be used to correct problems in price discovery, the dairy industry can provide good examples of unintended consequences with this approach. The end-product pricing used throughout much of the federal milk marketing order system today has only generally moved the pricing discussion from one of price discovery to one of adequate margins needed at each market level. Regulatory approaches can lack needed robustness to changing market conditions, which results in continual adjustment to the regulatory approach. Regulatory approaches can be slow and hard to change over time. For example, the lack of dairy product innovation often has been correlated with the regulatory approach taken in the industry.

Research Indications about Fed Cattle Negotiated Cash Trading Volume

To discover a fed cattle price, the industry needs to trade fed cattle - and needs to trade enough cattle so the price is representative of market conditions across the different grades of cattle as well as reveal different conditions across different regions. In this context, the fed cattle price is needed. A single price – or a combination of prices for the various important grades and regions of cattle – efficiently communicates the measure of fed cattle value to buyers and sellers and to upstream and downstream market participants.

However, there is a balance in this argument, concept and idea. There is a need for a cost/benefit perspective. Discovering price consumes resources. It takes time and effort that could be used elsewhere to potentially more productive ends. Price negotiations run the risk of the trade failing and cattle subsequently having to be marketed later and potentially sub-optimally. Having price information allows efficient communication. What were fed cattle worth the week prior to Aug. 31, 2020? The answer from the LM_CT150 for Live FOB Steers and Heifers is between \$105.04 and \$105.09 per hundredweight. This is precise and informative. Having that information allows a business to compare its performance to others in the marketplace. Having this information allows assessment of the profitability of the industry and individuals within the industry. Further, information across regions within the U.S. is informative with respect to regional competitiveness or simply regional relative supply and demand.

At some point in time, the market may no longer need a fed cattle price. The largest portion of fed cattle may be procured based on underlying beef product values. Other significant portions of supply may be produced under forward contract. Fed cattle may be priced due to differences in the value of appropriate end use and may be valued in wholesale or retail terms. Cash fed cattle prices communicate efficiently, but more detail may be needed in the future. Innovation in valuation needs to be considered – or at least not preempted.

Ultimately, some volume of negotiated cash trade is needed, but it also is important to recognize the volume needed may be highly variable and dependent on a number of other market conditions. This was discussed earlier. The number of factors that impact the price discovery process is large. Volume is but one factor.

The volume recommendations reported in Koontz (2017) were clear from the 2002-2015 mandatory price reporting data. There was a relationship between the volume of negotiated cash fed cattle trade and the amount of price discovery. Larger volumes were associated with more price discovery. However, in hindsight, the supply and demand events in this time period were somewhat narrow. Early in livestock mandatory price reporting the market shock from the BSE events in North America occurred. These events created substantial uncertainty, price volatility and price discovery during 2004. However, the main phenomena during this time period were the gradual improvement in beef demand, gradual recovery of international trade in beef and declining supplies of cattle and beef. During this time period, there is an ever-declining volume of cash trade and less price discovery was occurring. Gradual changes in demand, trade and supply predominated over the market shocks needed to create opportunities for price discovery. There was a decline is the negotiated cash trade volume especially in the Southern Plains. This resulted in gradual declines in the objectively measured amounts of price discovery occurring in regional fed cattle markets.

Updating the price discovery analysis with data including 2016 through 2019 reveals changes in the price discovery and volume of cash trade relationships. Substantially more price discovery is found in the post-2015 period, and this is a time period with continued low levels of negotiated trade. The underlying supply and demand events create the need for price discovery and price discovery occurs. Volume recommendations must recognize that many other factors than volume impacts price discovery. Volume continues to have a positive relationship with price discovery – increased cash volumes are associated with more price discovery. However, volume is not the only nor the main driver of price discovery.

Market events post 2015 included the rebuilding of the domestic cattle herd and a price decline from record highs. Also during this time period, it emerged that packing capacity was much more in line with available fed cattle supplies. These fundamental changes to cattle and beef supply and demand create the uncertainty needed for significant and robust price discovery to emerge - and it does so with little underlying negotiated cash volume.

There remains a statistically significant relationship between volume and price discovery, but there also are substantial differences across regions. The general level of discovery varies in each of the rolling window samples. There is a trend in price discovery that less is done each successive time period, but there is substantial variation in price discovery driven by overall market events: specifically, during the BSE time period and the fall and subsequent volatility after establishing record high prices. The volume recommendations in recent time periods is considerably less than needed during the 2002-2015 time period.

Volume is informative and important, but it is not the main determinate of price discovery. Uncertainty in the supply and demand situation in fed cattle markets creates the observed price discovery. Therefore, desired levels of market participation need to be agreed to by market participants with an understanding of market conditions and expertise with respect to needs relative to costs and benefits. There are no clear research-determined "trigger" levels of negotiated cash trade where robust price discovery transitions from not occurring to occurring. Small levels of cash trade can result in substantial price discovery and historically large volumes of cash trade can result in little price discovery.

The question and issue is not as simple as volume. Volume contributes to price discovery. Other factors as discussed in this report also are important and at times substantially more important. This is the nature of measuring this phenomenon – price discovery. The process of price discovery is not analogous to applying fertilizer or water to a crop. Applying increased negotiated cash trade will increase price discovery, but there are other important and often more important ingredients.

Market Efficiency and Cost Reduction

AMAs reward quality and have led to reduced transactions costs in moving cattle from feeders to packers. They have streamlined volume management and led to greater efficiencies in production and processing. More efficient procurement and more efficient utilization of available packing capacity allows the spreading of significant packing plant fixed costs over more cattle. For packers, AMAs make it easier for plants to secure an adequate volume of cattle to operate efficiently. Economies of size in beef packing plants are significant (MacDonald et al., 2000). This means failing to maintain efficient throughput can significantly increase a plant's per unit production costs (Anderson, Trapp, and Fleming, 2003).

If AMAs have led to the benefits in the supply chain above, then what might be the associated costs of reducing AMA use? There are a number of areas where cost efficiencies might be lost, or at least should be considered.

- What is the value of scheduling? Or, what is the cost of scheduling inefficiencies that result in unused packing plant space? Research has shown there are significant economies of size in packing (e.g., MacDonald et al., 2000). Scheduling that results in unused capacity may be thought of as reducing the capacity of a plant leading to higher per unit costs.
- Scheduling also is an important consideration for feedlots. Moving cattle out frees up feeding capacity for new placements, increasing throughput.
- Another way to conceptualize the impact is to consider the cost of a failed negotiation. A failed negotiation may result in cattle not moving until the next week, requiring additional feed costs, other feedlot costs and lost marketing opportunity of cattle at their most efficient finishing point.
- Opportunity cost of delayed placing of feeder cattle.
- More broadly, increasing costs through the beef supply chain results in higher beef prices relative to competing meats.

The most detailed research project related to the costs and benefits of AMAs was the USDA GIPSA RTI Livestock and Meat Marketing Study (LMMS). This study provided a detailed examination of feedlot and packer transactions and related costs, volume management and fixed costs and size economies in the fed cattle industry. In a recent synthesis of previous research, Koontz (2020) summarized the impacts of restricting AMAs:

> "Limiting the use of AMAs by the cattle feeding and beef packing industries will decrease efficiency, will increase processing and marketing costs, and has the potential to reduce beef product quality. In today's dollars, the impact is at least $10 per head for the packer and at least $25 per head for the cattle feeding industry. The dollar amounts in this summary are converting the LMMS impacts to today's dollars and also placing them in context based on my continued communication with the cattle feeding and beef packing industries. In today's dollars, the total direct impact to the marketing system ranges reasonably from $35 per head to $65 per head. The larger amount is based on recent communications. The costs at the industry level would potentially be over $2.5 billion per year in today's dollars, with the industry making economic adjustments and reducing in size, so that over a 10-year horizon the cumulative costs would be over $16 billion. The majority of the impact would be borne at the cow-calf producer level by farms and ranches. Further, the impact is distributed substantially on the industry that does business or supplies those in the southern plains of the U.S."

Alternative Marketing Arrangements are used in the industry for very strong economic reasons. The cost savings of AMAs benefit the entire industry in the form of higher cattle prices than would otherwise exist. Any desired outcome or policy that seeks to reduce the use of AMAs must recognize the resulting increased costs, loss of efficiency and inevitable market impacts.

Price Reporting Issues

The first and most obvious priority is the reauthorization of Livestock Mandatory Price Reporting (LMPR). Regardless of any issues with current LMPR or needed adjustments, the data it provides is far preferred to reverting only to voluntarily reported data or, in the most extreme case, not having any public price data at all.

Second, and perhaps most importantly, it is imperative to recognize the current LMPR transaction types are not designed to enforce volume requirements. In particular, the definitions of the various transaction types are not sufficiently different to avoid relatively easy switching between "formula" and "negotiated" without material changes to how the transaction occurred. In other words, nothing in the LMPR definitions would prevent participants from legitimately recording current "formula" transactions as "negotiated" transactions with minor, pro forma changes to their current trading relationship. The full definitions are (Greene, 2019):

- **Negotiated purchase:** a cash or "spot" market purchase by a packer of livestock from a producer under which the base price for the livestock is determined by seller-buyer interaction and agreement on a delivery day. Cattle are delivered to the packer within 30 days of the agreement.
- **Negotiated grid purchase (cattle):** the negotiation of a base price, from which premiums are added and discounts are subtracted, determined by seller-buyer interaction and agreement on a delivery day. Cattle are usually delivered to the packer not more than 14 days after the date the livestock are committed to the packer.
- **Forward contract:** an agreement for the purchase of livestock, executed in advance of slaughter, under which the base price is established by reference to publicly available prices. For example, forward contracts may be priced on quoted Chicago Mercantile Exchange prices or other comparable public prices.
- **Formula marketing arrangement:** the advance commitment of livestock for slaughter by any means other than a negotiated or negotiated grid purchase or a forward contract using a method for calculating price in which the price is determined at a future date.

The primary difference between negotiated and formula trades is negotiated trades involve a seller-buyer interaction to determine price and agree on delivery day. Specific characteristics of formulas are not publicly available; however, anecdotal evidence suggests many formulas use some adjustment of the previous week's negotiated price for their region. Currently, there is not an obvious incentive for participants to misrepresent their trades to fit one transaction type over another.

Now, consider that an incentive did exist to report more negotiated trade (e.g. required negotiated trade levels) instead of formula trades. Current formula traders would need to either; 1) negotiate more cattle or 2) figure out a way to make current formula trading practices fit within the negotiated transaction definition. Due to the significant cost advantages, current formula traders would find option 2 preferable to option 1 if it is feasible. The question becomes, can slight modifications of current formula trading practices allow these trades to be reported as negotiated trades – without actually having to incur the cost of negotiation?

Consider one such "workaround" where buyers and sellers with an existing formula relationship communicate and "agree" each week on using last week's price for the cattle sold this week. It might even be possible to informally "signal" how many of these "disguised formula" cattle to expect through the use of actual formula trades. For example, the number of formula cattle agreed on one week (even if it is a small amount) might contain information about how many "disguised formula" cattle to expect the following week. The most likely opportunity for such an agreement would be current well-founded formula relationships between packers and feedlots because it would require trust that a "normal" amount of cattle would continue to flow from the feedlot to packer even without officially agreeing on quantity until the week of trade. A "formula yard" with a strong existing connection to a packer potentially would be best positioned to achieve this definition shift from formula to negotiated while still relying heavily on last week's negotiated price. Sellers without such strong relationships would be at a disadvantage.

The advantage of pursuing such a workaround is clear: both buyers and sellers can avoid the costs of negotiation. The implication for the market is that some cattle currently reported as formula would instead be reported as negotiated – without a true increase in negotiated trade. These formula trades disguised as negotiated trades could flood the negotiated market with prices from the prior week – leading to persistent prices and compressing the impact of supply and demand forces. Under this set of incentives, the weekly negotiated price reported could be significantly less valuable in helping the market find the true value of cattle (i.e. weakened price discovery would limit price determination).

There are likely other creative ways in which sellers and buyers could get around LMPR definitions if faced with an incentive to do so. Again, recall the current LMPR transaction types were designed solely for reporting purposes: their purpose is to describe the industry, not to regulate it. Redefining transaction types to avoid this incentive would be difficult if they are used to regulate volume. The nature of how the majority of live cattle are traded (one-on-one discussions between buyers and sellers instead of an auction) creates significant complexities in better differentiating between "negotiated" and "formula" in the presence of incentives (or mandates) to qualify for one or the other.

Put simply, if forced to check the "negotiated" transaction box more often instead of the "formula" box, rational participants will; 1) find ways to meet the "negotiated" definition while minimizing the cost of doing so; 2) the packers and feeders with the best relationships will be best positioned to minimize such costs; and 3) the value of the negotiated price report would be diminished due to the presence of formula-type trades. Given the current volumes of formula versus negotiated transactions in some regions, it seems highly likely that such de facto formula transactions could significantly outnumber true negotiated transactions in the negotiated transactions category. This would constitute a significant misrepresentation of the information communicated by those transactions, with potentially serious implications for price discovery.

Confidentiality

One more obvious improvement to LMPR from an economic information standpoint is the relaxation of confidentiality requirements. Confidentiality requirements reduce the amount of prices reported and this issue is likely to continue to increase in the future. The current 3/70/20 guidelines require:

- At least three reporting entities need to provide data at least 50% of the time during the most recent 60-day time period,
- No single reporting entity may provide more than 70% of the data for a report during the most recent 60-day time period,
- No single reporting entity may be the sole reporting entity for an individual report more than 20% of the time during the most recent 60-day time period.

Source: (https://www.ams.usda.gov/rules-regulations/mmr/lmr/generalinfo)

These guidelines lead to the collection of LMPR data that is "suppressed" or never released (https://www.ams.usda.gov/sites/default/files/LMRConfidentialityGuidelinePresentation.pdf).

For example, the weekly weighted average live cattle prices in Colorado have been rarely reported since 2018 because often there are no "three reporting entities." Relaxing or removing the 3/70/20 rule would allow for more complete and transparent prices. There also may be an opportunity to obtain more detail about the types of formulas used. A better understanding of the types of formulas used (e.g., whether the base price is a live, futures or wholesale meat price) could lead to improved price discovery.

The need for confidentiality is more of a legal issue than an economic one. Since the goal of this report is to focus on economic concepts, it is acknowledged legal reasons and questions exist, but the focus was simply on the economic implications. It is worth noting that confidentiality rules have been changed in the past from the original "3/60" rule to 3/70/20. The primary potential unintended economic consequence of shifting discussed in the 2001 Congressional Research Service Report RS20079 about LMPR were that the 3/70/20 rule would "make small and medium-sized packers vulnerable to their competitors" and it "could allow two packers to communicate through publicly reported information, creating the possibility of collusion and price fixing." While this potential might exist if confidentiality is further relaxed or removed, it likely does not offset the potential benefit of more complete and transparent information for price discovery and price determination.

Finally, the industry should consider asking for yield data to be a mandatory report. A key question in the evaluation of fed cattle pricing issues is whether or not negotiated transactions are representative of formula transactions. More detailed data on relevant animal characteristics would allow more effective evaluation and monitoring of this issue.

Overall, the relaxation of confidentiality requirements combined with a better description of formula trades and yield data has the potential to benefit price discovery. In a setting where all proposed prescriptions to improve price discovery likely exhibit increased costs and/or unintended consequences, relaxing confidentiality and improving descriptions of formula trades might lead to the largest net benefit as compared to other proposals. This is likely especially true for cattle producers who would benefit from better price discovery without absorbing the costs associated with other proposed prescriptions.

Quality Incentives in Fed Cattle Pricing - How has Use of AMA's Impacted Quality Incentives and Beef Demand?

The ability to send quality signals through the beef cattle supply chain is critical to the overall success of the industry. The quality of beef produced and ultimately consumed is impacted by decisions made by cattle producers at all levels. Low and inconsistent quality was likely one factor impacting beef market share erosion in the mid to late 1900s (Purcell, 1989; Schroeder, Ward, Mintert, & Peel, 1998). Market organization affects how signals are sent. In vertically integrated sectors such as poultry, production decisions are easily sent up the supply chain because the animals never change ownership. This is not the case for beef cattle production where cattle may change ownership many times prior to processing.

The beef cattle industry depends on market signals to incentivize quality and these signals are different depending on transaction type. Much research has focused on quality signals and transaction types. For negotiated live trade, buyers must build quality estimates into their bids. Grid-based pricing sends more direct signals to producers about their cattle quality. AMA transactions typically send quality signals for production of improved quality cattle through a long-term relationship between the buyer and seller. Previous research has shown that cattle procured through AMAs were of better and more consistent quality than direct trade cattle (Liu et al. 2009) and that average beef quality increased as AMA use increased (Muth et al., 2007). These studies need to be updated with more recent data, but the expectation is that the results would be similar. Figure 2 shows the continued improvement in Choice and higher grading in recent years. The primary reason is the use of AMAs has aided in the development of tighter relationships between buyers and sellers of live cattle. These relationships incentivize improved quality over time.

Correct Interpretation of the Impact of "Captive Supplies" on the Negotiated Cash Market Price

Captive supplies – or alternative marketing arrangements – are the fed cattle that packers procure through channels other than the negotiated cash market. For the fed cattle industry, these are primarily formulas and forward contracts. At the national level 20% to 30% of the monthly volume for fed cattle transactions are negotiated cash trades and about 5% are negotiated grid. 60% to 70% of the monthly volumes are formula and 10% to 20% are forward contracts. Forward contract transactions are priced greater than 30 days prior to delivery – and these often are basis contracts where cattle feeders and packer buyers then make use of hedging with futures. Formula trades are by definition priced using some observed market price –almost exclusively the USDA AMS regional price where the cattle are fed is used. For example, formula cattle fed in Texas are priced using the USDA AMS TX-OK-NM cash fed cattle price.

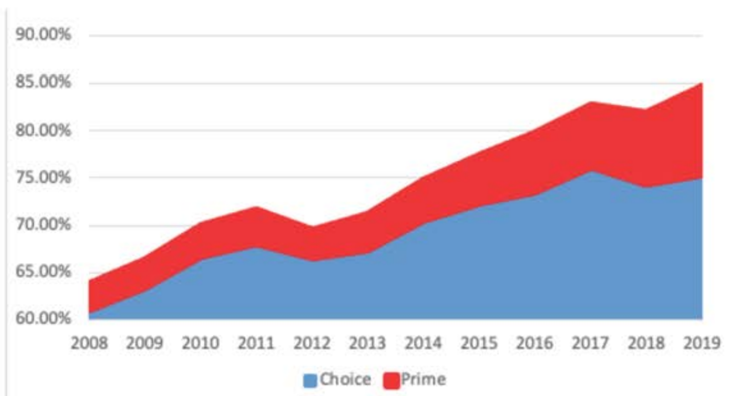

Figure 2. Choice + Prime Grading.

Regionally, the proportions can be rather different. The region with the smallest negotiated cash trade is in the southern plains and is the USDA AMS reporting region of TX-OK-NM. Historically, 90% of the fed cattle trade is formula priced, 5% to 8% is negotiated cash, 1% to 2% is negotiated grid and 1% to 2% is forward contracted.

Opponents of AMAs often use the following argument illustrating the negative impact that AMAs have on the negotiated cash market. Supplies of captive cattle allow the packer to not bid in the cash market and thereby reduce demand in the cash market and depress price in the cash market. This is the argument used with policy makers and in legal settings to mandate negotiated cash trade. This remains an incomplete argument as it ignores the supply side of the market. If the packer does not have to bid on the cattle, then it also is true and one-for-one that the cattle feeders do not have to offer the cattle for sale. AMAs do not change the market fundamentals – do not change the total supply nor total demand. AMAs only change the channel in which animals are marketed.

Furthermore, formula cattle are not "captive." The cattle feeding organization decides the week the cattle will be marketed, communicates that to the packer - and it is usually not a surprise as communication between the seller and buyer is ongoing - and the packer decides the day of the week cattle will be delivered. The marketing decision belongs to the cattle feeders. Packers cannot call the cattle and almost all formula cattle are grid marketed and thus received premiums and discounts. Marketing cattle early can result is discounts to the cattle owner on those animals.

Table 3 illustrates how to think about AMA cattle in a manner accounting for both demand and supply impacts on the market. The top three rows, after the row headings, are the feedlot availability of animals from an example region. Round numbers are used to illustrate. In the first column after the column headings, the cattle feeding sector in this region has 100,000 head of fed cattle available in a given week. The feeders will market 40,000 head through formulas and 60,000 head through negotiated cash trade. The last three rows are the packing sector's needs for a given week in this example region. Also in the first column, the packers need 100,000 head and by definition will procure 40,000 head through formula and 60,000 head through cash. It is by definition because the methods are agreed upon and used by both the cattle feeding businesses and packing businesses. Whatever the packers' formula purchases are, they must match the formula sales from feedlots. Formulas cannot be used to depress demand as formula cattle are pulled from feedlot availability.

The first column illustrates a low-AMA scenario, and the second column illustrates a high-AMA scenario. Packers procure 80,000 head per week through formula and the cattle feeders market exactly that amount also through formula. The remaining purchases are 20,000 head through cash trade. In both of these scenarios, the market is in balance as the availability of cattle from feedlots is the same as the packer needs. This illustrates that AMAs do not change market fundamentals. High versus low AMA use does not create a disadvantage or advantage for either buyers or sellers.

The issue emerges when supply and demand are out of balance. This is when cattle availability is low relative to packer demand or when cattle availability is high relative to packer demand. These two examples are illustrated in the third and fourth columns. In the third column, the packer has incentives to purchase 110,000 head that week but there are only 100,000 head available. Competitive pressure across packing firms would cause them to bid aggressively to secure a larger portion of 20,000 head that is available to satisfy a demand for 30,000 head. This is close to the actual fed cattle and beef market scenarios in many years prior to 2016. Formula use was high and the demand for the remaining cash cattle was aggressive. The time period was characterized by excess capacity in the packing industry along with increasing returns to scale. Pack-

Table 3. A Correct Example of AMAs.

	Low AMA	*High AMA*	*Excess Demand*	*Excess Supply*
Feedlot Availability:	100,000	100,000	100,000	110,000
Formula	40,000	80,000	80,000	90,000
Cash	60,000	20,000	20,000	20,000
Packer Needs:	100,000	100,000	110,000	100,000
Formula	40,000	80,000	80,000	90,000
Cash	60,000	20,000	30,000	10,000

ers bid aggressively for fed cattle and this impact spills over into the valuation of formula cattle. High or low use of AMAs does not create this market scenario.

In reverse, the same arguments hold for the excess supply scenario. This is the fourth column of Table 3 and it is a reasonable facsimile of the fed cattle and beef market since late 2016 and early 2017. The packer has incentives to purchase 100.000 head that week but there are 110,000 head available. There is little competitive pressure across packing firms and cattle can be secured with relative ease. Further, it is likely there would be additional formula cattle, for example, 90,000 head per week. Formula cattle are valued no different than cash. In the end, more cattle are available than are needed and the cause of the issue is this supply/demand imbalance and not the use of formulas. In this market environment, there are considerably more animals available than needed. Cattle prices have to be lowered and beef prices also lowered to encourage the processing of the excess supplies. Again, negotiated cash trade feedlots may go weeks without a bid in this environment. But the problem is not how the available supply is split across marketing methods.

Beyond Price Discovery

Much of the cattle industry frustration and concern currently attributed to price discovery is more correctly related to underlying supply and demand conditions and the dynamics of the industry in recent years. Certainly, the twin shocks of the August 2019 Tyson packing plant fire and COVID-19 in 2020 have subjected the industry to unprecedented market volatility and price pressure.

More fundamentally, market outcomes in recent years have revealed how overall industry conditions have evolved during the past three decades or more. The primary packing infrastructure of the industry was mostly built in the 1980s. MacDonald, et. al, (2000) document the rapid expansion of large beef packing plants. Most plants have been remodeled and some expansion has occurred but no major addition has been made to packing infrastructure in many years. Average cattle inventory in the early 1980s was 113 million head. Cattle inventories declined from that period, interrupted by a single major cyclical expansion in the early 1990s (with a peak inventory of 103.5 million head in 1996) to a low of 88.2 million head in 2014. Three decades of chronic excess capacity led, albeit slowly, to downsizing of the packing industry. In 2000, a ConAgra packing plant in Garden City, Kansas burned down and was not rebuilt. Later plant closings included Tyson (Emporia), 2007; Cargill (Plainview), 2013; and National (Brawley), 2014 along with smaller plants in 2006 and 2015. Figure 3 shows the estimated industry packing capacity decreased by nearly 21% from 2000 to 2016. Decreases in the number of plants, along with persistent labor challenges, have effectively capped beef packing industry capacity in recent years.

The total inventory of cattle and calves at the low in 2014 was roughly 22% smaller than cattle inventories in the early 1980s. Cyclical herd expansion began in 2014 and peaked in 2019 increasing cattle inventories from 88.2 million head to 94.8 million head. The combination of packing capacity decreases and cyclical herd expansion has switched the balance of demand and supply in the fed cattle industry since about 2017 (Figure 3). This represents a fundamental change in industry economics that has not existed in more than 35 years. Depending on demand growth, primarily export market potential, the industry could be ready for significant investment in packing infrastructure in the coming years.

Producers have expressed concern about industry structure and competition in the cattle and beef industry for at least a century. The cattle and beef industry has evolved much like many industries in the U.S. economy driven by pervasive economic forces. The economic forces that have resulted in current levels of large-scale cattle feeding and beef packing are, in general, no different than the reasons for large-scale retailers or a few large automobile or airline companies.

All industries evolve through time. Regardless of product type or sector, industries can look sharply different from inception to maturity. There is a wealth of research on how industries evolve. Various factors such as production systems, technological change, product differentiation, geographical footprint and resources and transaction costs, among others each influence the speed and trajectory of industry change. Different segments or regions of an industry can evolve separately in response to reducing inefficiencies.

During the span of any industry's long-term life cycle, innovations will allow or require participants to reduce inefficiencies to remain competitive. Participants do not have to appreciate or even accept the direction of an industry's evolution. However, any shift is likely to be against economic forces and may require participants to absorb reduced profits through time. There are no quick fixes or sweet spots to combat evolution of an industry. Voluntary disruption of an industry's trajectory likely involves a coordinated industry response and the acceptance of additional costs by participants. Such a task will never be complete and will require constant effort. Within this industry life model, eliminating or reducing free riders will not lead

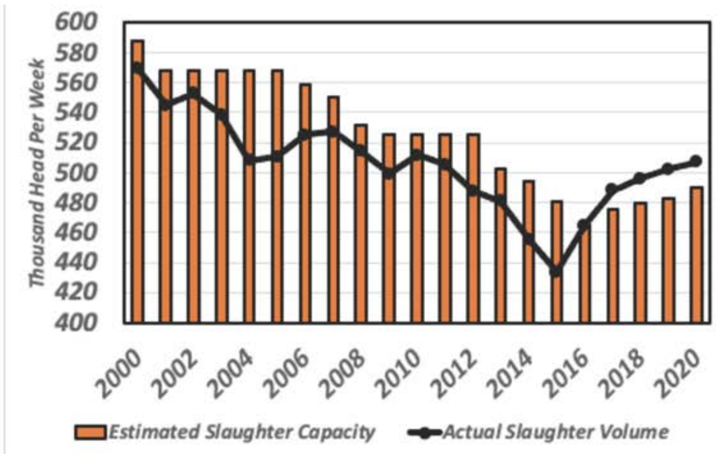

Figure 3. Weekly actual USDA fed steer and heifer slaughter and weekly estimated packing capacity. Source: USDA and CattleFax

things back to a traditional or "the way things used to be" market setting. Economic incentives will still exist to find more efficient and cost-reducing innovations.

Industrial evolution is complex and nearly impossible to fully comprehend without the benefit of hindsight. This complexity can lead to frustration and an urge to find short-term fixes that may do more damage than good. Iammarino and McCann (2006) summarized that "technological regimes, industrial structures and organizational practices, as well as their dynamics, are often overlooked in favor of simplified and stylized constructs, which appeal to consultants or government policy-makers wishing for easy answers to complex problems."

Much of the current discontent among producers is likely associated with the evolution of the cattle industry in response to economic incentives. The question of the legality of highly concentrated industry structure is the domain of the Department of Justice. Agricultural economists recognize the potential for market power to be expressed in highly concentrated industries. The cattle and beef industry, and the beef packing industry in particular, has been researched in multiple studies to understand the impacts of market concentration. The evidence shows 1) market power does negatively impact fed cattle prices but the impact is small and 2) the cost savings due to size economies are at least 10 times greater than the negative market power impacts. Cattle producers and beef consumers receive net benefits from the cost efficiencies of the current market structure in the form of higher cattle prices and lower beef prices than would exist in a less efficient industry. Producer concern about industry structure and competition will no doubt continue and agricultural economists will continue research to determine and monitor the impacts of concentration in cattle and beef market.

Key Findings and Conclusions

- Price determination and price discovery are different concepts. The general levels of market prices is determined by dynamic demand and supply forces. Price discovery is the process of revealing prices from market transactions.
- Improved price discovery may improve knowledge of market conditions for sellers and buyers but will not, by itself, change overall market price levels. A good deal of the current concern about price discovery is borne out of the price pressures related to fundamental changes that have occurred in the balance of supply and demand in the industry. These changes are not the result of, nor can they be fixed by, changes in price discovery.

- Price discovery, a transaction price found through bid and ask (offer), is impacted by a number of factors, including trading institution, risks faced by buyers and sellers, risk preferences of buyers and sellers and market information. Volume of trade only impacts the accuracy of past negotiated cash price information in the price discovery process, overweighting its importance in policy prescriptions could have unintended consequences resulting in market inefficiency.
- Current LMPR information is valuable for the industry. However, current LMPR transaction type definitions are not designed to regulate volume among types and attempts to use them to regulate transaction types could have unintended consequences. The use of LMPR volumes for mandated trade by type or even aggressive monitoring (which carries the threat of regulatory action) creates strong incentives to disrupt the LMPR trade types and could result in less effective cash trade and reduced price discovery.
- If industry participants are forced to increase "negotiated" trades at the expense of "formula" trades, market participants will 1) find ways to meet the "negotiated" definition while minimizing the cost of doing so, 2) the packers and feeders with the best relationships will be better positioned to minimize such costs and 3) the percentage of negotiated trades would increase but the value of the negotiated price report would be diminished due to inclusion of what are really "formula" trades but now reported to meet mandate obligations as "negotiated."
- The relaxation of LMPR confidentiality requirements combined with a better description of formula trades has the potential to benefit price discovery. In a setting where all proposed prescriptions to improve price discovery likely exhibit increased costs and/or unintended consequences, relaxing confidentiality and improving descriptions of formula trades might lead to the largest net benefit as compared to other proposals.
- Reducing the use of AMAs does not change the overall supply and demand balance in the market, thus, does not affect price determination and overall price levels.
- Reported negotiated prices appear to be valuable to the majority of market participants and are used informally as well as formally (in AMAs). It is not known how much sellers and buyers value cash prices and if participants would be willing to incur additional costs to improve them. Additional research is needed.
- Research confirms that AMAs provide significant economic benefits to AMA users and thus significant disincentives to participate in cash price discovery. AMAs reduce transaction costs, fixed costs and help manage risk.
- Much of the improvement in cattle and beef quality in the past two decades is largely attributable to increased use of AMAs. The use of AMAs is related to improved cattle and beef quality due primarily to relationships formed between buyers and sellers. These typically longer-term relationships lead to the incentive for quality improvements with time.
- Cash price discovery represents a positive externality with a public good nature in which the industry values price discovery but individuals have incentives not to participate in price discovery. This type of market failure can eventually result in less price discovery than is optimal for the industry.
- The question of when markets become too thin does not have a precise answer. The amount of negotiated trade needed depends on many factors related to the quantity and quality of cash trading. Most research shows, however, that relatively small percentages of high-quality cash trades are sufficient to ensure good price discovery in many cases.
- Any intervention will result in higher costs to the entire industry. Tradeoffs exist between better price discovery and the cost of better price discovery. Most likely, higher costs are reflected in reduced cattle prices and ultimately passed on to cow-calf producers.
- Price discovery interventions in which market participants retain the ability to choose how to respond to market conditions will have the least negative impact on the industry.
- Preferred interventions to improve price discovery are actions to increase incentives to participate and/or reduce disincentives to participate but retain participants' ability to choose how to respond to changed incentives.
- Prescriptive solutions, such as mandates of fixed behavior, reduce market efficiency; will impose significantly higher costs on the industry; and will have negative impacts on market price levels. Moreover, mandated solutions stifle creativity and innovation and will likely inhibit the industry's ability to grow and respond to dynamic competitive market environments.
- Impacts of highly concentrated industry structure are largely separate from price discovery issues.

Even if the number of packers doubled or tripled, the incentives to use AMAs would still exist. The current cattle and beef industry structure has evolved for reasons similar to the evolution of most industries, driven largely by size economies and the need to capture cost efficiencies to remain competitive. Research shows market power in fed cattle markets has small negative impacts on prices, which are offset by substantially larger cost efficiencies to the benefit of cattle producers and beef consumers.

Recommendations

Long-established economic theory and a great deal of empirical work over many years and in many types of markets together affirm the notion that increasing the number of representative transactions can improve the price discovery process, increasing the accuracy of prices and improving the quality of information embedded in those prices. Such improvements benefit everyone in the market so that negotiated transactions and the price discovery that they support may rightly be considered public goods. Because public goods are available to all – even those who do not contribute to their provision – they tend to be provided at less-than-ideal levels by the market. For this reason, sensible efforts to increase the volume of negotiated transactions in the fed cattle market are well-founded and worth supporting.

The most promising route to a higher level of negotiated fed cattle trade is through voluntary industry initiative. Viable strategies for increasing negotiated trade through cooperative actions are readily identifiable. The first step toward any of these strategies, though, will be to identify reasonable volume targets. These targets do not have to be terribly ambitious to be effective – keeping in mind that a volume target is not an end, in and of itself, but rather a reasonable means to the desired end of more accurate and informative price signals for the market.

Past work on thin markets demonstrates the impossibility of defining acceptable price discovery in terms of a specific volume of transactions. However, research and practical experience in a variety of commodity markets confirm that even a small number of representative transactions can lead to effective price discovery. With these facts in mind, the industry should consider voluntary initiatives to define consensus-based volume targets for negotiated transactions. Such targets could be effective at even modest volumes – say, for example, 5% to 10% of all transactions – and will need to be defined regionally and perhaps seasonally, with enough flexibility to allow deviations from targets over shorter time frames (e.g., certainly weekly and perhaps even monthly). A number of different mechanisms for facilitating negotiated transactions are worthy of consideration. A voluntary market-maker program or electronic exchange to which feeders offer cattle for negotiated sale each week are two possibilities that would seem to be feasible but would require industry buy-in and ongoing support.

Of course, once a negotiated transaction target has been identified and agreed upon by the industry, one apparently logical approach to implementation would be through regulatory channels instead of through voluntary, industry-led action. This is, in fact, the position represented in a number of current legislative proposals. Such an approach has the appeal of simplicity; however, like most simple solutions to complex problems, it is unlikely to be effective. It would, in fact, almost certainly degrade the quality of price discovery in the fed cattle market.

The recommendations offered here capture a dilemma the industry has faced for a number of years. Mandates run the risk of very high costs to the industry – to those that may or may not demand the action. Voluntary change risks a continued lack of action and places burdens on some more than others. There are individual businesses doing price discovery and others benefiting, but there also is quality improvement due to AMAs that benefit all. Mandates, while costly, are policy efficient with impacts potentially more evenly distributed. The costs from a mandate are at least $35 per head for the number of animals impacted by the mandate. These costs will be reflected in value reductions across the industry. Benefits of improved price discovery are likely substantially less than this amount but certainly not zero. (There is a need for research to determine the value of price information.) The dilemma is understood and the authors encourage the industry to seek common ground and compromise outcomes. The industry needs to determine a solution between known costly mandates and no-change voluntary action. There is a lot of available ground between the two ends, and the industry needs to plan for long-term work to address this persistent issue.

The current price-reporting system is not designed for, and will not be easily adapted to, a regulatory role. Clearly and cleanly distinguishing bona fide negotiated transactions from bona fide formula transactions will be next to impossible. Introducing a regulatory stick into the market will create a strong incentive for participants to adopt strategies that will allow de facto formula transactions to fit the definition of negotiated transactions. The quality of reported information across all transaction types could be seriously compromised, with negative implications not only for fed cattle market participants, but for the industry as a whole. These sorts of issues have been seen in other markets that have traveled the regulatory route. Such issues are generally addressed through further regulatory changes, which can ultimately lead to continual tinkering to try and address the problems arising from the original ill-considered regulatory approach.

LMPR provides valuable information to the industry and supports industry research. It is recommended the industry support LMPR reauthorization and consider some modifications suggested below. Even without a volume mandate for particular transactions types, the quality of data in LMPR reports is not as good as it could be. Improvements in the information available from these reports, by itself, could contribute to significant improvement in price discovery and help confirm reasonable levels of mandated levels by transaction type. Three specific changes are recommended.

First, revise confidentiality restrictions so more data can be reported. Ideally, transaction type data would be made available not just by region but by packer. Enhancing negotiated cash trade requires participation of both buyers and sellers. Reporting negotiated cash trades as a percent of total purchases for each packer would provide information on the extent to which packers are participating in price discovery. Even short of that, a relaxation of confidentiality rules to allow more detailed regional reporting would be helpful.

Second, provide more detailed reporting on formula transactions. Currently, all formula transactions are aggregated into a single report. It would be helpful to identify and separate information on different formula types (e.g., by base price). Something like this is already being done in LMPR hog reports, and it provides a great deal of useful information on transaction volumes and net price differences across formulas through time. This recommendation is related to the first, in that less aggregation of formula data makes redactions related to confidentiality more likely unless confidentiality standards are adjusted.

Finally, the industry should consider asking for yield data to be a mandatory report. A key question in the evaluation of fed cattle pricing issues is whether or not negotiated transactions are representative of formula transactions. More detailed data on relevant animal characteristics would allow more effective evaluation and monitoring of this issue.

Regional Market Maker Programs could be used to encourage more voluntary price discovery. The program recognizes that AMA sellers benefit from price discovery but do not participate in price discovery. A program such as described below increases incentives for cash trade among all fed cattle sellers.

A basic possible structure of such a program is presented below:

- Fed cattle sellers who market cattle using non-cash (i.e. other than negotiated cash or grid base) methods, i.e. AMAs would be subject to a per head assessment. Industry chosen assessment levels would be determined by the level of cash trade in the market ranging from zero to a maximum level according to specified threshold levels.
- When the level of cash trade drops below threshold levels, fed cattle sellers who engage in negotiated cash trade are incentivized to increase cash trade as follows:
  - Cash sellers are eligible to receive a market maker cash bonus.
  - Sellers using non-cash (AMA) trading can reduce assessments by increasing the proportion of cash trading and can receive additional cash bonuses such that the combined value of reduced assessments and cash bonus equals the total value received by a cash-only seller.

Market Maker Example (all parameters for illustration only):

Market Thresholds and Assessments:

Critical:	< 6 % cash trade	AMA assessment $1.00 per head
Marginal	6% to 12 % cash trade	AMA assessment $0.50 per head
Adequate	> 12 % cash trade	AMA assessment $0.00 per head

AMA assessments can be offset at 1:5, meaning sellers can offset assessments for five AMA head for each head sold for cash.

Example: Weekly Market Volume with 1,000 head
5 % cash trade = 50 head cash, 950 head AMA; assessment level $1.00 per head

- If 50 head is from cash-only sellers, $950 would be collected and cash sellers would receive $19 per head
- If 50 head is from AMA sellers, total AMA assessments would be on 700 head ($700), and those who sold cash would receive $14 per head (+$5 per head offset value).
- 50/50 mix: Total assessments paid on 825 head ($825); cash-only sellers would receive $19 per head; AMA sellers selling cash would receive $14 per head (+$5 per head offset value).
- Total cash trade could be any combination of cash-only and cash/AMA sellers.

10% cash trade = 100 head cash, 900 head AMA; assessment level $0.50 per head

- If head is from cash only sellers, total assessment would be on 900 head, $450 would be collected and cash sellers would receive $4.50 per head.
- If 100 head is from AMA sellers, total AMA assessments would be on 400 head ($200), and those who sold cash would receive $2.00 per head (+$2.50 per head offset value).
- 50/50 mix: Total assessments paid on 650 head ($325); cash only sellers would receive $4.50 per head; AMA sellers selling cash would receive $2.00 per head (+$2.50 per head offset value).
- Total cash trade could be any combination of cash-only and cash/AMA sellers.

>12% cash trade

- No assessments made

A market maker program will require regional leadership and commitment of market participants. The industry will determine the following parameters as appropriate in each region:

Threshold levels: critical, marginal or adequate.

These will vary by region, may change under varying market conditions and may need to be revised occasionally to reflect evolving industry needs. Economics provides only rough guidance but suggests that critical levels of trading needed may be as little as 5% or less in some market situations.

Threshold assessment levels $/head by threshold level.

Assessment offset ratio

Administration: Industry would have to decide who and how the program would be implemented and administered.

A Market Maker program similar to this allows for larger market-based outcome because individual firms are free to participate or not and figure out the most efficient way to do it. The program would have to be administered after the fact, i.e., based on previous trade (weekly or monthly). This means possible assessments and payments would not be known during the trading week, thus less likely to distort negotiations. Cash sellers would have no assurance that they would be receiving any bonus. The program can be applied across the industry for all specified regions. For regions with adequate cash trade, the program would have no impact and would just reside in the background. Careful consideration would be needed to not make the program incentives too strong, which could lead to inefficient results similar to those from a volume mandate.

Finally, price discovery also could be improved through enhanced use of transparent, technology-based trading platforms, such as the Fed Cattle Exchange. Even a relatively small volume traded consistently in such a transparent fashion can contribute significantly to price discovery. There is no doubt some costs to using electronic trading, otherwise it would be more heavily used today. Overcoming the existing disincentives to participate in price discovery means success of an electronic exchange will require a commitment and willful action of market participants to regularly use this mechanism.

Summary

The frustration, fear and anger resulting from the unprecedented markets shocks in the past year have led to loud and increasingly insistent calls for action in the name of price discovery. The concerns extend well beyond price discovery and are not new to the industry. The incentives for fed cattle market participants to act as free riders on negotiated fed cattle trade leads to thinning markets, which is a legitimate concern and worthy of industry attention. However, this issue is complex and simple solutions are likely to have unintended consequences. Price discovery is a process and is an ongoing activity. Determining the quality of price discovery is a process. The industry needs to base decisions on what is known through scientific research and the experience of individuals; and engage in this process. There is not a clear research-based or factual answer. This report highlights the complex issues related to fed cattle price discovery; the state of knowledge as revealed by available research; additional research needs; and recommendations for industry consideration.

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EXTENSION

NORTH AMERICAN
MEAT INSTITUTE

Testimony Submitted for the Record

**Julie Anna Potts, President and Chief Executive Officer,
North American Meat Institute**

**Hearing before the Senate Agriculture Committee
Examining Markets, Transparency, and Prices from Cattle Producer to Consumer**

June 23, 2021

On behalf of the North American Meat Institute (NAMI or the Meat Institute) based in Washington, DC, and its 724 members around the country, thank you for the opportunity to submit this testimony.

The Meat Institute is the United States' oldest and largest trade association representing packers and processors of beef, pork, lamb, veal, turkey, and processed meat products. NAMI member companies account for more than 95 percent of red meat output and 70 percent of turkey production in the U.S. The Meat Institute provides legislative, regulatory, international affairs, public relations, technical, scientific, and educational services to the meat and poultry packing and processing industry.

Let me state at the outset, the members of the Meat Institute – and their livestock suppliers – benefit from, and depend on, a fair, transparent and competitive market. This testimony is offered to provide a comprehensive picture of the dynamic market in which cattle producers and beef packers operate.

COVID-19 Affected the Cattle and Beef Markets.

First, I would like to address the repercussions of the COVID-19 pandemic. A brief review provides some instructive context for this discussion of cattle and beef markets. It is worth noting that meat was not the only item affected; we saw similar situations in everything from toilet paper, to disinfectants, to hand sanitizer.

Last year, pandemic-related plant interruptions temporarily idled about 40 percent of slaughter capacity for cattle and hogs at the peak of its impact. This disruption happened in tandem with unprecedented retail demand for beef due to panic buying and freezer stocking as shelter-in-place orders were put in place. The situation was worsened by the operational changes needed to rebalance production, processing, and distribution away from food service toward retail.

In short, there was a significant "kink in the chain" in 2020 and the industry is still working to catch up harvesting and processing cattle with the supply of cattle and the demand for beef. Again, this is not unique to the cattle and beef sector; the whole of the U.S. economy is working its way back to normal.

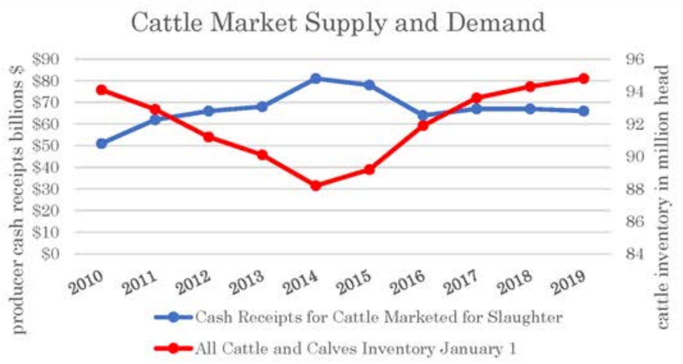
Early in the pandemic the National Cattlemen's Beef Association (NCBA) commissioned the Oklahoma Cooperative Extension Service and several distinguished agricultural economists to examine the impact COVID-19 was having and was expected to have on the beef cattle industry. That paper warned "the timeline for market recovery from COVID-19 is unknown, and cow-calf losses could expand into 2021 when the summer and fall 2020 calf crops would be marketed."[1]

Supply and Demand Fundamentals Are at Work.

Before the pandemic, the supply of cattle was growing. For the first three months of 2020, the fed cattle supply experienced year-over-year growth. For each month, January, February, and March, the number of cattle and calves in feedlots with capacity of 1,000 or more head was larger than it was during the same months in 2019. The supply of fed market cattle remains high this year. USDA reports that in 2021, the cattle-on-feed inventory has been the second highest monthly total ever on record for four of the first five months of the year, February through May 2021.

As expected, when supplies of cattle increase, prices decrease - and vice versa. The chart below shows how this has played out over the past 10 years, with or without such significant recent "black swan" events as COVID, the fire at the Holcomb packing plant in Kansas in 2019, or this year's cyber ransomware attack.

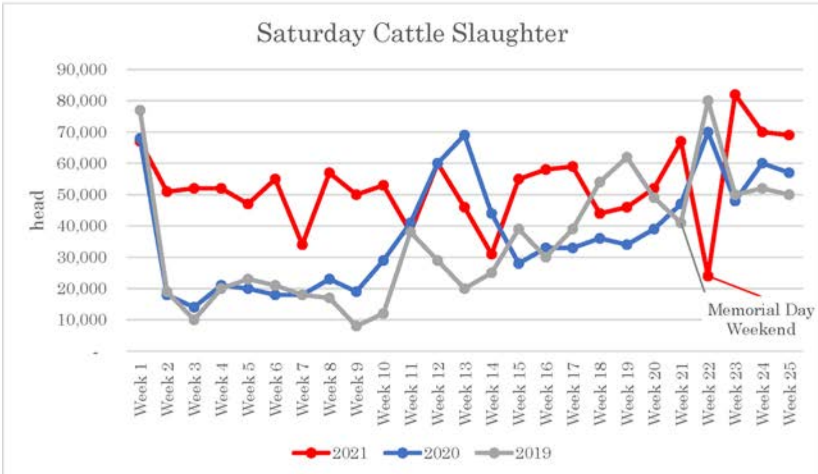
[1] Economic Damage to the U.S. Beef Cattle Industry due to COVID-19, OSU/NCBA, April 2020



Source: USDA AMS

Nonetheless, in the face of the many challenges, the beef packing sector has proven resilient. Total beef production in 2020 was slightly higher than 2019, based on heavier slaughter and carcass weights. As expected, cattle weights increased during the disruptions from COVID. Total head of commercial slaughter in 2020 was down just two percent from 2019, despite the dramatic disruption to the cattle harvest during the second quarter of 2020 resulting from the pandemic.

Packers adjusted to the combination of the large supply of cattle and constraints on their capacity by increasing their Saturday slaughter and processing operations to increase through put. Saturday slaughter year-to-date (through June 19, 2021) has been nearly 40 percent higher than 2020 and 50 percent higher than the more normal year of 2019.



Source: USDA AMS

Although there remains a large supply of fed cattle to be harvested, which has affected cattle markets and prices, it is still important to remember that, through May, year-to-date cattle slaughter is nearly six percent greater than the previous five-year average for the same period.

The Labor Supply Affects Cattle Markets.

Production in meat packing and processing plants are, in some respects, tied to the number of employees working the line. During the early phases of the COVID-19 pandemic, employee absenteeism, whether due to contracting COVID-19, or being sent home with symptoms, or quarantined because of exposure, or simply because of apprehension of coming to work as seen in some locations, caused processing lines in some plants to slow. Additionally, many packers were further challenged by the "hodge podge" of enforcement actions, however well-intentioned, taken at the state and local level.

Moreover, certain cuts of beef and pork require comparatively more labor to process compared to other cuts. These include boneless steaks, which are high value products in high demand. Labor shortages for fabricating these cuts exacerbate the economic impact on beef and cattle prices from plant slowdowns. A slowdown at any point in a beef packing plant creates a bottleneck through the whole plant. As explained previously, meat and poultry companies are utilizing capacity to the best of their abilities with COVID protocol constraints still in place and despite significant labor challenges.

To be clear, labor challenges were not caused by the pandemic; COVID-19 only exacerbated the issue. The meat industry has been facing a labor shortage for some time, and it continues today. Indeed, the pace of Saturday shifts has also strained available labor and adds to processing costs. Recent press stories report the industry's recruitment efforts, including wage increases, signing bonuses, relocation bonuses, retention bonuses and generous benefits. This labor shortage impact is not only on processing lines but also warehouse workers, maintenance positions, and other jobs also critical to maintaining the supply chain.

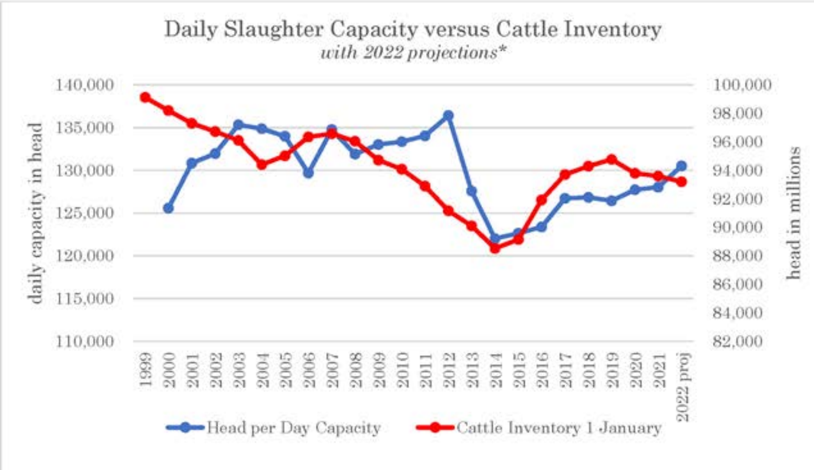
Virtually none of the calls for government intervention into the market acknowledge or address labor availability, even though it is, and is likely to remain, a significant factor that affects utilization of capacity. Packers cannot work through large supplies of market ready cattle when plants are not fully staffed with skilled labor.

The Private Sector is Adding Packing Capacity.

There have been calls for government programs and federal investments in expanded packing capacity. First, demands for more government supported harvest capacity ignore the fundamental issue of finding a sufficient labor pool. Second, adding considerably more capacity simply for the sake of added capacity for a notoriously cyclical cattle supply is short sighted.

The beef and cattle markets are not static, but rather regularly adjust to find balance as the chart below shows. The industry responds to market signals in terms of capacity and the size of the cattle herd. Ultimately beef demand.

Distorting the market through artificial government actions would likely lead to unintended consequences that benefit neither packer nor producer. Beef packing is not a public utility; it is an area best left to the considered judgement of those in the market.



* *publicly announced capacity expansions; cattle inventory implied from USDA May 2021 Livestock Dairy &Poultry Outlook*

Over the past 10 months, in response to market signals, one new plant has opened, and several expansions and new facilities have been announced – including those with investment from cattle producer stakeholders.

2020-2021 Publicly Announced Beef Packing Capacity Expansion							
	Announced		**Capacity** *hd/day*		**Est**		**Est**
Packer	**Date**	**Action**		**State**	**Investment**	**Ownership**	**on-line**
AgriBeef/ True West	Aug 2020	New Plant	500	ID		Producer	TBD
FPL	Oct 2020	Expansion	500	GA	$120 mln	FPL	Q42021
Iowa Premium/ National Beef	Mar 2021	Expansion	1,250	IA	$100 mln	National Beef	Q42022
Sustainable Beef	Mar 2021	New Plant	1,400	NE	$300 mln	Feeder	TBD
Missouri Prime	Mar 2021	Converted pork plant	500	MO		NexGen, feeders	Mar 2021
JBS	Jun 2021	Expansion	1,050	NE	$150 mln	JBS	Q42021
American Foods Group	Jun 2021	New Plant	TBD	WI		AFG	TBD
TOTAL			5,200 +	***Source***: company press releases and news coverage			

These new entrants or company expansions were based on decisions to build or expand based on market conditions, not because of government intervention. Government interference into the market could well undermine this industry growth.

This market-based expansion of the beef packing industry is what cattle industry analysts have identified and called for in various reports. As a Rabobank analysis stated in September 2020, "An additional daily packing capacity of 5,000 to 6,000 head of fed cattle could restore the historical balance of fed cattle supplies and packing capacity and still allow for positive packer margins."[2]

Second, policy proposals to give preference to smaller, "regional" plants to build "resiliency" into the system are ill-considered. The Rabobank report further stated "While many have discussed the need for more geographically dispersed, smaller plants, adding packing capacity in the name of supply chain resiliency is unlikely to work. It must be driven by long-run economics."[3] Dr. Steve Koontz of Colorado State University expressed similar concerns about building capacity that is not used when not needed but built "just in case."[4]

Small and midsize beef slaughter and processing companies endured the same challenges large companies faced, perhaps more so. Artificially creating more, smaller regional harvest facilities will not prevent future market disruptions nor protect cattle producers from cyclical or volatile markets. The unintended outcome could be the opposite.

Protecting Federal Meat Inspection: The Gold Standard of Food Safety.

Under the guise of "increasing capacity," there are various legislative proposals to allow the shipment of state inspected products across state lines without meeting federal standards, and even allowing uninspected meat from custom processors to be sold commercially intrastate. These ideas are ill-conceived.

Federal inspection is a food safety issue, and food security is not something to be waived for a short run economic inducement. Any company wishing to sell in interstate commerce should be willing and able to meet the food safety and other consumer protection standards set by the Food Safety and Inspection Service (FSIS).

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[2] *The Case for Capacity; Can the US Beef Industry Expand Packing Capacity?* Rabobank, Sept. 2020
[3] *Ibid.*
[4] *Economic Reasons for What was Observed in Fed Cattle and Beef Markets During the Spring of 2020,* Steve Koontz, Department of Agricultural & Resource Economics, Colorado State University, May 28, 2020.

First, these bills ignore the fact that there already exists a program, administered by FSIS, that allows state inspected establishments to ship meat and poultry products across state lines – the Cooperative Interstate Shipment (CIS) program. Nine states have elected to participate in the program, with two of those nine, Iowa and South Dakota, announced during the COVID-19 pandemic. CIS was created by Congress as part of the 2008 Farm Bill and ensures product moving in interstate commerce meets the requisite food safety standards. CIS also ensures level playing for companies that wish to sell in interstate commerce.

Second, assertions that meeting federal standards is too burdensome for small and very small plants is a specious argument. There are approximately 6,000 federally inspected meat and poultry establishments and more than 5,000 of them are small or very small.

Size of Facilities	Number of Federally Inspected Plants
Small (more than 10 but fewer than 500 employees)	2,329
Very Small (fewer than 10 employees or less than $2.5M in annual sales)	2,866

Source: FSIS

Allowing interstate shipment of state inspected meat further opens-up a Pandora's Box of potential trade concerns. Under World Trade Organization (WTO) rules that require "like treatment" the U.S. could be forced to accept imported meat and poultry regulated under local and provincial rules in foreign countries rather than the audited and verified national inspection systems in those countries. Moreover, important export markets, which have their own national inspection systems could deny market access to U.S. beef, pork, and poultry. Neither outcome is good.

Misconceptions and Mistruths about Beef Packing Industry Concentration need Correcting.

Much of the rhetoric about concentration in the beef packing sector wrongly implies that consolidation is on-going and that packers' market power is becoming more and more concentrated. That is not the case. The four-firm packer concentration ratio for fed cattle slaughter has not changed appreciably in more than 25 years. According to the Agricultural Marketing Service's (AMS) Packers and Stockyards Division (P&S), the four firm concentration ratio was 82 percent in 1994; today it is 85 percent.

The meat packing industry has been, and continues to be, one of the most highly scrutinized industries when it comes to antitrust review. P&S is uniquely charged, by statute, to provide on-going oversight for fair business practices and to ensure competitive markets in the livestock, meat, and poultry industries. Additionally, any potential merger or acquisition regulators believe threatens "too much market power" is subject to review by the Justice Department or the Federal Trade Commission. The last proposed merger of two the "big four" fed cattle slaughterers occurred in 2008 – and it was blocked by the Department of Justice.

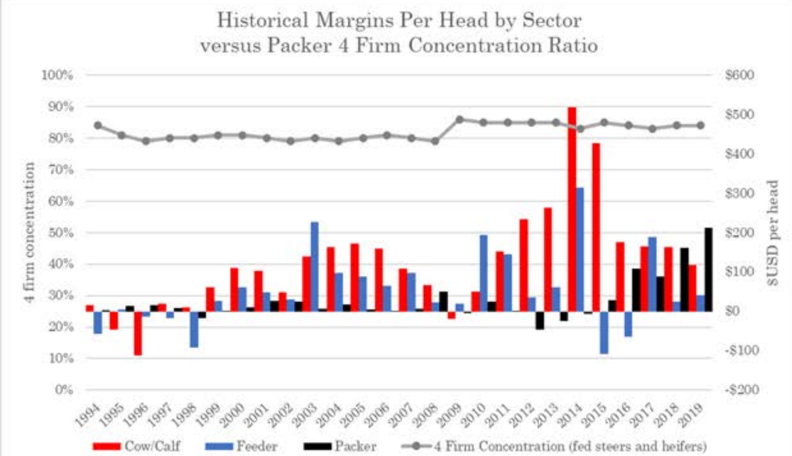
Another clarification is needed. The claim often made is that the big four packers control 85 percent of beef production in the U.S. Again, that is not the case and a misleading exaggeration. Fed cattle make up 79 percent of the total cattle slaughter. Cows and other non-fed cattle, make up the balance, primarily slaughtered to be made into hamburger. The lean meat from these animals is a necessary ingredient to be made into America's supply of hamburger produced in combination with the less demanded muscle cuts from the fed cattle. This distinction is important because up to 50 percent of all beef in the U.S. is consumed as hamburger. Even factoring in the non-fed slaughter plants they own; the four largest beef packers represent about 70 percent of total U.S. beef production.

Critics of the industry frequently mistake individual packing plant size with overall industry concentration. The size and location of plants, however, reflect basic economic factors like the cattle supply and the economics of plant operations. Indeed, the cattle supply itself is concentrated. The farms and ranches that produce about half of all beef cattle in the U.S. are in just seven states. Further, more than 70 percent of all fed cattle are in just five states. Economies of scale drive the capacity and production of a packing plant. That is especially true in areas with large numbers of fed cattle.

Likewise, cow slaughter plants rely on a supply of cull cows from pasture-based cow-calf farms or dairy farms and are structured based on those factors. Each packing plant has its own cost structure. Packers bid on cattle based on the supply and demand factors in their own region. Owning a plant in Texas does not change the bottom-line to a company's operation in Iowa or Colorado.

Finally, given that the structure of the beef packing industry industry is driven by supply and demand factors, the false premise regarding concentration providing undue market power for beef packers must be corrected. The bottom-line is, the current level of four-firm concentration has existed for more than 25 years and it has not ensured packer profitability at the expense of producers.

No sector – cow-calf, feedlot, nor packer – has realized positive margins every year. For example, the four-firm ratio in 2014, when cow-calf and feedlot margins were at record highs, was the same as in 2017 when all three sectors showed positive margins. However, over this 25-year timeline, the cow-calf sector incurred negative margins the fewest number of years of the three as the chart below shows.



Source: USDA Packers and Stockyards Divison (concentration); Sterling Marketing (margin)

Fed Cattle Marketing and Price Discovery.

From ranch to the slaughter plant rail, live cattle typically change ownership two to three times. Cow-calf producers market their cattle to feeders, or to backgrounders who in turn move those cattle to feeders, who then market to packers. The price for cattle at any of those three most common points of transactions is a function of how many cattle are in each respective market segment. In other words, the price is determined by supply of cattle to sell from one segment and the demand to buy cattle by the next segment. That explains why each segment can experience different margins and why there is a futures contract for two types of cattle: feeder cattle and fed cattle. When any of those segments are out of balance, prices move, and that move can be dramatic as the chart above shows.

Considerable attention has been focused on packer margins hitting historic levels after the 2019 fire at the beef packing plant in Holcomb, Kansas (which happened right before Labor Day weekend, a point of high seasonal beef demand) and during COVID. These events put that cattle supply chain temporarily out of balance. In both cases due to a temporary loss of processing capacity, the interrupted demand for cattle led cash market fed cattle prices to fall, while the reduced and uncertain supply of beef led wholesale beef prices to rise dramatically.

In his analysis of the COVID situation, Dr. Koontz wrote,

> *To expect historical relationships between meat price and livestock prices to persist when major facilities in the packing sector are at times closed and in others operating at reduced capacity has no economic foundation.*[5]

Nonetheless, calls for investigations into market transparency, collusion, and the structure of the beef packing industry were made. In August 2019 USDA announced its intent to investigate the economic impact to the cattle market stemming from losing beef processing capacity after the fire at the Holcomb slaughter facility. In April 2020 that investigation was expanded to include the impact of COVID-19 to "determine if there is any evidence of price manipulation, collusion, restrictions of competition or other unfair practices."[6]

In July 2020, USDA's AMS released its Boxed Beef and Fed Cattle Price Spread Investigation Report detailing the agency's investigation into cattle and beef price margins, finding no wrong-doing and confirming the disruption in the beef markets was due to devastating and unprecedented events.

Further, per that report, AMS said "One of the underlying concerns about price discovery is the declining number of participants in the negotiated cash market."[7] Since then, there have been several proposals, including legislation introduced in Congress, to restructure and regulate the cattle market through significant government intervention. Prominent among the proposals is to require cattle feeders to sell cattle to packers, and packers to buy from feeders, a mandatory minimum volume of fed cattle on a cash, spot market basis, or "negotiated" basis to improve price discovery. These proposals threaten the industry with numerous adverse, unintended consequences.

There is robust price discovery in the cattle and beef markets. Congress established and USDA implemented the Livestock Mandatory Reporting Act (LMR) to facilitate open, transparent price discovery and provide all market participants, both large and small, with comparable levels of market information for slaughter cattle and beef, and other species. Under LMR, AMS publishes 24 daily and 20 weekly cattle reports each week. Weekly reports start Monday afternoon and end the next Monday morning. These reports cover time periods, regions, and activities. Data includes actual cattle prices. Slaughter data represents cattle harvested during a specified time period and includes net prices, actual weights, dressing percentages, percent of beef grading Choice, and price ranges.

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[5] Koontz

[6] USDA Statement on Beef Processing Facility in Holcomb, Kansas, August 28, 2019

[7] Boxed Beef and Fed Cattle Price Spread Investigation Report, USDA AMS, July 22, 2020

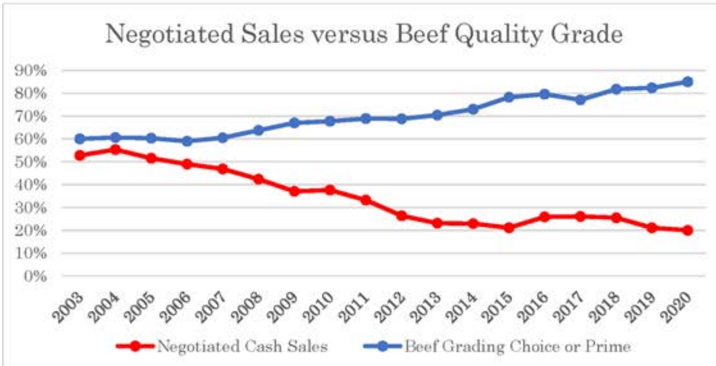
The mandatory volume of negotiated cash sales goes far beyond the purported objective of market transparency and price discovery to regulating terms of sale in a private transaction between producers and packers. It represents the "camel's nose under the tent" for regulating more – or all – terms of sale in the cattle market. That should be concerning to producers given the number of transactions among the segments of the cattle production supply chain described earlier.

Further, many of these proposals would amend the confidentiality provisions in the Agricultural Marketing Act applicable to LMR. The amendment would prohibit USDA from withholding any "information, statistics, and documents." This concept has data privacy implications for both packers and feeders.

By design, such a mandate would limit a producer's ability to use other types of cattle procurement and marketing tools, including forward contracts and various formula-based purchases that comprise the majority of transactions for market-ready cattle. These pricing methods – collectively known as alternative marketing arrangements (AMAs) – combined with the negotiated cash market pricing, have served U.S. cattle producers, the beef industry, and consumers well over the past two decades by:

- Providing producers and cattle feeders with an effective risk management tool;
- Reducing marketing costs for cattle feeders and producers;
- Improving efficiency though the supply chain;
- Improving the quality of U.S. beef;
- Meeting U.S. consumer demand and building trust by incentivizing not only quality, but the safety, sustainability, and consistency of U.S. beef; and
- Enhancing the competitiveness of U.S. beef in global export markets.

Greater utilization of AMAs has coincided with a significant improvement in beef quality. The percent of beef grading at the top two levels, Choice and Prime, has increased from 60 percent in 2000 to 85 percent in 2020.



Source: AMS

There are economic and business reasons why the types of cattle transactions have evolved in the way they have. In its 2018 Report to Congress,[8] AMS said "Stakeholders were in general agreement that formula-based purchases provide greater benefits, in terms of operational efficiency, for both packers and feedlots." Proponents of mandatory negotiated cash sale volumes have not addressed such fundamental questions as which producers would be forced to give up their AMAs, and what effect on beef quality and demand could result.

Analysis of this impact has been done, however. The Research Triangle Institute (RTI) conducted the definitive study about the use of and benefits that flow to all sectors regarding AMAs.[9] For the record, the study was mandated and funded by Congress, published in six volumes, by 30 researchers in four teams, conducting nearly three years of research and was fully peer reviewed. In the executive summary RTI said:

> Many meat packers and livestock producers obtain benefits through the use of AMAs, including management of costs, management of risk (market access and price risk), and assurance of quality and consistency of quality.[10]

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[8] Report to Congress, Livestock Mandatory Reporting, USDA AMS, 2018

[9] See United States Dept. of Agriculture. Grain Inspection, Packers and Stockyard Administration. *GIPSA Livestock and Meat Marketing Study*. Vol. 1. Research Triangle Park: RTI International, 2007

[10] *Id.* at ES-3.

RTI also concluded:

> In aggregate, restrictions on the use of AMAs for sale of livestock to meat packers would have negative economic effects on livestock producers, meat packers, and consumers.[11]

RTI also found, for cattle, that

> Hypothetical reductions in AMAs, as represented by formula arrangements (marketing agreements and forward contracts) and packer ownership, are found to have a negative effect on producer and consumer surplus measures. ... Over 10 years, a hypothetical 25% restriction in AMA volumes resulted in a decrease in cumulative present value of surplus of
>
> - 2.67% for feeder cattle producers;
> - 1.35% for fed cattle producers;
> - 0.86% for wholesale beef producers (packers); and
> - 0.83% for beef consumers.

A hypothetical 100% restriction in AMA volumes resulted in a decrease in cumulative present value surplus of

- 15.96% for feeder cattle producers;
- 7.82% for fed cattle producers;
- 5.24% for wholesale beef producers (packers); and
- 4.56% for beef consumers.[12]

Finally, "price discovery" should not be confused with price determination, *i.e.* supply and demand. Typically, when market prices are low or falling, there are increased concerns expressed about "price discovery." There appears to be a widespread perception that a reduction in cash trade is, by definition, bearish. In fact, in times of market disruption, formula and contract pricing can prevent precipitous drops and support quicker recovery. From an economic perspective, bearish cattle prices result from "price determination" factors, such as supply of cattle in each segment of the supply chain and the capacity to process cattle into beef, but also the overall demand for beef and other competing proteins.

Mandating more cash purchases does nothing to remedy bearish price fundamentals. The volume of cash sales is less relevant than is the type and quality characteristics of the cattle sold being representative of the market. Additionally, the types of cattle transactions vary greatly over time, even week to

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[11] *Id.*
[12] *Id.* at ES-8-9.

week. Imposing mandatory minimum volumes creates an incentive to alter transaction types that could result in less price discovery.

Proposed Regulatory Actions by USDA Under the Packers and Stockyards Act will Adversely Affect Producers and Packers.

On June 11 USDA announced it planned to propose rules to "strengthen enforcement" of the Packers and Stockyards Act (PSA).[13] These regulations are problematic for several reasons, including their impact on cattle marketing options described above.

The concepts expressed in the press release and reported in the media are not new and were considered and rejected in the past. When proposed, they will conflict with legal precedent in no less than eight federal appellate circuits, and will hurt livestock producers, packers, and consumers.

USDA plans on re-proposing a rule to clarify that a plaintiff need not demonstrate harm to competition to bring and prevail in Packers and Stockyards Act litigation. Additionally, USDA indicates that it intends to "propose a new rule that will provide greater clarity to strengthen enforcement of unfair and deceptive practices, undue preferences, and unjust prejudices."[14]

It is beyond dispute that eliminating the need for a plaintiff to show harm to competition, or likely harm to competition, will encourage litigation, most of it likely specious litigation. That threat will severely limit or terminate AMAs with all the adverse unintended consequences discussed previously.

Beef Imports and Country of Origin Labeling.

Much like USDA's proposed rules, another issue seemingly settled legally and discredited economically has been revived: mandatory country of origin labeling (COOL). In four rulings, each of which the U.S. lost, the World Trade Organization (WTO) concluded that COOL was discriminatory and illegal under WTO rules, and if left in place would have triggered more than $1 billion in retaliatory tariffs. That is why Congress repealed COOL for beef and pork in 2015. Despite COOL being in place at the time, the largest and fastest growth in beef imports was in 2014 – which was the year the size of the U.S. cattle herd was at its lowest, as would be expected based on supply and demand fundamentals that drive the cattle and beef industry.

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[13] https://www.usda.gov/media/press-releases/2021/06/11/usda-begin-work-strengthen-enforcement-packers-and-stockyards-act

[14] Ibid

When COOL went into effect, per capita consumption of beef in the U.S. was 60.8 pounds; by the time COOL was repealed in 2015 beef consumption per capita had dropped to 53.8 pounds. As explained earlier, up to half of U.S. beef consumption is as hamburger and ground beef. Most of the beef imported into the U.S. is lean, grass fed trim and lower value cuts, which supplements the beef from non-fed cattle making up 21 percent of annual slaughter as a necessary ingredient in into processed meat and ground beef. Because of this balance with imports, steaks, loins and higher value cuts are not forced into such lower value products, which helps support prices both domestically and through exports of U.S. beef. According to the U.S. Meat Export Federation, the per pound price of U.S. beef exports has averaged a 68-cent premium over the price of imports that go into lower value beef products.

Conclusion

The discussion above demonstrates that market fundamentals drive the cattle and beef markets and that what we have seen before and during the course of the pandemic was to be expected. The North American Meat Institute is prepared to discuss these issues and work with the Committee on the issues facing the industry. Thank you for the opportunity to provide this testimony.

NATIONAL CATTLEMEN'S BEEF ASSOCIATION
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Written Testimony of the National Cattlemen's Beef Association

Submitted to the

United States Senate

Committee on Agriculture, Nutrition, & Forestry

Prepared for the record of the hearing titled

Examining Markets, Transparency, and Prices from Cattle Producer to Consumer

Held on

Wednesday, June 23, 2021

Introduction

On behalf of America's cattle producers, thank you for the opportunity to provide testimony as the Committee examines transparency and pricing in the cattle and beef supply chain.

The National Cattlemen's Beef Association (NCBA) is the U.S. cattle and beef industry's oldest and largest trade association. In addition to our 25,000 direct members, NCBA represents forty-four state cattlemen's associations with collective memberships numbering some 175,000 cattle producers — each of whom has a voice in our grassroots policy-making process. It is important to note that well in excess of 90 percent of those members are family-owned business entities involved in the cow-calf, stocker/backgrounder, and feeding sectors of the supply chain. In other words, true ranchers and farmers.

In a grassroots membership base as diverse as ours, it necessarily follows that business models and opinions are equally diverse. Just as cattle production in the western United States is very different than in the Midwest or Southeast, so too are the methods by which our producers choose to market cattle between segments of the supply chain. Our role at NCBA is to facilitate a policy process that respects those differing perspectives, consults informed expertise, allows for robust discussion and debate, and ultimately arrives at policy positions that are representative of the entire industry. It is from this perspective, based upon that very grassroots policy-making process, that NCBA submits the following testimony to the hearing record.

Background

The present situation unfolding within the U.S. cattle markets is highly complex and multifaceted. Some of the underlying dynamics at play have been present in our industry for some time. Other factors have emerged more recently. Independent of the origins of the issues themselves, the present conversations on how best to address them were recently elevated as a result of two major events.

In August of 2019, a fire at Tyson Foods' Finney County beef plant in Holcomb, KS wreaked havoc upon the cattle markets. In the days following the fire, live cattle prices declined substantially while boxed beef values soared.[1] At the peak of this market volatility, the spread between fed cattle and boxed beef prices reached

[1] *Boxed Beef & Fed Cattle Price Spread Investigation Report*. USDA-AMS: 2020.

$67.17/cwt—at the time, the widest gap since records began under Livestock Mandatory Reporting (LMR).[2] While the supply shocks brought about by this "black swan" event created severe challenges for cattle producers, those hardships were dwarfed by those brought on by the COVID-19 pandemic.

As meatpacking plants began to temporarily close, whether due to isolated outbreaks of the virus or to comply with local public health orders, cattle supplies began to build up across all segments of the supply chain. At the height of the pandemic, the industry realized a roughly 40 percent decline in beef processing capacity utilization.[3] The resulting supply and demand dynamics showed similar results to the Holcomb fire: fed cattle prices fell by 18 percent and boxed beef prices skyrocketed 80 percent.[4] While the industry has made great strides toward recovery, its effects are still being felt by cattle producers today.

Recent NCBA Engagement on Cattle Marketing

NCBA has maintained a standing Live Cattle Marketing Committee for many years, and often employs a working group of market participants, state affiliates, and outside experts to research specific issues and offer objective guidance that may be used in the development of NCBA policies. While a few outside observers have been critical of NCBA's approach and policies, we have remained committed to respecting the direction and intent passed by our tens of thousands of grassroots members through our policy process. To discount those voices around the country because they do not align with a specific regional or organizational view is tremendously disrespectful to the very family operations many claim to be speaking for.

Price Discovery

While declining levels of negotiated trade of fed cattle had already begun an industry-wide discussion on the subject of price discovery long before the Holcomb fire or COVID-19, these two major market disruptors underscored the urgency of this dialogue. In July 2020, NCBA's Live Cattle Marketing Committee met to discuss policy proposals as part of our organization's 2020 Summer Business Meeting. Producer leaders from more than forty state cattlemen's associations worked for more than six hours to craft a policy that would help resolve concerns about live cattle marketing issues and lead the industry toward more robust price discovery. The NCBA Committee considered several proposals, each aimed at encouraging greater volumes of cash cattle trade. After debate, the NCBA Committee recommended and the NCBA Board of Directors approved a policy that supports voluntary efforts to improve cash fed cattle trade with the potential for a legislative or regulatory solution in the future if robust regional cash trade numbers are not achieved.

As mandated by this member-passed policy, NCBA leadership appointed a subgroup of the Live Cattle Marketing Working Group to develop a framework by which NCBA would monitor negotiated trades and establish benchmarks of weekly negotiated trade volumes. In October of 2020, the group announced this plan and issued a report titled, "A Voluntary Approach to Achieve Robust Price Discovery in the Fed Cattle Market" (Addendum 1).

[2] *Ibid.*
[3] *Ibid.*
[4] *Ibid.*

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NCBA implemented this framework in January 2021. Since that time, cattle feeders within USDA's five major cattle feeding reporting regions (the "5-Area")[5] have responded to the need for more negotiated trade in order to improve price discovery at the fed cattle level. In an impressively short period of time, many cattle producers, particularly in the Texas-Oklahoma-New Mexico and Kansas regions, have adjusted longstanding business models to offer more cattle on a negotiated basis. In some cases, they have even done so against the indications of short-term market signals. As a result, negotiated trade volumes in the first quarter of 2021 have increased against recent years (Addendum 2). Many analysts and agricultural economists have credited this rise to NCBA's voluntary efforts (Addendum 3). Our second quarter analysis will take place in the coming days. However, using data collected and published under LMR, we know that this trend is continuing. In fact, during three trading weeks of 2021's second quarter, all 5-Area regions have exceeded negotiated trade volumes that current academic research indicates is necessary for "robust" price discovery[6] (Addendum 4). This is certainly a marked improvement from trends observed even nine months ago, and cattle producers deserve high praise for this work. Unfortunately, some meatpackers have still not participated in negotiated trade at meaningful levels, jeopardizing the success of our framework and impeding price discovery for all market participants.

While more improvements are still needed to achieve consistency, including adequate meatpacker participation in the negotiated market, these results are encouraging. As new and innovative price discovery tools continue to emerge, we are confident that transactional contribution to price discovery remains attainable in the very near future.

Market Transparency

Since enactment of the Livestock Mandatory Reporting Act in 1999 (P.L. 106-78), cattle producers have benefitted from the consistent and timely reporting of market information by USDA. Producers utilize this information to make informed marketing decisions that best suit their unique business needs. LMR requires congressional reauthorization every five years and was set to expire at the end of the 2020 Fiscal Year. A one-year extension of the program was included in the Consolidated Appropriations Act of 2021 (P.L. 116-260), and it is currently authorized through September 30, 2021. NCBA strongly supports LMR and urges Congress to ensure that this critical tool does not expire.

Though LMR is essential to cattle producers, improvements could be made to the program to increase transparency within the cattle markets. Though many of these proposals can be adopted through the regulatory process, NCBA supports the establishment of a cattle contract library, reporting of formula base prices, and next-day carcass weight reporting among other things. We believe that these new reports could further benefit producers in marketing their cattle. USDA is required by law to protect the confidential business information of entities who report market information under LMR.[7] To implement this mandate, USDA established the "3/70/20" confidentiality guidelines in 2001. Under this provision, price reports are published provided each report meets three conditions over the most recent 60-day period:

1) At least three reporting entities provide data at least 50 percent of the time;

[5] Alphabetically, USDA's five LMR reporting regions are: Colorado, Iowa-Minnesota, Kansas, Nebraska, and Texas-Oklahoma-New Mexico.
[6] *Objective Measures of Price Discovery in Thinning Fed Cattle Markets*. Colorado State University: 2016. (Executive Summary)
[7] 7 U.S.C. § 1636(a)

2) No single reporting entity provides more than 70 percent of the data for a report; and

3) No single reporting entity may be the sole reporting entity for an individual report more than 20 percent of the time.

While NCBA recognizes the Agency's requirement to balance the need for information with safeguarding confidentiality, the 3/70/20 guidelines have often resulted in withheld reports throughout the major cattle feeding regions – most notably in the Colorado region. NCBA supports efforts to revisit confidentiality rules to reduce instances of nonreporting, and will continue to work alongside allies on Capitol Hill and with USDA to ensure this critical information remains accessible to cattle producers.

Processing Capacity

Adequate beef processing capacity is critical to maintaining profitability in the cattle industry and providing a steady supply of essential food products to American consumers. Currently, there is a serious shortage of processing capacity (commonly referred to as "hook space") throughout the beef production system. A recent study by Rabobank found that excess operational beef processing capacity — or hooks available in addition to those used to process existing fed cattle supplies — fell to zero in late 2016 and turned negative in early 2017. The same study found that, under the current dynamics of supply and demand, the industry could economically accommodate an additional 5,700 hooks of daily processing capacity. This equates to roughly 1.5 million additional animals per year.[8]

At present, the processing sector represents a bottleneck in the overall beef supply chain. The result has a negative effect on cattle producer leverage in fed cattle negotiations. When cattle supplies exceed the capacity to process them, the livestock become a less scarce resource and cattle prices decline. It is important to note that this is independent of demand for beef. Even when demand for U.S. beef is strong, a lack of processing capacity depresses prices for live cattle. The most pointed examples of this can be found in the Holcomb fire and COVID-19. In both cases, operational beef processing capacity utilization fell dramatically following temporary closures of high-throughput beef plants. As a result, cattle prices declined, and boxed beef values drastically increased.

To improve producer leverage in fed cattle negotiations, either cattle supplies must be reduced, or processing capacity must be expanded. Herd contractions and expansions occur naturally over the course of a somewhat predictable ten-year cycle. Currently, U.S. cattle inventories are cyclically high,[9] but beef demand is also high both domestically and in our major export markets.[10] The clearest solution to meeting this demand while fostering profitability throughout the supply chain is to expand beef processing capacity.

Meatpackers of all sizes face similar operational challenges, the most consistent and severe of which is labor recruitment and retention. The largest barrier to entry, however, is access to sufficient capital for construction. The industry average startup cost for a meat processing facility is roughly $100,000 per hook.[11] This means that a modest 25-head-per-day plant would need to secure $2.5 million in financing just to build the infrastructure.

[8] Aherin, Dustin. *The Case for Capacity*. RaboBank: 2020.
[9] Cattle Report, USDA-NASS, January 2021.
[10] *Factors that Drive Beef, Cattle Prices to Record Highs*. RaboBank: 2021.
[11] Newlin, Lacey. *So You Want to Build a Slaughter Plant?* High Plains Journal: 2020

As a further complication, traditional lending institutions are often unable to provide adequate financing due to the risk profile assessed to meatpacking business models.

NCBA has partnered with lawmakers in Congress to introduce legislation authorizing federally guaranteed, low-interest loans to prospective meatpackers. We urge Congress to swiftly take up this legislation and vote yes to supporting small, local, and independent meat processors.

Market Oversight

Markets can only properly function when all participants play by the same rules. While much of the spread between boxed beef and fed cattle prices during the pandemic can be explained by the inherent characteristics of supply and demand, NCBA called upon the Department of Justice to investigate the major meatpackers in June 2020. The purpose of this request was to ensure that no anticompetitive behavior or illicit activity contributed to these disparate prices paid for similar commodities. To date, we have not learned the results of this investigation, nor have we received any confirmation that it is still ongoing. Over 100 lawmakers have signed onto letters requesting a status update from the Attorney General, and NCBA supported most of these efforts. It is imperative that cattle producers learn the Department's findings at the earliest possible opportunity. They deserve transparency and accountability.

NCBA Recommendations

Throughout cattle marketing conversations over the past sixteen months, a small but vocal minority has suggested — and continues to suggest — that low cattle prices can be remedied or balanced simply through a government mandated marketing requirement. This is not accurate. Definitively, there is no simple solution sufficient to address the myriad challenges facing our industry. To suggest that any single legislative, regulatory, or industry-led action will be a "silver bullet" is to grossly oversimplify and mislead. Rather, progress and marked improvement will require a multifaceted response from the industry, Congress, and federal agencies.

In Congress, lawmakers should focus their efforts on supporting small and mid-size beef packers, promoting expansion of processing capacity, ensuring a timely reauthorization of LMR, reviewing the confidentiality obligations required of USDA, and continuing oversight of the Department of Justice to ensure their ongoing investigation reaches a swift conclusion. NCBA is aware that a handful of Senators, including some who serve on this Committee, are curious about legislation to require certain levels of negotiated trade, such as the *Cattle Market Transparency Act*[12] and legislation known as "50/14."[13] Per our member-driven, grassroots policy, NCBA opposes government mandates in the cattle market at this time. Our industry-led effort to achieve price discovery must be allowed the opportunity to succeed or fail before our membership decides to support a legislative or regulatory solution. Simply put, the midst of an ongoing market crisis is never a good time to make long-term, market altering statutory changes. Careful consideration must be given to the risk and reward of enacting market-influencing laws for hundreds of thousands of American ranchers and millions of avid beef consumers.

[12] S. 543 (117th Cong.)
[13] S. 949 (117th Cong.)

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As Congress evaluates several legislative proposals intended to help cattle producers during these uncertain times, we urge thorough vetting and attentive evaluation of economic assessments and feedback from the entire cattle industry. As we have for over fifty years, NCBA is happy to assist the Committee in this endeavor.

Conclusion

NCBA appreciates this opportunity to provide testimony on behalf of our members – the men and women who put beef on the American dinner plate. We commend and thank the Committee for taking the time to delve into this important and complex subject. It has been a difficult two years for cattle producers in every corner of the country, and the Committee's desire to assist them during this time has not gone unnoticed. Your attention to these issues is greatly appreciated. As we continue to discuss creative solutions and potential paths forwards, we stand ready to assist in any way. Please do not hesitate to reach out to the NCBA Center for Public Policy at (202) 347-0228 with any questions.

Attachments

Addendum 1

Overview Presentation of NCBA's Voluntary Approach to Achieve Robust Price Discovery in the Fed Cattle Market

A Voluntary Framework to Achieve Robust Price Discovery in the Fed Cattle Market

Overview of the NCBA Live Cattle Marketing Working Group – Regional Triggers Subgroup Report Delivered October 1, 2020

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Subgroup Members

Jerry Bohn - NCBA President-Elect & Subgroup Chair
Kevin Buse, Texas Cattle Feeders Association
Shelby Horn, Texas & Southwestern Cattle Raisers Association
Brad Kooima, Iowa Cattlemen's Association
Jordan Levi, Colorado Livestock Association
Troy Sander, Kansas Livestock Association
Troy Stowater, Nebraska Cattlemen

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Excerpt: Fed Cattle Price Discovery Policy (M 1.10)

THEREFORE BE IT RESOLVED, NCBA supports a voluntary approach that:

1) Increases frequent and transparent negotiated trade to regionally sufficient level, to achieve robust price discovery determined by NCBA funded and directed research in all major cattle feeding regions, and

2) Includes triggers to be determined by a working group of NCBA producer leaders by October 1, 2020.

BE IT FURTHER RESOLVED, if the voluntary approach does not achieve robust price discovery as determined by NCBA funded and directed research, and meet the established triggers that increase frequent and transparent negotiated trade to a regionally sufficient level, and triggers are activated, NCBA will pursue a legislative or regulatory solution determined by the membership.

BE IT FURTHER RESOLVED, NCBA support a three-year review/sunset provision on any negotiated trade solutions implemented to allow for a thorough cost benefit analysis to be conducted.

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Regions

- In general, the subgroup will use the 5 USDA-AMS reporting regions
- Colorado combined with Nebraska to account for instances of nonreporting (NOTE: this is only for NCBA's internal analysis purposes, not a recommendation for changes to LMR or AMS reporting regions

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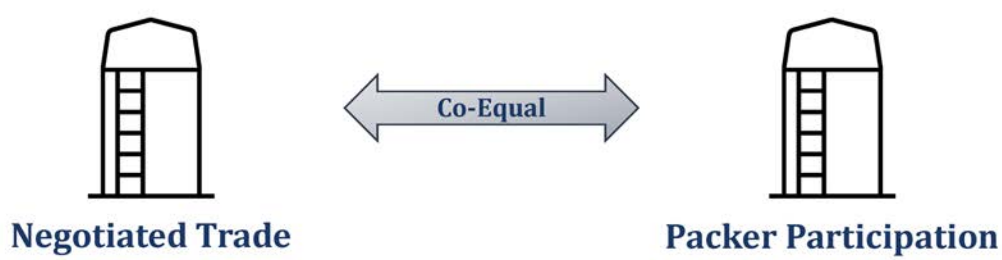
Trigger Silos

The subgroup believes that robust price discovery is determined by both sufficient levels of weekly negotiated trade and packer participation in such negotiated trade, and will evaluate each component in a co-equal trigger silo.



Minor vs. Major Triggers

- There are a total of 8 minor triggers:
  - 4 regional <u>negotiated trade</u> obligations
  - 4 regional <u>packer participation</u> obligations
- In any given quarter, the tripping of 3 or more minor triggers shall constitute a major trigger

Example:

Texas-Oklahoma-New Mexico	
Negotiated Trade	Packer Participation
Obligation Met	Obligation Met

Nebraska-Colorado	
Negotiated Trade	Packer Participation
Obligation Met	Obligation Not Met

Iowa-Minnesota	
Negotiated Trade	Packer Participation
Obligation Met	Obligation Met

Kansas	
Negotiated Trade	Packer Participation
Obligation Not Met	Obligation Met

In this fictional example, only two minor triggers would have been tripped in the quarter being analyzed.

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The 75% Plan

On a quarterly basis, the subgroup will evaluate each region's performance for each trigger silo.

Evaluations will be based upon LMR data collected in arrears.

For each quarter, data will be organized in weekly increments

The 75% Plan, cont.

To avoid tripping a major trigger, each region must:

1) Weekly trade 75% or more of its unique "robust" price discovery threshold via negotiated means, no less than 75% of the reporting weeks, and

2) Weekly fulfill its packer participation obligations (to be determined at a later date) no less than 75% of the reporting weeks

The 75% Plan, cont.

- If a major trigger is tripped during any two out of four rolling quarters, the subgroup will recommend NCBA pursue legislative or regulatory measures to compel adequate negotiated trade for robust price discovery

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Negotiated Trade

- Defined as:

  A cash or spot market purchase of cattle by a packer or negotiation of a base price, from which premiums are added and discounts are subtracted.

- Includes negotiated cash <u>and</u> negotiated grid

- Use the regional negotiated trade volumes identified by Dr. Koontz at the "robust" levels

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Negotiated Trade, cont.

- Under the 75% Plan, each region must quarterly attain 75% of the Koontz "robust" negotiated trade number (at least 75% of the reporting weeks)

	NEGOTIATED TRADE	
REGION	KOONTZ "ROBUST" NUMBER (HD/WK)	Weekly Trade Obligation (75% of Robust)
Texas, Oklahoma, New Mexico	13,000	9,750
Kansas	21,000	15,750
Nebraska, Colorado	36,000	27,000
Iowa, Minnesota	16,000	12,000

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Packer Participation

- Each of the four major packers' participation in negotiated trade, within each of the regions from which they predominantly procure cattle, will be monitored by the Subgroup
- Each major packer will be responsible to participate at adequate levels under this framework
- The data to measure this is not currently published by USDA-AMS
- NCBA currently in talks with AMS to access data in some form
- The subgroup is hopeful that a packer participation silo can be finalized in the coming weeks

NATIONAL CATTLEMEN'S BEEF ASSOCIATION
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Implementation

- The framework will be implemented on January 1, 2021
- The first quarterly analysis will take place shortly after March 31, 2021
- If the packer participation silo is not complete, only the negotiated trade volume silo will be used in Q1

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Force Majeure

- The subgroup will evaluate "black swan" events on a case-by-case basis and will make trigger determinations accordingly

- Major supply chain disruptions may allow for flexibility within the 75% Plan.

Review and Adjustment

- The framework will need to be adjusted from time to time to account for changing conditions of supply and demand, technological advancements, updated academic literature, etc.
- Such considerations will be made quarterly, and adjustments may be made accordingly
- This includes evaluations of the two out of four rolling quarters approach versus alternatives such as two quarters in a calendar year, or any two consecutive quarters

Questions?

NATIONAL CATTLEMEN'S BEEF ASSOCIATION
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Addendum 2

Letter from NCBA President Jerry Bohn to NCBA Members Regarding Q1 Results of Voluntary Price Discovery Efforts

National Cattlemen's Beef Association

April 16, 2021

Dear Fellow NCBA Member,

March 2021 marked one year since the declaration of a national emergency due to COVID-19. Nobody could have predicted then the serious impact the pandemic would have on our nation, the economy, or within the cattle markets. As states begin the process of fully re-opening, I am hopeful that the worst of this crisis is behind us. Although the business environment for cattle producers has improved since March 2020, the volatility caused by the virus continues to impact our industry.

To improve the business climate for cattle producers, further work is needed in the area of price discovery. Last October, you received a letter from Marty Smith announcing NCBA's *Voluntary Approach to Achieve Price Discovery in the Fed Cattle Market*. This framework, sometimes called the "75% Plan," was developed by NCBA's Live Cattle Marketing Working Group Regional Triggers Subgroup as directed by the Fed Cattle Price Discovery policy (**M 1.10**) adopted at our 2020 Summer Business Meeting. As a reminder, the voluntary approach requires the subgroup to analyze the program's performance at the end of every quarter. The subgroup has completed its evaluation of the first quarter of 2021, and I write today to report their findings to the members of NCBA.

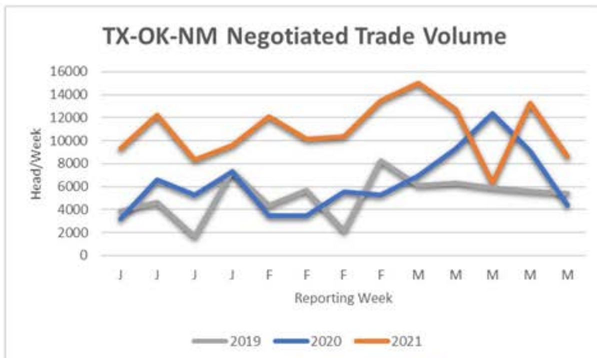
After evaluating the weekly USDA-AMS negotiated trade data in the five major cattle feeding reporting regions, the subgroup has determined that a major trigger was tripped during the first quarter of 2021. According to our member-approved framework, if another major trigger is tripped during any of the remaining quarters this year, NCBA will pursue a legislative or regulatory solution to increase negotiated trade as determined by our membership.

Under the "Negotiated Trade" silo of the 75% Plan, one minor trigger is assigned to each of the regions. The subgroup evaluated the weekly negotiated trade volumes for each cattle feeding region, and determined that the Iowa-Minnesota and Nebraska-Colorado regions exceeded their thresholds under the 75% Plan during all of the reporting weeks – therefore, passing their negotiated trade threshold for this quarter. They also found that the Texas-Oklahoma-New Mexico and Kansas regions each fell short of the threshold during five of the Q1 reporting weeks. One of those weeks occurred during Winter Storm Uri and another coincided with mandatory maintenance at a major packing plant which resulted in a lengthy closure. Both events disrupted normal cattle flows and brought critical packing capacity to a grinding halt. The data from the weeks surrounding both events justified invoking the *force majeure* provisions of our framework, though a major trigger was still tripped due to a lack of packer participation. The subgroup will continue to explore ways to evaluate *force majeure* events in a more objective manner.

Let me be clear, our producers deserve high praise for their diligent efforts to implement the voluntary framework this past quarter. They offered cattle on a negotiated basis to comply with our framework, even when market signals were telling them to hold on to cattle in anticipation of higher prices. Often, these trades were made at a loss. We recognize the steps cattle producers have taken to address the need for greater price discovery and market transparency, and deeply appreciate their actions. Unfortunately, there was not enough participation in the negotiated market from some of the packers. Simply put, feeders can offer all their cattle on a negotiated basis—but we only achieve our thresholds if there is a buyer willing to bid fairly on those cattle offered.

While the 75% Plan framework calls for the evaluation of a "Packer Participation" silo (in addition to the "Negotiated Trade" silo), this piece of the program is not yet complete, and thus was not evaluated during this quarter. NCBA continues to finalize the details with the four major meatpackers. While we are in the final stages of these negotiations, the basic mechanics have already been established by the subgroup—and we know that, had this silo been evaluated during the first quarter, we would have tripped a major trigger with the packer silo as well.

This quarter, the market fell short of the negotiated trade volumes outlined in our voluntary framework, but that should not overshadow the significant improvements made to price discovery since the framework's implementation. For example, negotiated trade activity is already up significantly year-over-year in the Texas-Oklahoma-New Mexico region.



Source: CattleFax; USDA-AMS

It is apparent that the work of NCBA, and the efforts of the producers who have participated in this framework, have been critical in this increase. These gains were made despite residual COVID-19 disruptions, packing plant closures, natural disasters, and a volatile market. Cattlemen and women should be commended for their efforts to bring more price discovery to the marketplace. But we still have a ways to go.

We remain committed to working with all levels of the supply chain to ensure more fed cattle are offered and procured on a negotiated basis. Please do not hesitate to reach out to your NCBA officer team or our staff in Washington, D.C., with any questions or concerns.

Sincerely,

Jerry Bohn
President
National Cattlemen's Beef Association

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Addendum 3

Q1 Negotiated Trade Volumes by 5-Area Region Compared to NCBA's 75% Thresholds

NCBA Fed Cattle Negotiated Trade Tracker - 2021 Q1

Region	75% Threshold	Category	Week Ending: 1/10/2021	1/17/2021	1/24/2021	1/31/2021	2/7/2021	2/14/2021	2/21/2021	2/28/2021	3/7/2021	3/14/2021	3/21/2021	3/28/2021	4/4/2021
TX-OK-NM	9,750	*Neg. Cash*	7,239	7,331	4,988	6,800	6,929	6,441	6,390	8,376	8,742	6,669	2,774	8,657	4,642
		Neg. Grid Base	2,046	4,893	3,356	2,827	5,159	3,690	4,003	5,104	6,299	6,060	3,553	4,649	3,997
		TOTAL NEG.	**9,285**	**12,224**	**8,344**	**9,627**	**12,088**	**10,131**	**10,393**	**13,480**	**15,041**	**12,729**	**6,327**	**13,306**	**8,639**
KS	15,750	*Neg. Cash*	13,754	12,481	20,591	10,598	18,085	8,531	8,310	10,830	14,859	17,952	13,259	17,093	13,486
		Neg. Grid Base	3,430	2,343	3,410	2,105	3,504	6,198	1,382	4,086	4,383	2,903	3,978	5,442	5,556
		TOTAL NEG.	**17,184**	**14,824**	**24,001**	**12,703**	**21,589**	**14,729**	**9,692**	**14,916**	**19,242**	**20,855**	**17,237**	**22,535**	**19,042**
NE	27,000	*Neg. Cash*	23,816	31,081	29,738	30,547	30,312	25,664	25,512	29,886	19,807	34,422	22,850	30,549	21,930
		Neg. Grid Base	3,947	5,153	5,371	8,014	6,071	8,456	4,679	4,352	4,403	2,887	3,216	4,760	5,232
		Subtotal Neg.	**27,763**	**36,234**	**35,109**	**38,561**	**36,383**	**34,120**	**30,191**	**34,238**	**24,210**	**37,309**	**26,066**	**35,309**	**27,162**
CO*		*Neg. Cash*	1,573	5,485	2,419	4,333	-	-	-	-	5,422	4,083	5,097	6,311	728
		Neg. Grid Base	1,654	5,498	2,297	4,566	-	-	-	-	3,155	2,777	1,982	2,071	1,263
		Subtotal Neg.	**3,227**	**10,983**	**4,716**	**8,899**	-	-	-	-	**8,577**	**6,860**	**7,079**	**8,382**	**1,991**
		TOTAL NEG.	**30,990**	**47,217**	**39,825**	**47,460**	**36,383**	**34,120**	**30,191**	**34,238**	**32,787**	**44,169**	**33,145**	**43,691**	**29,153**
IA-MN	12,000	*Neg. Cash*	19,414	27,355	18,887	24,220	26,081	21,443	20,342	18,668	19,844	18,875	26,397	21,961	26,291
		Neg. Grid Base	3,471	4,166	2,984	4,040	2,716	4,394	2,681	4,668	3,095	2,941	3,027	3,004	4,390
		TOTAL NEG.	**22,885**	**31,521**	**21,871**	**28,260**	**28,797**	**25,837**	**23,023**	**23,336**	**22,939**	**21,816**	**29,424**	**24,965**	**30,681**

** Zeroed cells denote unavailability of data due to confidentiality*

TX-OK-NM	9,750	*Pass/Fail*	(465)	2,474	(1,406)	(123)	2,338	381	643	3,730	5,291	2,979	(3,423)	3,556	(1,111)
KS	15,750	*Pass/Fail*	1,434	(926)	8,251	(3,047)	5,839	(1,021)	(6,058)	(834)	3,492	5,105	1,487	6,785	3,292
NE-CO	27,000	*Pass/Fail*	3,990	20,217	12,825	20,460	9,383	7,120	3,191	7,238	5,787	17,169	6,145	16,691	2,153
IA-MN	12,000	*Pass/Fail*	10,885	19,521	9,871	16,260	16,797	13,837	11,023	11,336	10,939	9,816	17,424	12,965	18,681

Sources:	
Region:	***USDA-AMS Report:***
TX-OK-NM	LM_CT156
KS	LM_CT157
NE	LM_CT158
CO	LM_CT134
IA-MN	LM_CT137

Addendum 3

Q2 Negotiated Trade Volumes by 5-Area Region Compared to NCBA's 75% Thresholds and 100% of "Robust" Price Discovery

(Incomplete Dataset)

NCBA Fed Cattle Negotiated Trade Tracker - 2021 Q2

Region	75% Threshold	Category	Week Ending: 4/11/2021	4/18/2021	4/25/2021	5/2/2021	5/9/2021	5/16/2021	5/23/2021	5/30/2021	6/6/2021	6/13/2021	6/20/2021	6/27/2021	7/4/2021
TX-OK-NM	9,750	Neg. Cash	13,387	8,900	3,668	9,055	6,850	7,953	7,071	9,183	5,776	7,470	7,440		
		Neg. Grid Base	4,750	5,643	5,561	7,764	4,998	5,778	6,190	7,936	8,771	7,573	6,990		
		TOTAL NEG.	18,137	14,543	9,229	16,819	11,848	13,731	13,261	17,119	14,547	15,043	14,430	-	-
KS	15,750	Neg. Cash	21,343	14,758	6,345	8,374	7,881	8,814	16,536	13,843	9,326	13,602	22,727		
		Neg. Grid Base	5,395	4,984	4,127	8,206	8,350	10,318	7,496	11,021	10,864	9,624	7,499		
		TOTAL NEG.	26,738	19,742	10,472	16,580	16,231	19,132	24,032	24,864	20,190	23,226	30,226	-	-
NE	27,000	Neg. Cash	31,150	25,593	21,314	22,886	32,744	23,087	25,735	28,551	17,189	35,353	20,781		
		Neg. Grid Base	6,841	4,338	2,945	5,762	3,371	2,563	10,683	13,562	13,248	16,922	10,141		
		Subtotal Neg.	37,991	29,931	24,259	28,648	36,115	25,650	36,418	42,113	30,437	52,275	30,922	-	-
CO*		Neg. Cash	4,322	2,850	1,708	25,261	995	1,135	857	1,299	-	-	-		
		Neg. Grid Base	2,451	2,061	553	2,545	265	210	1,664	2,263	-	-	-		
		Subtotal Neg.	6,773	4,911	2,261	27,806	1,260	1,345	2,521	3,562	-	-	-	-	-
		TOTAL NEG.	44,764	34,842	26,520	56,454	37,375	26,995	38,939	45,675	30,437	52,275	30,922	-	-
IA-MN	12,000	Neg. Cash	26,573	27,552	24,529	15,590	26,387	18,389	19,093	21,447	22,738	27,427	16,652		
		Neg. Grid Base	3,053	3,903	2,308	2,998	3,269	4,516	4,413	7,047	4,484	5,195	4,975		
		TOTAL NEG.	29,626	31,455	26,837	18,588	29,656	22,905	23,506	28,494	27,222	32,622	21,627	-	-

* Zeroed cells denote unavailability of data due to confidentiality

	75% Thresholds														
TX-OK-NM	9,750	Pass/Fail	8,387	4,793	(521)	7,069	2,098	3,981	3,511	7,369	4,797	5,293	4,680	(9,750)	(9,750)
KS	15,750	Pass/Fail	10,988	3,992	(5,278)	830	481	3,382	8,282	9,114	4,440	7,476	14,476	(15,750)	(15,750)
NE-CO	27,000	Pass/Fail	17,764	7,842	(480)	29,454	10,375	(5)	11,939	18,675	3,437	25,275	3,922	(27,000)	(27,000)
IA-MN	12,000	Pass/Fail	17,626	19,455	14,837	6,588	17,656	10,905	11,506	16,494	15,222	20,622	9,627	(12,000)	(12,000)

	100% Robust (FYI Only)														
TX-OK-NM	13,000	Over/Under	5,137	1,543	(3,771)	3,819	(1,152)	731	261	4,119	1,547	2,043	1,430	(13,000)	(13,000)
KS	21,000	Over/Under	5,738	(1,258)	(10,528)	(4,420)	(4,769)	(1,868)	3,032	3,864	(810)	2,226	9,226	(21,000)	(21,000)
NE-CO	36,000	Over/Under	8,764	(1,158)	(9,480)	20,454	1,375	(9,005)	2,939	9,675	(5,563)	16,275	(5,078)	(36,000)	(36,000)
IA-MN	11,000	Over/Under	18,626	20,455	15,837	7,588	18,656	11,905	12,506	17,494	16,222	21,622	10,627	(11,000)	(11,000)

Sources:	
Region:	USDA-AMS Report:
TX-OK-NM	LM_CT156
KS	LM_CT157
NE	LM_CT158
CO	LM_CT134
IA-MN	LM_CT137

Senate Committee on Agriculture, Nutrition & Forestry
Examining Markets, Transparency and Prices from Cattle Producer to Consumer
June 23, 2021
Statement for the Record

Senator Tina Smith

Thank you Chair Stabenow and Ranking Member Boozman for holding this hearing today.

It is clear that fixing the cattle markets is not a partisan issue. Senators are working across the aisle to try to foster more competition and more transparency throughout the cattle processing supply chain.

I have worked with Senator Grassley on creating more transparency in the market place, and signed on to a letter led by Senator Grassley asking for this hearing.

Senator Rounds and I are pushing the Justice Department to investigate anti-competitive practices in the meat packing industry.

Before this hearing, I asked my staff to collect personal experiences from cattle operations in Minnesota in order to highlight how the current system is making it difficult for producers to earn a living.

I want to share a short excerpt from Angie Raatz, cattle feeder in Jasper, Minnesota.

"Many of us our choosing to sit with empty cattle lots as we can't seem to find opportunity in the marketplace. With empty lots that has major impact on our local economy. We're not borrowing money from the bank for cattle, we're not buying feed, don't need fuel for doing chores, don't call the vet as we don't have cattle, can't afford to update any equipment as we have no income. The consumers want us to produce beef. They are demanding it even at the high price. We'd love to produce a great safe product we just need your help. Be our voice, make the marketplace fair again."

Here is another excerpt from a cattle feeder and bank loan officer in Minnesota.

"Feeders will not stay in this business when we take all the risk without any ability to manage our margin on fair and equitable terms. As a banker, the capital required to feed cattle is tremendous and most are done letting it leak out of there operations."

Thank you again Chair Stabenow and Ranking Member Boozman for holding this hearing. Congress should act now and make the marketplace fairer and more transparent to help our nation's cattle producers.

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June 25, 2021

Debbie Stabenow, Chairwoman
U.S. Senate Committee on Agriculture,
Nutrition, and Forestry
328A Russell Senate Office Building
Washington, DC, 20510

Re: R-CALF USA's Written Testimony For the Hearing Record Regarding "Examining Markets, Transparency, and Prices from Cattle Producers to Consumers," June 23, 2021

Dear Chairwoman Stabenow:

As the largest U.S. cattle trade association exclusively representing U.S. cattle farmers and ranchers,[1] R-CALF USA (Ranchers Cattlemen Action Legal Fund United Stockgrowers of America) greatly appreciates your June 23, 2021 examination of the U.S. cattle and beef industries in your hearing, "Examining Markets, Transparency, and Prices from Cattle Producers to Consumers."

The U.S. cattle industry is in an acute crisis. The crisis is marked by upward trending consumer beef prices and downward trending producer cattle prices. Producer cattle prices collapsed over six years ago, in 2015. After the collapse, beef prices and cattle prices began moving in opposite directions, with beef prices trending sharply upward and cattle prices stair-stepping sharply downward. This is unprecedented.

These inexplicable price trends demonstrate this cattle crisis began long before the market shocks related to the packing plant fire in 2019, the COVID-19 pandemic in 2020, and the 2021 cyberattack. These ensuing market shocks merely highlight the ongoing chronic crisis, making it acute.

The chronically dysfunctional marketplace manifest since 2015 is but a symptom of a deep-rooted problem. That problem began decades ago and consists of two core structural changes to the cattle and beef industries that significantly disrupted the competitiveness of cattle and beef markets.

The most obvious structural change was the concentration of the beef packing sector, which was facilitated by a profound shift in public policy – a shift of deemphasizing competitive market forces in favor of achieving efficiencies through largeness of scale.

The less obvious structural change was the globalization of cattle and beef supply chains, which too was facilitated by a profound public-policy shift. This shift occurred immediately after the concentration of the beef packing sector and constituted a deemphasis of the interests of individuals and their smaller businesses in favor of catering to the newly concentrated beef packing sector – a sector that coveted lower-cost inputs from lower production-cost countries.

[1] R-CALF USA has approximately 5,500 voluntary dues paying members in 46 states.

Together these two profound policy shifts shrunk the U.S. cattle industry in terms of numbers of participants, cattle, feedlots, and marketing outlets. This ongoing contraction now threatens the future viability of the cattle farming and ranching industry we know today. The contraction is dismantling the industry's competitive market infrastructure and is undermining the critical mass of participants needed to sustain a competitive industry, even upon the reintroduction of competitive market forces.

The globalization of input supply chains amplifies the negative impacts of beef packer concentration by stunting the domestic cattle supply chain's opportunity to expand. It does this by substituting both the cattle and beef supply chains' output with lower-cost, undifferentiated imports of both cattle and beef. Consequently, the single largest segment of American agriculture – the live cattle industry – continually underproduces for the domestic market and remains largely void of opportunities for new entrants. Moreover, the market no longer functions in accordance to supply and demand fundamentals that historically applied to the unique supply-sensitive, perishable, and cyclical characteristics of the cattle industry.

The now highly concentrated beef packing sector, along with its relatively new alliances made with key participants within the entire live cattle supply chain, do not want Congress or the Administration to reverse course. The entire industry is now shaped, operating, and progressing according to their economic best interests.

In defense of the status quo, these packers and their allies offer rationalizations for market anomalies that defy historical industry trends, the unique characteristics of the cattle industry, and the industry's responses to changes in supply and demand. However, unless the receiver of such rationalizations is intimately familiar with the cattle industry, they would pass for plausible explanations.

In our antitrust lawsuit against the largest beef packers, *In re Cattle Antitrust Litigation*, the plaintiffs allege that the Big 4 conspired to depress cattle prices from January 2015 onward. But there are yet other contributing factors that were discussed during your hearing.

For example, the packers and their allies lament on the cattle industry's inability to respond quickly to changes in demand signals. This reflects the extremely long biological cycle of cattle. However, forgetting this, packers also assert that the 2015 cattle price collapse was caused by an increased availability of slaughter weight cattle following the historically low inventories of 2014. But if the 30% decline in fed cattle prices across 2015 was caused by increased cattle supply, we would expect to see both *high slaughter volumes* and *low prices*, not *continuing low slaughter volumes* and *drastically low prices*.

In early 2015, a chorus of government and private industry analysts alike predicted strong cattle prices through 2018, due precisely to the industry's inability to increase production sooner than within three years. But unexpectedly, cattle prices collapsed for nearly two years running, until settling at the lowest price level experienced by the industry in five years.

A factor undisclosed at your hearing that contributed in part to the depression of cattle prices despite continuing low cattle supplies and slaughter volumes was that the packers/allies markedly increased beef inventories by relying not on domestic supply chains, but rather on their lower-cost and undifferentiated global supply chains.

Debbie Stabenow, Chairwoman
June 25, 2021
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The packers/allies then rationalize the ensuing disparity between beef prices and cattle prices by asserting there are simply too many cattle and not enough capacity to harvest them. This assertion likewise defies fact and logic for the following reasons: i) the U.S. today, and for decades past, continues to have too few cattle with which to produce sufficient volumes of beef to meet domestic beef consumption; ii) the U.S. beef cow herd remains millions of head smaller than it was when globalized input supply chains were memorialized in the 1994 NAFTA; iii) the big 4 have refused to expand capacity despite record margins available to them, exacerbating their decisions to close plants in recent years; and, iv) during the COVID pandemic, when the packers/allies denied domestic cattle producers access to the market for weeks on end, they continued importing between 120,000 and 213,000 head of cattle each month, including tens of thousands of Canadian cattle for slaughter.

The advent of new cattle procurement tools, such as formula and other forward-type contracts, while seemingly beneficial to an outside observer, have further undermined the competitive market forces that once held the cattle and beef price relationship together. They undermine this relationship principally by supplanting competition with packer control, which empowers packers to function as market gatekeepers. Again, the packers/allies rationalize their unrestricted use of such tools and play their "unintended consequence" card with claims that such contracts ensure that all cattle are not subject to an average price (a one-price-for-all), thus permitting higher quality cattle to receive premiums.

But their broad-stroke rationalization ignores the U.S. Department of Agriculture's finding that the relatively fewer number of fed cattle sold in livestock auction markets received the highest prices compared to all other procurement arrangements,[2] and those auction market cattle were associated with the highest quality.[3]

Today's cattle and beef supply chains are not the products of competition. Instead, they are the products of decades of engineering, control, and management by a beef packer oligopoly that began years ago to push market power control farther and farther upstream into the live cattle supply chain. The oligopolists' efforts today to maintain the status quo is testament to that fact.

The solution to today's crisis must be to reinsert competitive market forces into every transaction point along the supply chain where competition has been purged. This must include empowering the domestic supply chain to distinguish itself from global supply chains, thus replacing the packers/allies unlimited control over when to access foreign supplies with competitive demand signals originating from consumers making a choice to prioritize American born and raised beef.

We propose two triage measures to initiate this important goal. First, Congress should restore competition in the industry's most important price discovery market as Senator Grassley's and Senator Tester's S.949 will quickly and effectively do. Second, Congress should empower consumers to signal their demand for U.S. born and raised cattle by passing legislation to require all beef in U.S. commerce to be labeled as to where it was born, raised, and harvested.

It is important to note that R-CALF USA agrees that complete price transparency must be required in all cattle transactions, but it must also be understood that price transparency alone is no match for the market's domination by oligopolistic firms and their attendant use of global input supply chains.

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[2] *See*, e.g., Table 2-17, GIPSA Livestock and Meat Marketing Study, at 2-26.
[3] *Id.*, at ES-7.

Debbie Stabenow, Chairwoman
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Producers already know they are being underpaid, and that beef consumers are not receiving a fair price. Merely being told that in more detail will not change the situation.

Congress must intervene on behalf of the remaining hundreds of thousands of independent U.S. cattle producers, many of which are on the verge of joining the hundreds of thousands that have already exited our industry over the past few decades.

Chairwoman Stabenow, we would greatly appreciate a meeting with you for the purpose of helping to identify the most important measures Congress can undertake to begin rebuilding today's dismantled domestic live cattle and beef supply chains to help create a stronger and more secure America.

Sincerely,

Bill Bullard

Bill Bullard, CEO
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EDITORIAL

WORKING TO IMPROVE CATTLE MARKETS

IFBF President Craig Hill discusses the issues facing cattle producers and steps that Farm Bureau is taking to address them.

By Dirck Steimel

U.S. cattle markets continue to be plagued by a lack of transparency and fairness which continues to harm producers while rewarding large beef processors with record margins. The Spokesman visited with Iowa Farm Bureau Federation (IFBF) President Craig Hill to discuss these pressing cattle market issues and the steps that IFBF and the American Farm Bureau Federation (AFBF) are taking to address them. Here are excerpts of that conversation.

Q: Let's start with some background: Although beef prices are higher at the grocery store now, why are farmers and ranchers so concerned about the transparency and fairness of today's cattle markets. Aren't they benefiting from these higher prices?

Cattle producers today find themselves in a very difficult position because of the lack of margins and extreme volatility in prices. That has been especially true after recent so-called "black swan" events in the market: the fire at the Tyson beef plant at Holcomb, Kansas, and the upheaval in the markets because of the pandemic. In both cases, packers' profit margins widened to record levels of more than $1,000 per head as they were able to charge more to consumers for beef, while prices paid to farmers were stagnant or declined.

Those events and others have created a lack of trust and have forced farmers and ranchers to question the market's fairness. Any industry that has a lack of trust in the supply chain has serious problems.

Another huge issue for cattle producers is the absence of price transparency. When you buy a home, a pickup or a piece of farm equipment, you can check on the internet or other places to see what similar products are selling for and if there might be a better deal out there. But when you sell cattle, all you know is what the packer has bid. Many times, that's the only bid a farmer gets because the market is dominated by four big players and they often don't bid against each other.

Hill

And farmers are increasingly seeing packers demanding that farmers delay delivery of the cattle a week or more down the road, causing feed costs to rise, especially difficult during a period of higher corn and soybean prices.

Farmers, as price takers, need improved price discovery through visibility and price transparency, and they need more competition for their product. We see that in grains, hogs and other products, but it's been lacking in cattle. That often leaves producers in the dark without the tools they need for price discovery.

We believe action is warranted on both the disparity of margins and the lack of market transparency.

Q. What steps is IFBF taking to address cattle farmers' very serious concerns about the market?

Through our grassroots policy process, our county Farm

Bureau delegates developed a wide range of policy recommendations designed to improve cattle markets.

Nearly all those recommendations were adopted by AFBF at its policy session in early 2021.

Those recommendations called for a larger share of negotiated sales in fed cattle markets with a focus on increased price transparency.

The national organization also adopted a recommendation from IFBF that any federal effort to increase the negotiated sales should be respectful of regional differences around the United States and should be regularly reviewed to make sure it is effective.

In addition, the AFBF delegates approved a recommendation to establish a group to study regional mandatory minimum cash cattle trade to help determine what levels are needed to achieve robust price discovery. That group is working now, with Delaware County Farm Bureau leader Randy Francois representing Iowa.

In addition, I made it a point to mention the concerns of cattle feeders to Agriculture Secretary Tom Vilsack when he visited Iowa earlier this spring.

Q: What actions are being taken by AFBF to address the cattle market issues?

Our national organization has also made the cattle market a priority, with a lot of input from Iowa and other leading cattle states.

AFBF met with other cattle groups and recommended that the U.S. Department of Agriculture (USDA) expedite its renewal of the Livestock Mandatory Reporting system. That renewal should include making formula base prices subject to the same reporting requirements as negotiated cash cattle sales, as well as the creation of a contract library.

AFBF and other groups also demanded that the Department of Justice issue a status report on its investigation on cattle pricing that was launched after the disruptions from the Kansas fire and the pandemic.

In addition, the national groups are working to encourage the investment in and the development of independent regional beef processors to improve the overall market for cattle.

Q: You mentioned the inquiry into the market by the Department of Justice and USDA. We heard a lot about it when the inquiry was launched, but not much since. Is that a concern?

The questions that sparked the inquiry need answers, and we've waited long enough. The fire at the Holcomb, Kansas, plant happened nearly two years ago. Everyone in the cattle industry has a right to know if there were violations by packers to rules of the Packers and Stockyard Act or if there are other actions that need to be addressed.

We also need to know the results of the federal investigation before Congress can consider any legislation to remedy the problems in the market. We, along with several lawmakers, including Iowa Sen. [Charles] Grassley, have been pressing to hold hearings and develop legislation to improve the cattle market. Lawmakers need the results of this report as a basis for those actions.

Q: Many farmers are looking into selling beef and other meats directly to consumers or working through local or regional processors. Do you think these efforts could improve markets and help spur the needed changes in the cattle market to create more transparency and fairness?

It's absolutely true we need more beef processing capaci-

SEE CATTLE MARKET PAGE 5

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NEBRASKA CATTLEMEN

"Working for Nebraska beef producers – pasture to plate."

June 23, 2021

The Honorable Debbie Stabenow, Chairwoman
The Honorable John Boozman, Ranking Member
Senate Committee on Agriculture, Nutrition & Forestry
328A Russell Senate Office Building
Washington, DC 20510

RE: Examining Markets, Transparency, and Prices from Cattle Producer to Consumer

Dear Chairman Stabenow and Ranking Member Boozman and members of the committee:

Nebraska Cattlemen is grateful for the opportunity to share our member's concerns regarding the live cattle market, processing capacity, and market transparency. Our organization is a grassroots membership organization representing thousands of farmers and ranchers from every scope and sector of the beef cattle industry in Nebraska.

Live Cattle Market: It is our cattle producer members and their livelihoods that are directly impacted by the cattle market's ability or inability to send appropriate price signals up and down the beef cattle supply chain. In the past decade, those price signals have encouraged ranchers to expand their cow herds and cattle feeders to expand their feeding operations as domestic and global demand has exponentially grown like few could have imagined. Yet today as wholesale beef prices start to shift from historic highs, the percent of the available beef supply chain profit margins being passed onto cattle producers is near historic lows.

It has become painfully apparent to our members that, in recent years, the ability of the cattle market to send the correct price signals to producers has been broken. For the greater part of a decade, this has been a headline issue for members of our organization. While ideally, Nebraska Cattlemen would have preferred to share our members' concerns in person at today's hearing, our producer members choosing not to testify in person today shows just how precarious and dire this situation has become within the industry and live cattle markets. Our members have voiced agreement that there are market issues that need to be addressed, but none of the producers we encouraged to testify were willing to put themselves out front for fear of possible retribution by other market participants. How could have we gotten to such a point as an industry?

Where we are today is not a result of some evil plot to purposely stifle ranchers' livelihoods, but rather has been a progression - across the beef supply chain over the last two decades to become increasingly more efficient in fed cattle marketing and inventory management as an industry through the use of alternative marketing agreements (AMAs). While these efficiencies have benefited some, they came at the cost of robust price discovery and market leverage for other producers. Undoubtedly, you will hear today about the positive industry effects of AMAs, otherwise defined by USDA Livestock Mandatory Reporting as "formula" trades, which have helped incentivize the production of higher quality beef. Please realize, however, that the long-term proliferation of AMA's has also led to a continued deterioration of price discovery as beef packers have financially incentivized commitment of cattle without price negotiation.

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Price discovery is a public good. Negotiated cash market participants invest resources to negotiate and discover cash market prices for the entire industry, while those who utilize AMAs capitalize on that investment, benefit from the efficiencies, and make use of the prices discovered by cash market participants. This type of scenario is best described as a tragedy of the commons. When an increasing number of market participants overuse a public good or "shared resource" for their own short-term best interest, abuse of the shared resource results in less value of that resource overall for everyone in the long run. Until the price discovery "public good" is better valued by both beef packers and some cattle feeders, the industry will continue on this downward spiral until there is little to no negotiated trade left and other outside markets will have to be relied on for price determination.

How does our industry correct this course? Continuing to focus on expanding options for market participants to participate in price discovery is key. Our members seek options that contribute to price discovery like working with the packing industry to sell on a negotiated grid - a mechanism that allows producers to garner premiums for higher value cattle while still participating in the price discovery process by offering their cattle to numerous buyers. However, producers have grown frustrated with the lack of willingness of all packers to offer this marketing option. In order to incentivize packers to participate in the negotiated market and contribute to price discovery the industry must either mandate participation, financially incentivize negotiated trade or penalize entities who continually show a lack of participation in the price discovery process.

An additional source of frustration for our members is the continued perception that all AMAs reward carcass merit and therefore are the sole reason the industry has seen an increase of quality grade. Earlier this month, Nebraska Cattlemen worked with USDA-AMS to gain additional insight into the mix of transaction types that comprise the "formula" fed cattle price and volume data that is reported by USDA-LMR. Specifically, NC sought more information regarding the total volume and/or percentage of total reported "formula" headcounts that are transacted in such a way that USDA quality and/or yield grade parameters have a bearing on the final price paid vs. the volume and/or percentage of total reported volume where that is NOT the case.

Analysis of USDA-LMR data from January through mid-May of 2021 indicated rather clearly that in the Nebraska and Iowa/Southern Minnesota LMR regions (compared to other regions), there is a higher percentage of cattle that fall into the "formula" transaction type that are simply marked at the LMR weekly Nebraska dressed steer weighted average price, or possibly that data point plus some predetermined premium, but there are no other premiums or discounts applied relative to quality grade or yield grade. We understand why this type of transaction falls into the "formula" data as it is not a negotiated cash sale, a negotiated grid sale, or a contract purchase - however we also see it to be somewhat different than a transaction that involves quality and or yield grade premiums and discounts. Our specific ask was to look at the prevalence of this type of transaction type in the LMR "formula" data set on a regional, 5-area, and nationwide scale.

The results showed that the northern regions, specifically Nebraska and Iowa/Minnesota, exhibited the highest proportion of transactions with no premium or discount applied. With the quality of the cattle/beef not having any direct impact on the net price paid for cattle marketing in this manner it would appear that any premium being paid by the buyer is essentially being done to reward suppliers for furnishing unpriced inventory and consequently reducing the buyers need to participate / compete in the negotiated market and contribute to the price discovery process.

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Processing Capacity: Just as cattle producers respond to market signals to expand their cow herds and feeding operations to meet domestic and global demand, we question why the beef packing industry has not responded to those same signals for the past five years?

Adequate beef processing capacity is critical to maintaining profitability in the beef and cattle industry, and ensuring a steady supply of beef and beef products to consumers. Currently, there is not only a shortage of adequate processing capacity, there is also a reduction of processing throughput across the country. A recent study by Rabobank found that excess operational beef processing capacity fell to zero in late 2016 and turned negative in early 2017, resulting in a negative effect on cattle producer leverage in fed cattle negotiations because of lack of competition.

To improve producer leverage in fed cattle negotiations, either cattle supplies must be reduced, or processing capacity must be expanded. With domestic and foreign beef demand at an all-time high, the obvious solution to meet this growing demand without shrinking the US beef herd is to expand beef processing capacity. We understand expanding capacity with new construction comes with a certain level of risk and takes time, but we do believe there are opportunities with current facilities to help meet the growing demand for beef in the near term. Beef packing plants, transporters and our member farms and ranches are all currently experiencing challenges with labor recruitment and retention. Congressional action to reform immigration policy to advance needed H2A visa restructuring and ensuring state and federal resources are available for immigrants to be offered employment opportunities and to successfully thrive in our communities is critical to helping current packing plant infrastructure reach full 100% throughput.

Market Transparency: Another key component to price discovery and price determination is market transparency. Senator Deb Fischer, in both the 116th and 117th Congress, introduced the Cattle Market Transparency Act to address many of our members' concerns in regards to market transparency. The adoption of the beef contract library, 14-day slaughter reporting window, and ensuring that USDA finds a way to report collected information in a manner that ensures confidentiality but prevents USDA-AMS from withholding from the public information collected in LMR.

Thank-you for the opportunity to share the thoughts and concerns of Nebraska Cattlemen members. As we continue to work towards finding solutions to keep cattlemen and women in business, we look forward to being at the table to talk through these solutions and take actions to protect our members' family legacies.

Best,

William H Rhea III

William H. Rhea III
President - Nebraska Cattlemen

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SOUTH DAKOTA STOCKGROWERS ASSOCIATION

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Chairwoman Stabenow,

Ranking Member Boozman,

Honorable Committee Members,

RE: Examining Markets, Transparency, and Prices from Cattle Producer to Consumer

The South Dakota Stockgrowers are (arguably) the oldest livestock association in America. As such we are well-respected and represent cattle producers across South Dakota and beyond.

Thank you for holding this important hearing that we have been requesting for a considerable time.

Our current cattle markets are in a crisis. This is largely due to the stranglehold pinch point "the big four" have on our live cattle market. These four, JBS, Tyson, Cargill, and National Beef control upwards of 80-85% of our daily slaughter capacity. 99 years ago, President Teddy Roosevelt and his administration successfully used the Sherman Antitrust Act of 1890 and broke up the "beef trust" that at that time was comprised of more companies that controlled significantly less of the country's slaughter capacity than the Big Four do today.

If anything good has come out of the COVID-19 Pandemic, it's that consumers started paying attention. Prices consumers are paying at the retail counter are now being scrutinized and folks are realizing they have not necessarily been getting a fair shake. These are not new issues to cattle producers. They've simply been highlighted by the Pandemic as well as the Holcomb, Kansas fire and the recent cyber-attack. With such packer concentration, food security is inherently very low.

Captive supply in the live cattle market is also a tremendous detriment to producers and consumers alike. Just a couple of weeks ago a mere 12% of the weekly harvested cattle were bought on the cash market. Put another way, the packers had 88% of the cattle they needed for the week before they even went to bid on any additional harvest-ready animals. Additionally, these captive supply contracts are not public information and in no way contribute to real price discovery. It would be nearly impossible to prove collusion amongst the Big Four. With so few players in the market, it's simply a game of "chicken." They don't have to bid higher on live cattle in the cash market. Then, downward pressure on prices only increases. Couple that with the fact that they have nearly all the leverage in negotiations due to their captive supplies, and we get the crisis we are in today.

Fortunately, there are attainable solutions to many of these problems. To increase transparency and price discovery we believe that a weekly contract library should be established. Furthermore, all transactions from packers that participate on Livestock Mandatory Reporting (LMR) should be included in this weekly database. All captive supply and Alternative Marketing Arrangements should be reported as they are made *and* when the animals are delivered as well as the cash trade reporting that is currently happening.

The 50/14 concept is an additional step that would facilitate true price discovery predicated on actual competition. This concept says that each packing facility should procure at least 50% of its weekly harvest on the cash market and take delivery of those animals within 14 days. Again, all facilities that participate in LMR should have to participate. We believe this should be added to the re-authorization of LMR as soon as possible. In 2021 the South Dakota Legislature overwhelmingly agreed with this concept and passed House Concurrent Resolution 6006 in support of 50/14. Any action that increases negotiated cash trade <u>in all cattle selling regions</u> would help tremendously.

We cannot support any legislation that would leave these percentages or other gray areas to be interpreted by, or left up to the discretion of, the Secretary of the Department of Agriculture. Political winds shift, and this should be a non-partisan approach to fair cattle markets independent of the party in power.

Mandatory Country of Origin Labeling (MCOOL) is also an issue that would help boost our failing markets and give American consumers the choice at the meat counter they desire. While MCOOL was fully implemented in 2014 and 2015, cattle producers received record prices while retail prices for consumers remained relatively stable. Giving MCOOL a top priority while re-negotiating our current trade deals to negate any threat of retaliatory tariffs (which pale in comparison to the value lost by repealing MCOOL anyways) is a path forward for this common-sense solution. Once again, the South Dakota Legislature in 2021 overwhelmingly supported this idea and, in both chambers, unanimously passed Senate Concurrent Resolution 604 to Remove Barriers to Country of Origin Labeling.

There have been several bills introduced in the 117th U.S. Congress that we support and encourage this committee to consider that we believe would help in all areas from cattle producer to consumer.
S.370 – Strengthening Local Processing Act of 2021
S.107 – New Markets for State-Inspected Meat and Poultry Act of 2021
S.2036 - Meat Packing Special Investigator Act
Additionally, strengthening adherence to the Packers and Stockyards Act, which has long been ignored, would be a real tool.

Lastly, we encourage this committee to aid in anyway possible the Department of Justice and the Senate Committee on the Judiciary to perform investigations to the best of their ability on collusion and market practices by the Big Four and to transmit those findings expediently to industry stakeholders. The DOJ investigation currently being conducted must be expedited to top priority. Producers are going out of business daily while industry stakeholders anxiously await the findings from the DOJ.

We believe these solutions will ensure the integrity of our cattle markets moving forward. Each of these solutions have the best interest of both consumers and producers in mind. If they are not implemented, we will continue to see increasing vertical integration and concentration within the industry which leads to higher prices for consumers, lower food security, lower prices for producers, and a crippling effect on our farms, ranches, and rural communities.

Thank you for the opportunity to provide testimony on this all-important issue.

James Halverson
Executive Director

Scott Edoff
President

Senate Agriculture Committee Hearing

Examining Markets, Transparency and Prices from Cattle Producer to Consumer

June 23, 2021

Submitted on behalf of the South Dakota Cattlemen's Association

Among the many disruptions caused by COVID-19, the cattle markets have been a focal point in agriculture for the past 16 months or so. Throughout the "black swan" events that began with the 2019 Tyson packing plant fire in Holcomb, KS and continued through the COVID-19 pandemic, SDCA has remained committed to solutions that will enhance price discovery while safeguarding producers' cattle marketing options. Recent events have highlighted the ongoing challenge in cattle markets to achieve price transparency without sacrificing the advancements in beef quality and financial stability achieved through utilization of Alternative Marketing Arrangements (AMAs).

While our industry regularly experiences cyclical highs and lows with different segments of the supply chain profiting at different times, the recent situation is somewhat different because there is an ample supply of fat cattle as well as incredible demand for retail beef, creating large profit margins for the packers. This while cattle producers are working with very narrow or below breakeven margins. It appears there is enough money in the beef industry for all segments of the production chain to be profitable if it were more evenly distributed.

The issues plaguing the cattle market model are not new; we have had the same model for many years. There have been some changes that are worsening the current situation, most importantly decreased packer capacity. But the model of packers offering bids on market ready cattle in the feedlot and contracting with feedlots for a steady supply of finished cattle has been around for several years. We essentially had this model in 2015 when cattle prices were high, but there was a smaller inventory of cattle back then and the packers had to be very competitive with their bids to fill their capacity, resulting in good profit margins for producers. Where were the calls for reform then? As might be expected, market reform was a lower priority when producers were making money and it was the packers that were suffering. Their negative profit margins and a short supply of fat cattle in 2015 led to the closing of some processing facilities, which is now contributing to the current price of fat cattle being low relative to the box beef price. We have seen similar conditions in the fat cattle market many times; whenever we have a large supply of market ready cattle the live cattle price goes down. Thanks to the Beef Checkoff and economic stimulus payments, the difference now is attributable to extraordinary retail beef demand that could consume additional beef if we could get it processed.

All of the cattle industry groups agree that something needs to be done; the debate is what that something is. SDCA is staunchly OPPOSED to an arbitrary across-the-board mandate on how packers purchase cattle (such as the 50-14 proposal) as we believe these will ultimately restrict the use of AMAs and negatively impact the advances in beef quality that have been achieved through quality-based marketing. In addition, it's likely the cost of implementation and monitoring for such a program will ultimately be borne by cattle producers not the packers.

SDCA SUPPORTS:

- Reinstating Livestock Mandatory Reporting (LMR), which expires in September, and removing the confidentiality clause which limits the number of fat cattle currently included in the report.
- Passing legislation, such as Senator Fischer's Cattle Market Transparency Act, which would:
    - Require USDA to create a contract library to enhance transparency of the contracts for formula fat cattle.
    - Establish regionally appropriate levels of cash trade and reporting to achieve price discovery without overly burdensome restrictions that may ultimately limit marketing opportunities for our members.
    - Require packers to report projected slaughter numbers fourteen days in advance.
- Efforts to replace packing capacity that has been lost, though we believe the industry will ultimately achieve that without additional government incentives.

In summary, we need to seek and make improvements to live cattle marketing in a way that doesn't harm the positives of our current market model. We mustn't lose the ability for producers to take advantage of Alternative Market Arrangements that pay premiums on high quality cattle through price grids and the ability for feedlots to forward contract with packers for financial stability in their operations.

We also need to keep in mind that as fondly as we remember the past, market model reform is not going to return us to the days of multiple packers from regional plants offering up bids on fat cattle. The business climate of today is nothing like it was in the past and new challenges will require new business models.

Respectfully submitted,

Eric Jennings

Eric Jennings, President
South Dakota Cattlemen's Association

QUESTIONS AND ANSWERS

JUNE 23, 2021

Senate Committee on Agriculture, Nutrition, and Forestry
Examining Markets, Transparency, and Prices from Cattle Producer to Consumer
June 23, 2021
Questions for the Record
Mr. Justin Tupper

Ranking Member John Boozman

1) What is your assessment as to the farmer's level of understanding, or awareness, of USDA's livestock crop insurance products? Do you believe there is a larger role university extension specialists, in coordination with the Department, could play in educating cattle producers about the availability and effectiveness of livestock risk management tools?

To answer Ranking Member Boozman's first question, farmers and ranchers are generally aware of USDA Risk Management Agency's livestock-focused crop insurance products. However, despite copious amounts of educational material and resources, ranchers in multiple surveys have cited a lack of understanding of the magnitude of price risk to their operations as leading reasons they do not employ either crop insurance or market-based price risk management strategies. Those who do not participate consider crop insurance unnecessary, unaffordable, ineffective, or a combination of the three.

To answer the Ranking Member's second question, yes! University Extension could play a larger role in education surrounding RMA's livestock insurance programs. But, intricacies of price risk management makes education most effective when instructors have practical experience in managing price risk themselves, and they can relate to specific challenges ranchers encounter.

Ranchers who are beginning to manage price risk are most effective when they have a mentor helping them navigate various market situations. Extension economists often lack the time and necessary experience to mentor ranchers individually.

Proposed solutions include funding education efforts that include peer-to-peer education and mentoring including:

1. Educate cattle producers about 1) Price Risk, 2) Market Dynamics, 3) Insurance and Hedge Account Setup, and 4) Basic Price Risk Management Strategies
2. Offer education opportunities both in person and remotely to accommodate cattle producers' different learning styles and requirements.
3. Include experienced price risk managers as teachers. This will provide producers confidence in information they receive, and help make the education experience specific and relevant.
4. Offer ongoing mentorship for beginning hedgers as they learn to manage price risk.

Further, it is worthwhile to make the distinction between those who primarily farm and those who primarily raise livestock, as the delivery of insurance and education has been different for these groups.

Farmers typically already have a relationship with a crop insurance agent who focuses on field crops and are served well there. We know that nationwide, somewhere around 90% of all farmers utilize FCIC insurance. Sometimes however crop-focused agents run into a knowledge gap related to Livestock Risk Protection, Livestock Gross Margin, Dairy Revenue Protection, and Pasture, Rangeland & Forage insurance. With time, existing crop agents will come to better understand these products and their use, helping facilitate more familiarity.

For ranchers, limited agent representation outside of major crop production regions has led to slower dissemination of education relative to these products, as RMA is well aware.

Senator Rev. Raphael Warnock

1) According to data from the University of Georgia, cattle are raised in all 159 counties in my state and represent an annual farm gate value over $660 million. Despite this economic value, processing capacity for cattle is limited within the state.

    a. What barriers, both capital barriers and regulatory barriers, prevent the expansion of regional processing capacity in a state like Georgia?

       Due to the inherent risks associated with building and operating a meat processing facility, lending institutions will not provide building capital or working capital without a tremendous amount of cash on hand. For example, a cattle producer in northwest Georgia noted that for every $1 being borrowed, they would be required to have $2.75 in cash on hand to match. Burdensome regulations also drive up the cost of construction which results in excessive capital needs to get started.

    b. How can Congress most effectively address these barriers to support economic opportunities in rural Georgia?

       Congress needs to focus on opening pathways for meat to exit independent cold storage and enter the marketplace; not impeded by Buckhead/Sysco.

Senator Roger Marshall

1) Is the negotiated or spot market the only way to discover a base price for cattle?

   No. Other markets, including cattle futures and boxed beef markets can be used for price discovery if AMA's use them to establish base prices.

2) Can you speculate on what other types of transactions could be used to establish a base price?

Live cattle futures offer an excellent proxy for use in establishing AMA base prices. See the attached paper by Brester, Swanser, and Crosby, submitted to the JARE in February for publication.

Adding Weight to a Thinning Live Cattle Market

Abstract

Many segments of the beef cattle industry have raised concerns that the live cattle negotiated market has become too thin. The percentage of live cattle procured through direct negotiations has declined to about 15%, while the percentage procured through formulas has increased to almost 70%. Most of these formulas are based on negotiated cattle prices. Proposed legislation mandating that a larger percentage of live cattle be procured through negotiations represents a market intervention. We show that live cattle futures prices are good proxies for negotiated cash prices, while being less restrictive for meeting proposed cattle procurement percentage requirements.

Key Words: cattle prices, mandatory price reporting, thin markets

ADDING WEIGHT TO A THINNING LIVE CATTLE MARKET

"You can never be too rich, or too thin"
(attributed to Wallis Simpson, Duchess of Windsor)

Introduction

Approximately 25 million head of live cattle (fed steers and heifers) are slaughtered annually in the United States. Coupled with the annual slaughter of about 8 million head of non-fed cattle (mostly cull cows and bulls), about 19 billion pounds of retail beef products and almost an equal amount of cattle slaughtering byproducts are produced annually. Annual revenues from the beef/cattle sector exceed that of other meat and non-meat agricultural sectors. For the past several decades, 4 firms (although with varying ownership) have garnered about an 85% market share of the steer and heifer live cattle processing industry.

The live cattle market has substantially changed over time. Over one hundred years ago, cattle drives were used to move cattle from rural grazing areas to either railheads or directly to slaughtering facilities near population centers. Improved transportation and the development of refrigeration changed the process so that cattle today are "driven" in trucks from feedlots to processing plants. Most of these plants are no longer near population centers.

The cattle price discovery process has also changed over time. After the cattle drive era, almost all live cattle were sold through organized auctions where purchasers (cattle processors) indicated their willingness to buy cattle at various prices during English auctions that were generally conducted by professional auctioneers. Of course, such auctions required the presence of bidders and cattle that had to be transported to an auction site, necessarily housed for a few days, and then transshipped to processing plants after ownership changed hands. But today, "auctions" occur using electronic technologies in which feedlot managers place live cattle that are ready for slaughter onto "show lists." Representatives or employees of processing companies then bid on those cattle either by telephone or digitally, and once price, quality, and logistical arrangements are agreed upon, cattle are trucked to a winning bidder's processing plant.

Over the past decade, this latter process has also changed. Today, almost 70% (and as much as 95% in some weeks) of all live cattle are traded based on pre-specified formulas. That is, processing companies have developed strategic alliances with, especially large, feedlot companies so that cattle are slated for delivery to a specific processing company, and transaction prices are determined by an agreed upon "formula." These formulas usually use publicly-available negotiated cash sale prices as their base. However, the percentage of cattle traded through a negotiated ask-bid process has declined to less than 20%, raising concerns among some market participants (especially cattle producers) that the negotiated cash live cattle market has become too "thin." In particular, questions are being asked as to whether the small percentage of negotiated live cattle transactions (the prices from which are used as the base for most live cattle formula transactions) are causing the prices of most cattle purchases to be below the "true" price dictated by supply and demand fundamentals. That is, some market participants have suggested that lower quality cattle are generally purchased through negotiated processes, which lowers the base for remaining higher quality, formula-based live cattle sales. In addition, because live cattle purchases represent the majority of cattle processing costs, concerns have been raised whether thinning negotiated cash live cattle markets provide an opportunity for price manipulation by processors in an attempt to reduce cattle prices. In essence, cattle producers are wondering if Wallis Simpson's quote should be rephrased as "Are cattle processors becoming too rich because live cattle cash markets are too thin?"

Much previous research has considered thin markets in the cattle industry (Koontz, 2015; Koontz and Ward, 2011; Parcell, 2016; Pendell and Schroeder, 2006). Nonetheless, several proposals have recently been developed with the intent of addressing the thinning live cattle market issue. Senator Fischer introduced the Cattle Market Transparency Act of 2020 (S.4647) that would establish mandatory minimum thresholds of negotiated cash live cattle transactions. The stated goal of the Act is to "…ensure there are a sufficient number of cash transactions to facilitate price discovery… ." Representative Hartzler introduced a companion bill to S.4647 in the House of Representatives. Senators Tester and Grassley introduced the "50/14" proposal (S.3693) which would require 50% of live cattle be procured through a negotiated process. The stated ambition of S.3693 is "To amend the Agricultural Marketing Act of 1946 to foster efficient markets and increase competition and transparency among packers that purchase livestock from producers." An alternative, the "30/14" proposal, is supported by the U.S. Cattlemen's Association and would require cattle processing facilities to purchase 30% of their live cattle procurement using negotiated cash markets for deliveries occurring within a 14-day period.

The National Cattlemen's Beef Association (NCBA) has forwarded a proposal (the "75% rule") that is geared towards industry self-regulation, rather than government mandates, as a solution to thinning live cattle cash markets. The NCBA proposal centers on voluntary packer commitments to procure a specific percentage of live cattle through negotiated processes. The stated goal is to ensure that the regional weekly volume of cattle traded using negotiated processes maintains a level of at least 75% of the "robust price discovery threshold" based on current suggestions proffered by the academic literature for at least 75% of the reporting weeks.

Presumably, the intent of these proposals is to increase the sample size of negotiated prices so that the base used for formula pricing better reflects the true mean population price (i.e., the price that incorporates all supply and demand fundamentals). If the current negotiated live cattle market does not yield such information, then potential benefits from such actions exist. However, an often overlooked outcome is that requiring cattle processors to procure a minimum percentage of cattle purchases through direct negotiations necessarily forces feedlot managers to sell the same percentage of cattle using that method. All of these proposals represent market interventions because they require an increase in the percentage of live cattle transactions using a process that is currently used to trade less than 20%. Koontz (2015) argues that such an approach would add substantial cattle marketing and procurement costs to the cattle/beef sector.

We propose an addendum to the above proposals requiring a minimum fixed percentage of cattle be procured through direct negotiations. We investigate whether an alternative publicly-available source of cattle prices (a public good that is not under-produced) might be used in addition to, or as a substitute for, directly negotiated prices as a means for meeting any proposed minimum requirement while providing a less-thin base for formula cattle pricing. We consider two possibilities: (1) Livestock Mandatory Reporting boxed beef prices, and (2) Chicago Mercantile Exchange live cattle futures prices.

Background

Publicly-available commodity price reporting is a classic example of an informational public good that provides value to an economic system (Stigler, 1961). Such information is both non-rivalrous and non-excludable. The availability of price information improves resource allocation and market efficiencies, while reducing asymmetric information bias between buyers and sellers.

Private markets often under-produce public goods (Mankiw, 2018). This may be the case for the reporting of negotiated cash live cattle prices. Several solutions to the underproduction of public goods have been devised. In most cases, however, some type of collective action is required. Such action can be in the form of government legislation or regulation, but trade associations or community groups can also provide the collective action needed to solve public good problems. In some cases, collective action results in the formation of pseudo-markets that nudge outcomes closer to their socially optimal levels (e.g., tradeable fishing quotas, pollution permits, renewable identification numbers).

One attempt to provide the public good of cattle pricing is the U.S. Department of Agriculture's Livestock Mandatory Reporting Act of 1999 (LMR). The purpose of the Act was to establish a process that publicly provides pricing information for cattle, swine, lambs, and meat products traded among private agents. Prior to LMR, a voluntary price reporting system was established by the Agricultural Marketing Act of 1946 (Koontz and Ward, 2011). The legislated LMR was implemented in 2001, lapsed in 2005, and reauthorized in 2015. Through Title IV of the Consolidated Appropriations Act of 2021, Congress recently extended the LMR authorization through September 2021. The LMR legislation requires participation by all federally-inspected cattle processing companies that slaughter at least 125,000 annually. Although hundreds of smaller plants slaughter cattle (some of them are not federally inspected), the minimum production metric encompasses the plants owned by the largest 4 packing companies which slaughter the majority of live cattle in the United States. To maintain firm confidentiality, the LMR includes a "3/70/20" guideline. The guideline restricts the provision of aggregated data if: (1) there are not at least 3 reporting entities providing data at least 50% of the time over the most recent 60-day time period; (2) any single reporting entity provides more than

70% of the data over the most recent 60-day time period; and (3) a single reporting entity is the sole provider of data for any individual report more than 20% of the time over the most recent 60-day time period. The latter restriction often reduces the number of reported transactions in some regions.

The LMR requires cattle processors to submit live cattle purchase data to the U.S. Department of Agriculture's Agricultural Marketing Service (AMS) twice daily – at 10:00am and 2:00pm Eastern Time. Based on these data, AMS posts three different daily live cattle morning summaries as well as an afternoon negotiated price report for each of five major cattle feeding regions. The five regional reports group the major live cattle production states as: (1) Colorado, (2) Iowa/Minnesota, (3) Kansas, (4) Nebraska, and (5) Texas/Oklahoma/New Mexico. In addition, the reports delineate price data based on various trading processes. That is, in addition to cattle traded on a live basis, prices are also reported for cattle traded on a dressed basis, quality grids, forward contracts, formulas, and packer ownership.

The percentage of cattle traded across these methods has changed over time. Figure 1 shows that between April 2004 and December 2019, the percentage of live cattle traded on a negotiated basis declined from between 35-40% to about 15% (USDA AMS).[1] The percentage of cattle "traded" in the form of processor-owned cattle was approximately 8% until about 2016 and has since decreased to about 4%. Similarly, other forms of cattle procurement (i.e., negotiated cash dressed, negotiated grid, and forward contracts) have declined from about 35% to 15%. Concurrently, the use of formulas as a mechanism for trading live cattle has increased from 25% to almost 70% over this time period. It is important to note that LMR-reported live cattle negotiated cash prices generally provide the base for formulas used to trade live cattle.

[1] We use December 2019 as a data termination date to avoid market disruptions caused by the coronavirus pandemic.

Research on Thin Cattle Markets

Tomek (1980) evaluated issues related to thin cattle markets by considering the sample size needed to estimate a population mean when its distribution is unknown. The approach uses Chebyshev's inequality to produce the following equation

(1) $$Pr(|\bar{X} - \mu| \leq k) \geq 1 - \left(\frac{\sigma^2}{nk^2}\right)$$

where *Pr* represents an arbitrary probability; $\bar{X}$ is the sample mean; μ is the unknown population mean; *k* is an arbitrary acceptable amount of error relative to the population mean; σ^2 is the population variance; and *n* is the sample size. To implement the equation, the value of $\bar{X}$ is obtained from sample data and σ^2 is approximated by the variance of that sample.

Solving equation (1) for sample size *n* results in:

(2) $$n = \frac{\sigma^2}{(1-Pr)k^2}.$$

Note that the value of *n* represents the number of observed *transactions* needed to obtain a representative sample.[2] A single cattle price transaction usually represents the sale of a pen of cattle with numbers varying from 50 to 250 head. Koontz (2014) suggests that a pen size of 100 head is representative of the industry. Hence, the numbers of required transactions calculated in equation (2) are multiplied by 100 for comparison with LMR-reported live cattle numbers. Therefore, equation (2) becomes

(3) $$n = \frac{\sigma^2}{(1-Pr)k^2} * 100.$$

[2] This approach attempts to discover the sample size, or number of price transactions, required to produce sufficient information so that the sample is large enough to represent the entire population. As noted by Tomek (1980), "Prices may deviate from the norm because of deliberate manipulation or poor information." (p.434). The use of equation (2) addresses only the latter issue.

Clearly, the value of n in equation (3) is highly sensitive to estimates of the sample variance. The selection of the time period for calculating a weekly sample variance is arbitrary. For example, the variance of weekly live cattle negotiated prices between April 2004 and December 2019 is 511.0. But, for shorter time periods, the variance is much smaller. Tomek (1980) used first-differenced weekly prices (over an annual time period) to calculate a sample variance. He notes "Because the price level need not be rediscovered, a variance based on the first-difference of prices is a sensible measure of the variability of the random variable in question" (p.438). We use a rolling 26-week time period of first-differenced LMR cash negotiated prices to calculate a weekly price variance because cattle are often fed for a period of 180 days. Consequently, each weekly variance is calculated using the current week's first-differenced price and those for 25 preceding weeks. After using the first 25 weeks of price data to calculate the variance for the 26th week of the sample, the average of the remaining weekly variances is 5.87 and ranges from 1.25 to 22.59.

Another important element of equation (3) is the value of k. For example, if k is set equal to \$1/cwt, equation (3) results in sample sizes in which the actual number of weekly negotiated cattle sales has been large enough to provide a representative sample in all but 6 weeks (1% of the time) between 2004 and 2019. However, if a value for k of \$0.50/cwt is used, then the number of head traded through direct negotiations was not large enough to provide a representative sample in 23% of the weeks under consideration. Rather than using an arbitrary value of k, we solve equation (3) as:

$$(4) \qquad k = \sqrt{\frac{\sigma^2 * 100}{(1-Pr) * n}}$$

Using the calculated weekly variances noted above for σ^2, the actual weekly number of cattle sold using negotiations for the value of n and an arbitrary value for Pr of 0.95, we calculate a value of k using equation (4) for each week. This approach provides a weekly estimate of k using the revealed preferences of market participants over the past 16 years. The average weekly value of k is calculated to be \$0.39/cwt with a range from \$0.16/cwt to \$1.21/cwt.

Returning to equation (3), we use each weekly value of σ^2 and k, along with 0.95 for *Pr,* to calculate the weekly number of head needed to obtain a 95% probability that the weekly sample size provides a sample mean value that is within +/− \$0.39/cwt of the true population mean (i.e., representative of the weekly population). The average of these weekly sample sizes is 77,147 head, which represents about 20% of the average weekly number of cattle traded using all methods (391,850). The average weekly number of cattle traded using direct negotiations was 87,841 during the sample. On average, the weekly number of negotiated cattle sales was large enough to result in representative samples.

Nonetheless, substantial weekly variation occurs and is best represented graphically. The use of weekly data, however, renders a graphical representation of these values incomprehensible. Therefore, the weekly sample sizes calculated using equation (3) were averaged within each month for illustrative purposes. Figure 2 shows the number of cattle sold using direct negotiations and the sample size needed to provide a representative sample (using k = 0.39 and Pr = 0.95). The number of cattle sold using direct negotiations was often smaller than the suggested sample size needed to obtain a representative sample. Given that the values of k and Pr are constants for each week in equation (3), the variation in sample size is the result of changes in weekly price variances. The results from equation (3) indicate that the weekly sample size was not large enough 39% of the time since 2004 and 81% of the time since 2014. Koontz (2014) notes that the number of cattle sold through direct negotiations were often less than needed to obtain a representative sample at various times, but especially during 2014. Our updated sample indicates that this continued throughout most of 2015 through 2017. More recently, lower weekly price variation has reduced the required sample size so that the number of cattle sold through negotiations has been sufficient in most weeks based on our parameters.

Given that many proposals being considered would require a fixed percentage of cattle be acquired using direct negotiations, figure 2 also presents the sample sizes corresponding to 20% of total weekly cattle sales (again, for illustration purposes, using monthly averages of weekly values). Figure 2 presents the weekly sample size that would have occurred between 2004 and 2019 if 20% of total cattle sales were sold through direct negotiations. The number of instances for which this was too small to be representative of the population (38% of the time) is similar to that noted above. However, the weekly sample sizes based on 20% of all cattle traded are similar to the actual number of cattle traded using negotiations. The samples sizes provided by equation (3) provide estimates of weekly representative sample sizes that are independent of the total number of cattle traded in any given week and is highly influenced by price variations.[3] In contrast, sample sizes based on a rule that 20% of weekly cattle transactions must occur through direct negotiations do not consider price variations.

The sample size calculations noted above assume that no differences exist among the quality of cattle sold using the various methods and also do not account for potential regional differences. The "robust" weekly negotiated trade numbers suggested by the NCBA (2020) are: Texas/Oklahoma/New Mexico, 13,000 head; Kansas, 21,000 head; Nebraska/Colorado, 36,000 head; and Iowa/Minnesota, 16,000 head. The total of these regional values is 86,000 head, which is not that much different than the average weekly sample size (77,147 head) obtained

[3] For a few weeks, the price variation was large enough to suggest that all of the cattle traded needed to be sold using direct negotiation to obtain a representative sample.

from equation (3). Nonetheless, any fixed percentage rule abstracts from changes in price variability over time.

Table 1 shows that, relative to the 2004-2015 period, the Texas/Oklahoma/New Mexico region's weekly number of cattle that were negotiated on a live basis declined substantially beginning in 2016. Kansas and Colorado have seen only moderate declines, while Nebraska and the Minnesota/Iowa/Missouri regions have experienced small increases. In addition, only the Colorado reporting region has more than a few weeks in which no data are reported because of confidentiality reasons. Given that the Texas/Oklahoma/New Mexico region accounts for an average of 20-25% of cattle feeding annually, the reduction in live cash negotiations in this region is a primary concern regarding thin cattle markets (USDA NASS).

Koontz and Ward (2011) provide a comprehensive review of research related to LMR. In general, they note that both benefits and costs have occurred relative to the previous voluntary system. Wachenheim and DeVuyst (2001) discuss the perceived need for mandatory price reporting and note that, prior to LMR, there was a "widespread, albeit incomplete, agreement that the current system does not provide the necessary level of price transparency" (p.180). Koontz (1999) noted that, under the voluntary system, price information appeared to be relatively slow to reveal changing market conditions – perhaps because of strategic price reporting.

Pendell and Schroeder (2006) investigate the impact of LMR on the integration of the 5 regional fed cattle markets. They find that the markets are highly cointegrated and moved together more closely following the introduction of LMR. More recently, Koontz (2015) presents a variety of options that could be used to improve problems related to thin live cattle markets. In addition, he notes that the number of weekly LMR price reports were less than that required to obtain a reasonable measure of the population mean during 2014 in some regional markets. Likewise, Parcell (2016) offers several ideas that could obviate the thin market problems created by the "3/70/20" rule.

Research Approach and Data Development

Previous research has considered the lead lag relationships among live cattle cash prices, live cattle futures prices, and boxed beef prices (Joseph, Garcia, and Peterson, 2013). Using data from 2001-2012 and a variety of information tests, their results indicate that live cattle futures markets provide the most information for price determination in the fed cattle market. That is, live cattle futures prices cause cash prices, but the reverse is not true. Furthermore, cash cattle prices are solid predictors of boxed beef prices, but boxed beef prices play a minor role in cash cattle price discovery. Schroeder, Tonsor and Coffey (2009) note that futures and cash cattle markets are "codependent" and that information flows between them in both directions.

Given various research results and the interest that market participants have in potentially using a metric other than cash prices as a base in formulas, we consider the use of live cattle futures prices and boxed beef prices as proxies for cash cattle prices in formula-based cattle transactions. Although earlier work suggests that boxed beef prices may not be a close proxy, we investigate its potential given changes that have occurred in cattle procurement markets over the past decade. The goal is to determine if a publicly-available price metric can be used as a substitute for cash negotiation prices in formula transactions given that cash markets have become thinner over time.

Data

LMR live cattle data were obtained from the USDA-AMS. Price data for negotiated cash transactions for cattle sold live FOB (negotiated cash live) were obtained from report LM_154: *National Weekly Direct Slaughter Cattle - Negotiated Purchases*. Negotiated cash live prices are reported each Monday and represent a weighted average from transactions that occurred during the preceding week.

Boxed beef prices represent a weighted average of boxed beef cutout values (Livestock Marketing Information Center, LMIC). The LMIC collects cutout value data as reported by USDA AMS. Cattle futures prices represent the Friday closing prices for the nearest CME live cattle futures contract for the period 4/12/2004 through 12/23/2019.

The resulting price series represent the week in which each are actually *reported* (as opposed to the week in which the observations actually occurred). Therefore, week *t* contains the Monday report for negotiated cash live cattle sold the previous week; Friday boxed beef prices that occur during week *t*; and the Friday closing price for the nearby live cattle futures contract during week *t*. The data encompass 820 weeks. During that time period, 25 Friday CME trading holidays occurred. For those weeks, the Thursday CME live cattle futures closing price was used. USDA-AMS did not report LMR cash and boxed beef prices during the first three weeks of October 2013 because of a government shutdown. Because closing CME live cattle futures prices (which were reported during October 2013) are highly correlated with live cattle negotiated prices, the weekly percentage changes in futures prices for that month were applied to the live cattle negotiated prices and boxed beef prices to generate proxies for the missing data.

Price Relationships

Figure 3 presents the monthly averages of weekly LMR negotiated cash live prices, cattle futures prices, and boxed beef prices. Clearly, negotiated live cattle prices closely follow CME cattle futures prices as the two data series are almost indistinguishable on a monthly basis. It appears that boxed beef prices follow a pattern similar to negotiated cash live cattle prices as well.

Table 2 presents the simple correlation coefficients for the three weekly price series: LMR-reported negotiated live cattle prices; Friday closing values of nearby live cattle futures prices; and LMR-reported boxed beef prices. For the entire April 2004-December 2019 sample, cash prices are highly correlated with both nearby futures prices (0.981) and boxed beef prices (0.939). Furthermore, nearby futures prices are also highly correlated with boxed beef prices (0.913).

Figure 4 indicates that the difference between live cattle futures prices and negotiated live cattle prices (on a monthly basis) has generally varied around zero. However, the difference between boxed beef prices and negotiated live cattle prices has clearly trended upward over the past 15 years and, even more so, since the middle of the past decade. Thus, it may be that structural changes have occurred in the pricing system.

Structural Change Tests

We use an empirical fluctuation process (EFP) to test for a structural change in the relationship between the negotiated cash live price and both boxed beef and live cattle futures price. The EFP function from the R package "*strucchange*" computes optimal breakpoints based on recursive OLS estimates of the model regression coefficients (Zeileis, Leisch, Hornik, and Kleiber, 2002). Weekly average cattle prices tend to follow seasonal patterns. As such, we might expect that any structural change in price relationships would manifest over the course of a year rather than in any single week. Therefore, the EFP test was used to provide general guidance on the likelihood and time frame of structural change rather than to identify exact breakpoints (Zeileis, Kleiber, Krämer, and Hornik, 2003). A bandwidth test parameter of 0.2 was chosen to specify a minimum allowable structural segment length of one-fifth of the total data series. Using these parameters, the EFP recursive estimates test for negotiated cash on boxed beef (t-2) strongly suggested a single breakpoint in 2016. This was measured by a decrease in the Bayesian Information Criterion (BIC) of more than 10% at the 2016 breakpoint relative to the no breakpoint model. Models that included more than one breakpoint produced no substantial improvement (less than 2% decrease) in the BIC. Similar tests conducted on the model of negotiated cash with live cattle futures showed no significant evidence of structural change, producing less than a 3% overall decrease in BIC at the minimum with two breakpoints. Based on the results of this preliminary EFP structural change testing, our subsequent empirical analysis considered the possibility of a change in the relationship between negotiated cash live and boxed beef prices starting in 2016.

Table 2 presents simple price correlations for two subsamples based on the structural change tests. For the 2004-2015 subsample, all three correlation coefficients exceed 0.974. For the 2016-2019 subsample, cash prices continue to be relatively highly correlated with futures prices (0.834). However, cash prices are much less correlated with boxed beef prices (0.550) during this period. And, futures prices are even less correlated with boxed beef prices (0.398). Consequently, the structural shift between boxed beef prices and both cash and futures prices noted above appear to be manifest in much lower price correlation coefficients since 2016.

Regression Models

The goal of our regression models is to find a metric that is a good predictor of live cattle negotiated prices. We investigate the potential for using LMR boxed beef price data as a proxy for LMR cash negotiated live cattle prices by estimating the following equation:

(5) $PLIVE_t = \alpha_0 + \beta_i \, PBOX_{t-i} + \gamma_1 \, D_{16} + \varepsilon_t$

where $PLIVE$ is the weekly LMR cash negotiated live cattle price in week *t*; $PBOX_{t-i}$ is the weekly LMR price of boxed beef in *i* weeks preceding live cattle prices reported in week *t*; D_{16} is a binary variable that represents the indicated structural change beginning in week 1 of 2016; ε_t is an error term which may have autoregressive properties; and α_0, β_i, and γ_1 are parameters to be estimated. It is important to note that LMR negotiated live cash cattle prices are reported on Monday of each week. However, the data used to produce the report are collected from the preceding week. So, the lag length on the $PBOX$ variable cannot begin earlier than week *t-1* as it is that week's price which is actually reported in the following week. Other longer lag lengths may better fit the data and will be investigated below.

To evaluate the potential for using CME Live Cattle Futures prices as a proxy for LMR cash negotiated live cattle prices, we estimate the following equation:

(6) $PLIVE_t = \alpha_0 + \beta_i \, PFUT_{t-i} + \gamma_1 \, D_{16} + \varepsilon_t$

where $PFUT_{t-i}$ is the Friday (or Thursday in the case of Friday holidays) closing value of the nearby CME live cattle futures contract for *i* weeks preceding the live cattle price report in week *t*. Again, it is important to note that the price of live LMR negotiated cash cattle are reported on Monday of each week, and the data used to produce the report are collected during the preceding week. Therefore, the lag length on $PFUT$ cannot begin earlier than week *t-2*, since the value of $PFUT$ in time period *t* has not yet occurred. In addition, live cattle prices collected in week *t-1* (but reported in week t) could not include information from *PFUT* in time period t-1 because we use Friday closing prices. Other longer lag lengths may better fit the data, and will be investigated below.

Empirical Results

As noted earlier, each of the three weekly price series is non-stationary in levels, but integrated of order $I(1)$. The null hypothesis that the regression residuals obtained from estimating equations (5) and (6) contain a unit root was rejected with p-values much smaller than 0.05. Consequently, the estimated regression equations each represent a cointegrating vector, and we proceed with estimating the equations with the data in levels.

Table 3 presents generalized least squares coefficient estimates for equation (5). Several lag lengths on boxed beef price were considered, but a lag of two weeks provided the best fit of the data. In addition, an interaction term between the 2016 binary variable and boxed beef prices was considered. However, the interaction term did not improve the model fit. Finally, the Durbin-Watson statistic indicated the presence of autocorrelation. Hence, a first-order autocorrelation parameter was included in the regression, and robust standard errors were calculated for all coefficient estimates using the *vcovHAC* function in the R package "*sandwich*" (Zeileis, 2004). The t-statistics for coefficient estimates reported in table 3 were computed using this heteroskedasticity and autocorrelation consistent (HAC) covariance matrix. The estimated coefficient on boxed beef prices lagged two periods is highly significant and positive. The binary variable and the autoregressive error coefficient are both highly significant.

The last column in table 3 presents generalized least squares regression results of equation (6). Again, several lag specifications and interaction terms with the 2016 binary variable were estimated. The model with the best fit included futures prices lagged two weeks and the binary intercept shift variable. The futures price coefficient is positive and highly significant as is the binary coefficient estimate. Note that the estimated coefficient on the lagged (t-2) futures market price is equal to 1.02. A t-test of the null hypothesis that this value is statistically different from a value of 1.0 is clearly rejected (a t-value of 1.49). Hence, on a weekly basis, a $1/cwt change in live cattle futures price lagged by two weeks causes a statistically identical change to contemporaneous negotiated live cattle cash prices. Consequently, live cattle futures prices are an excellent proxy for the latter.

The overall fits of the estimated equations based on adjusted R-squared statistics are relatively strong. A comparison of the two models, however, shows that the futures price model has a much higher adjusted R-squared statistic, and its root mean squared error statistic is approximately one-half the size of the boxed beef model. The root mean squared error of the boxed beef model is 6.0% of the mean of the dependent variable, while the root mean squared error of the live cattle futures model is about one-half smaller (2.99%). Consequently, nearby live cattle futures prices lagged two weeks do a better job of predicting live cash prices than boxed beef prices lagged two weeks.

Conclusions

Many segments of the beef cattle production sector have raised concerns regarding the process used by beef processors to secure live cattle supplies. While packer ownership of live cattle has declined over the past few years, the percentage of live cattle procured through formula pricing has increased markedly. Consequently, the percentage of live cattle procured through traditional negotiations has declined from about 40% 15 years ago to 15% today. Most of the formula pricing of cattle involves strategic alliances between feedlots and processors. In addition, publicly-reported live cattle negotiated prices provide a base for many formula pricing agreements. If the negotiated cash market has become too thin, then supply and demand beef industry fundamentals may not be adequately reflected in the cattle market. This has raised concerns of the potential for cattle price manipulation. Furthermore, this also means that the majority of live cattle transaction prices may not reflect actual supply and demand fundamentals because formulas are often based on negotiated prices.

Several proposals have been offered to reduce the thinness of the live cattle market. Most of these involve mandating that a fixed percentage of cattle be traded each week through direct negotiations. Regardless of the selected fixed percentage, however, each of these represents an intervention between sellers and buyers of live cattle. Furthermore, the size of a sample that is representative of the population has been shown to vary each week depending upon the variability of prices – the variability of which would be ignored by any fixed percentage rule. Presumably, sellers and buyers have gravitated towards formula pricing because of cost advantages for both groups. An intervention in this market would, therefore, add costs to the beef production system, which harms beef consumers, cattle processors, and cattle producers.

Rather than legislating that a fixed percentage of live cattle must be traded using only direct negotiations, we propose allowing the use of a proxy for live cattle prices to be counted towards this fixed percentage. That is, we find that live cattle futures prices have historically provided a close proxy to negotiated live cattle prices. In addition, live cattle futures prices are publicly-available at very low costs and result from hundreds of market participants incorporating information regarding supply and demand fundamentals. Of course, concerns regarding future market price variability and convergence as contracts near expiration dates are well-founded. Nonetheless, our sample uses price data encompassing these situations. One could certainly use the "next nearby" live cattle contract if the nearness to an expiration date is a concern.

If a fixed percentage of live cattle must be traded using negotiated live prices, we propose that formulas using live cattle futures prices as a base be allowed to meet this fixed percentage. In this way, cattle producers and processors have the option of using a less restrictive approach to trading live cattle.

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Table 1. Regional Average Weekly Negotiated Cash Live Cattle Sales

Region	Time Period	Average Head Per Week	Missing Weeks
Texas/Oklahoma/	2004-2015	24,339	3
New Mexico	2016-2019	6,274	4
Kansas	2004-2015	25,948	2
	2016-2019	18,235	0
Nebraska	2004-2015	16,535	0
	2016-2019	20,064	0
Colorado	2004-2015	5,069	1
	2016-2019	4,122	53
Minnesota/Iowa/	2004-2015	9,942	1
Missouri	2016-2019	10,509	0

Notes: The LMR reports adds Missouri to the Minnesota/Iowa region for these data.

Table 2. Weekly Cash Cattle, Live Cattle Futures, and Boxed Beef Price Correlations

		Price Series	
Time Period	Price Series	Futures	Boxed Beef
2004-2019	Cash	0.981	0.939
2004-2015	Cash	0.988	0.987
2016-2019	Cash	0.834	0.550
2004-2019	Futures		0.913
2004-2015	Futures		0.974
2016-2019	Futures		0.398

Table 3. Regression Results

Independent Variables/Statistics	Dependent Variable: LMR Live Cattle Price	Dependent Variable: LMR Live Cattle Price
Intercept	-6.60 (-1.80)	-1.91 (-1.42)
Boxed Beef Price, t-2 (*PBOX*)	0.69 (29.32)	
Futures Price, t-2 (*PFUT*)		1.02 (76.30)
D_{16}	-13.67 (-4.40)	1.56 (2.33)
AR(1)	0.86 (49.06)	0.53 (17.75)
Adjusted R^2	0.914	0.979
Degrees of Freedom	815	815
Root Mean Squared Error	6.63	3.24
Mean of the Dependent Variable	$110.64	$110.64

Notes: t-values are in parentheses

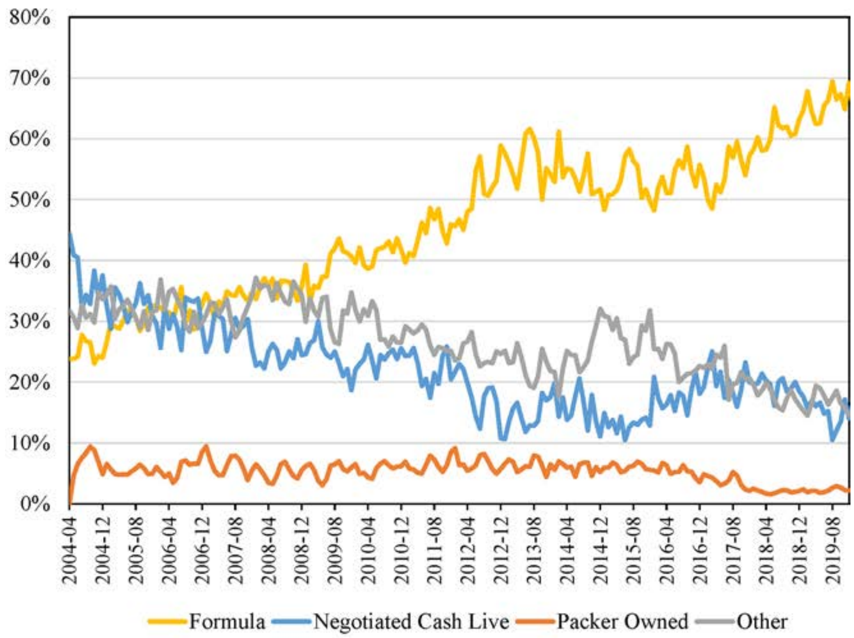

Figure 1. Percent of Monthly Fed Cattle Purchases by Type, 2004-2019

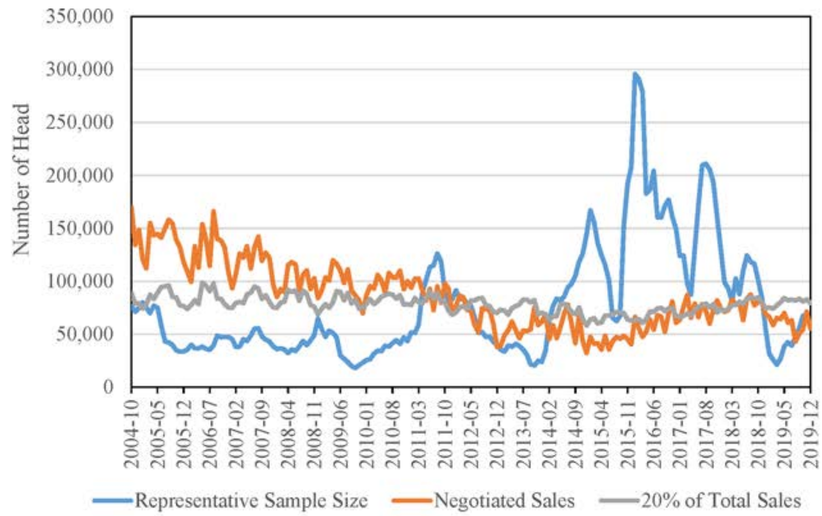

Figure 2. Monthly Averages of Weekly Representative Sample Sizes, Negotiated Cattle Sales, and 20% of Total Cattle Sales

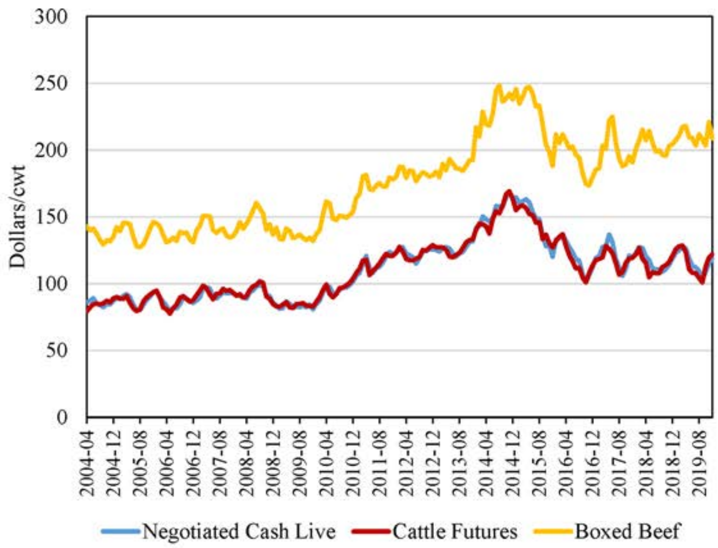

Figure 3. Monthly Average Negotiated Cash Live, Cattle Futures, and Boxed Beef Prices, 2014-2019

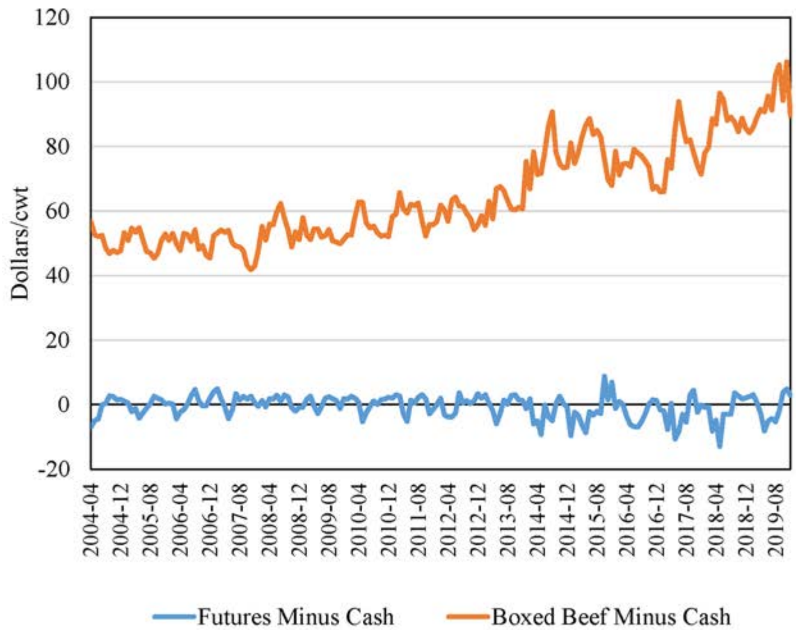

Figure 4. Difference between Futures and Boxed Beef and Cash Prices, 2004-2019

Senate Committee on Agriculture, Nutrition, and Forestry
Examining Markets, Transparency, and Prices from Cattle Producer to Consumer
June 23, 2021
Questions for the Record
Mr. Mark Gardiner

Ranking Member John Boozman

1) What is your assessment as to the farmer's level of understanding, or awareness, of USDA's livestock crop insurance products? Do you believe there is a larger role university extension specialists, in coordination with the Department, could play in educating cattle producers about the availability and effectiveness of livestock risk management tools?

(Response from Mark Gardiner) Thank you Senator Boozman for your question. My assessment is yes, farmers have a very high level of understanding and awareness of USDA's livestock crop insurance products. Farmers and ranchers have a long list of advisors they consult with on such issues, and certainly university extension specialists play a large role in this part. Regarding the livestock risk management tools you suggest, likewise, there's a lengthy list of advisors. For those that have a desire to learn more, there are lots of information sources. I am not convinced the Department, working concurrently with university extension specialists would bring more producers to the table to learn more. Those resources currently exist.

2) Will you elaborate on how you identified and pursued opportunities to differentiate your cattle—was this something you did on your own accord, through a government program or some other voluntary program? And do you believe that government involvement in cattle markets dictating certain practices would result in a benefit for your family's operation?

(Response from Mark Gardiner) Senator Boozman, as indicated in my written and oral testimony, there were many factors which motivated our family to find a better way to market and design our cattle for products desired by consumers. Leading up to, and including the mid 1990's, the market for fed cattle was broken, and in desperate need of repair. Regardless of the quality of the cattle produced, all fed cattle brought the same, or very near the same price. There were no opportunities for differentiation. Quite frankly, quality didn't matter. Long answer short – our answer to these issues was investment in, and participation in U.S. Premium Beef. This company has given us the opportunity for ourselves, and our customers, to specifically design cattle that are desired by today's consumer. As a result, producers are compensated for the quality produced. As I mentioned in my written and oral testimony, the results speak for themselves. The quality grade of finished cattle has gone from a grade of USDA Choice in the mid 40's (percentage wise), to 90 percent today. When beef producers have targeted and well-defined targets, and are compensated for responding, they have, and will continue to respond.

Regarding government involvement in markets dictating certain practices…..I'll answer two different ways. USDA, through AMS currently has data confirming the requirements

of specialty-type beef products. Our participation in U.S. Premium Beef allows us to hear, and fully interpret changes in the marketplace at a moment's notice. If, however, the basis of your question references practices such as those defined in Senate Bill 3693, or Senate Bill 543, which dictate the level of fed cattle that must be procured on the negotiated cash market, my opinion is the consequences will be very negative. This is the basis of the unintended consequences I referenced in my testimony.

3) It was mentioned during the hearing that other means exist, aside from alternative marketing agreements (AMAs), to compensate producers for quality improvements. Will you describe some of these other arrangements or agreements among producers and processors in the beef cattle industry?

(Response from Mark Gardiner) Senator Boozman, any quality improvement in fed cattle must be clearly identified and valued by the consumer. I believe the consumer is who writes my paycheck. The AMA that my family participates in processes cattle that respond to and are compensated for quality improvements that are consumer recognized. By having a well identified marketing plan, we are able to compete, differentiate, and stay in business.

Many other means and opportunities exist for beef producers to reach the consumer, both domestically and internationally for beef quality improvements.

Again, Senator Boozman, thank you for your questions.

Senator Roger Marshall

1) There are a several legislative proposals being discussed; some would have the government mandate a certain percentage of negotiated or spot transactions between the feeder and the packer. How will this mandate impact small cow/calf producers in Kansas, either selling to a feedlot or retaining ownership at the feedlot to sell on a grid?

(Response from Mark Gardiner) thank you Senator Marshall for your question. My belief is mandates, such as those described in Senate Bill 3693 and Senate Bill 549, would have a negative effect on small cow/calf producers in Kansas. To be clear, I should probably say 'very' negative. The main point of these two proposed pieces of legislation would force processing entities to procure a percent of their slaughter needs on the negotiated cash market.

If one of these proposed legislative proposals were to become law, or a proposal similar to these two bills become law, the unintended consequences I mentioned in my written and oral testimony would be very concerning, and potentially damaging to value-based marketing. I am unaware of any data which suggests such mandates would result in increased prices for producers.

With mandates in place, smaller producers, many of whom are a greater distance from the processing facility than larger feedlots, must now concern themselves over whether or not

the processing facility has met their mandated negotiated cash requirement before the facility can accept AMA type cattle. The unintended consequence is increased time and marketing effort for smaller producers solely for the purpose of allowing the processing facility to confirm they have met their cash procurement requirements. The mandates, not the market, dictates the procurement flow of cattle into the packing facility. I remain extremely concerned how this might impact some of our customers and beef producers of all sizes.

2) Part of the cattle markets discussion is connected to mandatory price reporting which was created decades ago to make markets more transparent.

    a. One of the reporting buckets is called "formula" which is essentially the catch all bucket if a transaction doesn't fit into negotiated, negotiated grid, or forward contract. Is there a value to producers to change the way formula prices are reported?

(Response from Mark Gardiner) Senator Marshall, the value, if there is any, is increased numbers, thus transparency in the bucket you describe. I am reminded of the comments of Dr. Dustin Aherin, when he indicated in his testimony there is no correlation between increased transparency and higher prices. There might be increased numbers, but I cannot predict if this equates to higher pricing.

    b. Are there any transactions that aren't being reported?

(Response from Mark Gardiner) Senator Marshall, unfortunately, I am not familiar enough with Mandatory Price Reporting regulations and reporting requirements to adequately and fully respond to your question.

3) The USDA has announced that the plan to initiate three separate rulemaking processes to "support enforcement of the Packers and Stockyards Act" (PSA). What will happen to cow/calf producer prices if USDA eliminates the legal standard of "harm or likely harm to competition" to bring an action under the PSA?

(Response from Mark Gardiner) Senator Marshall, I am not able to predict prices, however I do have concerns on the potential impact such legal standards might have on value-based marketing. Removal of "harm or likely harm to competition" eliminates and ignores many cases of legal precedent. In this case, what happens if a producer, who received a lower price for his cattle than his neighbor, decides to pursue legal action? In this case, even if the neighbor that received a higher price because his cattle were of higher quality and performed better on the rail, this ruling allows for a flood of frivolous legal activity. Processors that participate in and pay higher prices for cattle on grids and value-based marketing, must now worry about dealing with these frivolous lawsuits. As such, my opinion and concern is the possibility that processors would migrate away from the possibility of potential litigation. The result could be the beef industry would stand the risk of returning to a "one price fits all" mentality.

4) Is the negotiated or spot market the only way to discover a base price for cattle?

(Response from Mark Gardiner) Senator Marshall, in the past 25 years, there have been multiple times when the industry has felt the negotiated or spot market for discovering a base price has been broken. Until a different and better pricing mechanism materializes, the negotiated cash market remains the most accurate and dependable means of establishing a base price.

5) Can you speculate on what other types of transactions could be used to establish a base price?

(Response from Mark Gardiner) Senator Marshall, during the same time frame I described in question #4, I am aware of other types of investigated transactions. These include pricing off a box price index, a CME Live Cattle contract index, etc. There have been others. At the end of the day, the industry has yet to identify a means to more accurately establish a base or starting price on fed cattle.

6) Can you tell me why value-based marketing benefits small producers more than larger?

(Response from Mark Gardiner) Senator Marshall, many of the producers our family markets cattle, semen, and embryos to would be defined as small producers. In the past 25 years, value-based marketing is what has allowed smaller producers the opportunity to compete and stay in business. Value-based marketing, the increase in the percent of fed cattle that grade USDA Choice and higher, and the turn-around of consumer demand for beef (which is currently at a 30-year high) all function together in a synergistic-type environment. Some of the highest grid premiums on the U.S. Premium Beef grid have gone to smaller producers. Public data USPB created several years ago confirmed the highest premiums went to those that market less than 250 head per year. The second-highest premium group was those that market less than 100 head per year.

Smaller producers that finish cattle at home cannot compete with larger feedlots on commodity-based cattle. Finishing costs per head are certainly lower in larger feedlots. However, access to grid premiums on a value-based grid, is what provides smaller producers the opportunity to compete, and stay in business based on sales of finished cattle.

Thank you again Senator Marshall. Please contact me if I can assist further.

Mark Gardiner, Gardiner Angus Ranch, Ashland, Kansas

Senate Committee on Agriculture, Nutrition, and Forestry
Examining Markets, Transparency, and Prices from Cattle Producer to Consumer
June 23, 2021
Questions for the Record
Dr. Glynn T. Tonsor

Ranking Member John Boozman

1) What is your assessment as to the farmer's level of understanding, or awareness, of USDA's livestock crop insurance products? Do you believe there is a larger role university extension specialists, in coordination with the Department, could play in educating cattle producers about the availability and effectiveness of livestock risk management tools?

RESPONSE:
I am not aware of a resource that has comprehensively quantified the understanding and awareness livestock producers have of USDA's price risk mitigation products.[1] Periodically conducting such assessments to benchmark understanding and awareness can be helpful to provide refined guidance around related governmental efforts.

I certainly believe land-grant university Extension specialists can successfully partner with USDA to educate producers. While one could highlight other success stories, one relevant example is the "K-State Feeder Cattle Risk Management Tool" which is an Excel resource designed for producers to use in assessing feeder cattle price risk management strategies.[2] This resource was originally built by Dr. Kevin Dhuyvetter, while a faculty member at Kansas State University, in collaboration with USDA-RMA. Similar decision-making resources, and parallel educational efforts, indeed could be developed given increased partnership between USDA and academic personnel.

To go further, the number and quality of modern, timely, and accessible decision-making tools (e.g. dashboards, apps, etc. that are further customizable and more real-time accurate) supported at universities corresponds directly with the collaborations academic personnel can form with USDA or other external partners. Beyond new and better tools, additional partnerships in educating producers, reflecting periodic changes in USDA and other products, would be valuable.

It must also be noted that price risk is only one of multiple risks (e.g. weather, yield/productivity, death loss, market access, labor, interest rate) that are inherent in production agriculture.

[1] For related context, note this 2017 survey of feedlot operations (https://ageconsearch.umn.edu/record/264530?ln=en) suggests the minority regularly use futures market contracts, options contracts, LRP insurance, or LGM insurance to hedge fed cattle price risk.
[2] https://www.agmanager.info/k-state-feeder-cattle-risk-management-tool

Those interested in price risk management tools can further examine the Dairy Revenue Protection, Livestock Gross Margin, and Livestock Risk Protection products offered by USDA.[3]

[3] https://www.rma.usda.gov/Policy-and-Procedure/Insurance-Plans/Livestock-Insurance-Plans

2) Risk management tools are becoming more readily available for livestock producers. For example, commodity futures markets and livestock insurance help producers hedge against market volatility. What was the impact of the cattle market volatility experienced over the past couple of years for producers who utilized these tools?

RESPONSE:
Producers who regularly employ price risk mitigation strategies (such as futures market hedges or a USDA supported product) experience less price variation – they experience fewer "highs" and "lows" as a result. The exact impact this has on a producer's bottom-line is always specific to each situation and timing of their actions. For instance, a feedlot operation who used CME futures hedges in October of 2019 to protect against downward price risk for fed cattle to be physically sold in April of 2020 would have been better protected against the decline in fed cattle values that occurred early in the pandemic.[4,5] Conversely, if a producer concerned about elevated uncertainty in April of 2020 placed the same type of hedge on cattle expected to be marketed in October of 2020, the subsequent increase in fed cattle prices that occurred would not have fully benefited the hedged producer.[6]

[4] For reference, the April 2020 CME Live Cattle contract was $84.80/cwt on April 27, 2020 and was $123.20/cwt on October 28, 2019.
[5] Note, however, this producer still faced substantial risks including uncertain market access following reduced operational packing capacity and associated backlog impacts from fed cattle staying on the operation longer than planned.
[6] For reference, the October 2020 CME Live Cattle contract was $105.85/cwt on October 28, 2020 and was $95.78/cwt on April 27, 2020.

3) What tools are available to cattle producers on the commodity futures markets? In your opinion, are those tools under utilized by producers in hedging risk? Do you believe there are additional tools that could be provided that may further assist producers in hedging against risk?

RESPONSE:
As noted above, products supported by USDA include Dairy Revenue Protection, Livestock Gross Margin, and Livestock Risk Protection. Additional products are available from the private sector including the ability to hedge using futures or options market contracts. Furthermore, forward contracts present risk management benefits to both buyers and sellers.

In general, I'd say use of risk mitigation tools is not completely documented.[7] While we have sound documentation on marketing methods (e.g. prevalence of formula, forward contract, negotiated, etc. transactions) this information reflects a blend of price and non-price (e.g. supply chain, volume coordination) risk mitigation, as well as non-risk considerations (such as aligning production methods with consumer demand signals).

Specific to price risk mitigation products, it is my general belief that many cattle producing operations do not regularly use them.[8] Conversely there are some, perhaps larger operations that do regularly employ price risk mitigation tools in a disciplined manner to enable refined focus on other aspects of their business.

While one could conceive new products that may offer additional methods to producers for mitigating price risk it is not immediately clear there is a strong desire for them. That is, the (suspected) partial use of current products that has existed for decades may well reflect a traditional acceptance of price risk by many in the industry that would persist even if additional tools or products were available. It is worth noting the CME Group recently launched a Boxed Beef Index which may in the future offer a new resource for producers.[9]

Finally, it is worth noting that USDA does periodically adjust the price risk management products it supports. For instance, in 2020 Livestock Risk Protection (LRP) was adjusted such that subsidy rates were increased, maximum volumes of coverage were increased, livestock ownership requirements were changed, and endorsement period details were altered.[10] It is possible with these recent LRP product enhancements that producers could benefit from expanded education to increase awareness and comfort evaluating the value LRP may present their operation.

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[7] For some context, Dr. Elliott in February of 2021 (https://lmic.info/sites/default/files/publications/cattlemarkets021721.pdf) indicated "approximately 0.5% of fed and feeder cattle are insured using either LRP or LGM."
[8] https://ageconsearch.umn.edu/record/264530?ln=en
[9] For related context see this discussion by Dr. Schulz in May of 2021: https://www.farmprogress.com/livestock/thinking-through-virtues-boxed-beef-index
[10] https://www.rma.usda.gov/en/Policy-and-Procedure/Bulletins-and-Memos/2020/PM-20-064

4) It was mentioned during the hearing that other means exist, aside from alternative marketing agreements (AMAs), to compensate producers for quality improvements. Will you describe some of these other arrangements or agreements among producers and processors in the beef cattle industry?

RESPONSE:
There are indeed multiple ways for fed cattle to transfer from sellers to buyers. Consider the four main marketing methods of negotiated, negotiated grid, forward contract, and formula.[11] There are examples of quality incentives being reflected in payment adjustments in some but not all these marketing methods. Negotiated and forward contract transactions generally include little to no payment adjustments for carcass quality or other attribute distinctions.[12] Conversely negotiated grid and formula transactions involving grids commonly result in net prices that reflect both base price and grid-driven premiums and discounts.

Beyond considerations included in many available grids (e.g. yield grade, quality grade, etc.) it is important to note the ongoing proliferation of beef products and related business-models corresponds with consumers valuing production practices and/or production information that is *not* typically included in grids.[13] That is, alignment of production, processing, marketing, and ultimately consumption of many "unique" beef products has traditionally been coordinated through businesses transacting cattle in ways other than conventional, spot-market negotiations. For instance, raising cattle using methods compliant with selling beef carrying "naturally raised," "non-hormone," or "organic" labels or being compliant with export market specifications is generally not occurring using traditional, spot markets. Similarly producers raising cattle to provide specific beef products to a particular retail, food service, or export customer typically are paid using methods other than traditional, spot markets.

[11] For a primer on grid pricing of fed cattle see: https://animalscience.tamu.edu/wp-content/uploads/sites/14/2012/04/beef-grid-pricing-cattle.pdf A summary of premiums and discounts for the 5-area direct slaughter cattle trade is provided weekly by USDA AMS in form LM_CT169: https://www.ams.usda.gov/mnreports/lm_ct169.txt

[12] To mitigate confusion, note negotiated or forward contract cattle sold on a dressed basis are valued based on carcass weight rather than live weight. While that does provide an incentive for higher carcass yields it is not itself a beef quality-based incentive.

[13] An example cattle settlement worksheet reflecting common grid price adjustments is available here: https://www.uspb.com/DocumentItem.aspx?ID=34. Another example grid schedule from a packer is available here: http://www.genenetbeef.com/grid.pdf

Senator Tina Smith

1) The recent JBS cyber-attack highlighted the concentration in the meat processing industry. The cyber-attack resulted in meatpackers slaughtering 22 percent fewer cattle than the prior week.

   In late May, the University of Minnesota Food Protection and Defense Institute warned the Agriculture Department the dangers of cyber- crimes could play on our food supply chains. The work of the University of Minnesota Food Protection and Defense Institute shows how important investments in academic research is to showing how even small kinks in the supply chain can wreak havoc on the entire system – from farm to packer to grocery store or restaurant.
   The federal government uses research to decide where to make future investments in order to protect farmers and supply chains. Why should the USDA prioritize research on how consolidation has impacted farmers and consumers?

   RESPONSE:
   First as a brief point of clarity, any comments on slaughter volume impacts need to carefully consider holiday effects. Harvesting volumes are lower in weeks including holidays, this noted JBS cyber-attack occurred over the weekend of May 30th, and in 2021 Memorial Day fell on Monday, May 31st. Combined, we would have expected lower harvesting volumes even in the absence of a cyber-attack.

   I do fully support use of research to guide more informed resource allocation. That applies not only to decisions on how USDA resources are allocated, but for all facets of society. In short, it is my view that well-grounded research increases understanding of a situation. In turn, this enhanced understanding can improve decision-making and hence effectiveness of employed resources.

   I am unable to comment productively on the relative priority USDA should place on consolidation issues. That is, without more context on the other issues and candidate areas for USDA resources to be deployed one cannot objectively provide feedback. Everything is relative and the full set of candidate topics, along with information on the likely benefits and costs associated with prioritizing each topic, must be known for productive assessment.

   I will note USDA estimates in 2020 U.S. consumers spent a historically low (8.6% on average) share of their disposable income on food.[14] Our market system for perishable products such as beef has developed over time to effectively, efficiently, and persistently transfer raw agricultural commodities into final, edible products for consumers. This is noted here as the reasons for America's food system evolution yielding this outcome must be appreciated as part of any genuine assessment of the relative importance of research on consolidation or any other possible topic of focus for USDA.

   Finally, it must be noted the use of AMAs in part is motivated by buyer and seller interest in aligning efforts to help protect against a wide range of supply chain disruptions. While

[14] https://www.ers.usda.gov/data-products/chart-gallery/gallery/chart-detail/?chartId=76967

cyber-attacks may have not been on the list of potential disruptions in prior decades when AMAs first increased in industry use, they likely now are considered along with a multitude of other risks (e.g. uncertainty on availability of labor) that have persisted for several years.

Senator Roger Marshall

1) There are a several legislative proposals being discussed, some would have the government mandate a certain percentage of negotiated or spot transactions between the feeder and the packer. How will this mandate impact small cow/calf producers in Kansas, either selling to a feedlot or retaining ownership at the feedlot to sell on a grid?

RESPONSE:
First, it is critically important to clearly distinguish price discovery from price levels. While enhanced price discovery can improve knowledge of market conditions changes in price discovery itself does not alter market price levels. This is not solely my view, but one held by many fellow economists. For instance, consider the following summary statement offered recently by Drs. Derrell Peel, David Anderson, John Anderson, Chris Bastian, Scott Brown, Steve Koontz, and Josh Maples: "*Improved price discovery may improve knowledge of market conditions for sellers and buyers but will not, by itself, change overall market price levels. Current price pressures are largely related to fundamental changes in the balance of supply and demand in the industry. These changes are neither the result of, nor can they be fixed by, changes in price discovery.*"[15] Those considering currently discussed legislative proposals including mandates on how cattle would be priced need to appreciate this important point.

It is my opinion that the most likely outcome of implemented legislation mandating volumes of spot negotiated transactions would result in net economic losses to both producers and consumers. Perhaps the simplest way to illustrate this is any such mandate pursuing a higher level of negotiated volumes would force some buyers and sellers to move away from their preferred method of selling cattle – otherwise they would have already voluntarily switched. This move away from revealed "first choice" marketing involves a cost of switching. This cost may include higher transaction costs, reduced operational efficiency, and/or diluted ability to align production practices with consumer demand signals.

In short, I would expect the combined costs (both direct effects from compliance efforts and indirect effects due to spillover consequences such as reduced alignment of production with consumer demand signals) would exceed any associated benefits. This also reflects my view that it has not yet been decisively shown insufficient price discovery is occurring and hence the benefits of said legislation would be minimal. If a net economic loss outcome was realized, the core result for cattle producers would be reduced derived demand for their cattle. Ultimately this results in: 1) lower cattle prices, 2) a smaller domestic industry, 3) eventually higher beef prices for consumers (reflecting both lower volumes and any beef demand erosion), and 4) weaker positioning of U.S. producers in the world protein market than would otherwise occur without said mandates. Besides this directional impact statement, the specific magnitude of impacts would reflect the specific legislation implemented and the realized magnitude of how costs exceed benefits.

[15] https://extension.okstate.edu/fact-sheets/print-publications/e/fed-cattle-price-discovery-issues-and-considerations-e-1053.pdf

2) Part of the cattle markets discussion is connected to mandatory price reporting which was created decades ago to make markets more transparent.

   a. One of the reporting buckets is called "formula" which is essentially the catch all bucket if a transaction doesn't fit into negotiated, negotiated grid, or forward contract. Is there a value to producers to change the way formula prices are reported?

   RESPONSE:
   If additional detail was available to better characterize transactions currently placed in the broad "formula" category this could notably enhance understanding of the fed cattle market. Consider one specific example: for the week ending July 4, 2021 USDA AMS published in form LM_CT151[16] an average net price of $202.26/cwt for 49,479 head of steers sold on a dressed basis grading over 80% choice with an average carcass weight of 917 lbs.

USDA National Weekly Direct Slaughter Cattle Report - Formulated and Forward Contract

Agricultural Marketing Service
Livestock, Poultry, and Grain Market News

July 05, 2021
LM_CT151

Email us with accessibility issues regarding this report.

For Cattle Price During The Week Ending Sunday, 07/04/2021

Domestic Cattle Only	Dressed:	Live:	Total:	Total Week Ago:	Total Year Ago:
Formula Net:	228,134	49,595	277,729	262,369	252,990
Negotiated Grid Net:	31,593	14,796	46,389	51,535	10,677
Forward Contract Net:	39,406	8,618	48,024	40,323	32,884

Formula Net: Dressed Basis	Head Count	Wtd Avg Dress Pct	Weight Range	Avg Wt	Price Range	Avg Net Price
STEER						
Over 80% Choice	49,479	63.9	716 - 1,058	917	188.72 - 255.22	202.26
65 - 80% Choice	30,896	64.0	718 - 1,028	898	182.30 - 225.93	197.36
35 - 65% Choice	15,720	63.9	719 - 971	867	178.87 - 211.49	191.12
0 - 35% Choice	940	64.2	762 - 957	859	175.93 - 184.61	180.26
Total all grades	97,035	64.0	716 - 1,058	902	175.93 - 255.22	198.68

   Importantly, the published price range was $66.50 ($188.72 to $255.22) and the weight range was 342 lbs (716 to 1,058 lbs).[17] It is essential to note what these cattle have in common – they are all steers, sold on a dressed basis, grading over 80% choice. Despite those common traits, the differences in prices across the nearly 50,000 head seem likely to reflect more than just differences in weight and likely reflect differences in how the cattle were produced. For instance, some lots may have

[16] https://www.ams.usda.gov/mnreports/ams_2478.pdf
[17] While this price range is high by historic standards it is rather common for a $30/cwt price range to occur and the general point holds of limited understanding on what underlies this price range.

higher rates of light-weight carcasses or dark cutter incidence corresponding with lower prices while other lots may be raised under a production program associated with higher prices (e.g. NHTC, special breed type, grass-fed, specific export-certified).[18] Currently information available to USDA AMS does not illuminate reasons for this wide range of prices leaving us to make speculative guesses. This is particularly noteworthy given the predominant volume role (about 2 out of every 3 head in 2020) formula trade holds.

It should also be noted USDA AMS recently provided an assessment of formula net price data including purchases between January 4, 2021 and May 31, 2021.[19] A key point highlighted in this report is some transactions involve no premium or discount while the majority (both nationally and in each of the five reported regions) of transactions do involve a premium or discount. This in part supports the final statement: "*A complete determination cannot be made under the current LMR reporting requirements.*"

I encourage USDA AMS to report other points in the price distribution (e.g. 15th and 85th percentile rather than just minimum and maximum values) as this would not involve changes in data collection and would increase market understanding.[20]

I also encourage further assessment into pragmatically gathering more information (e.g. possibly adjusting details on data provided by packers to USDA AMS) to support future adjustments that further increase insight on underlying differences in cattle traits and transactions that align with the commonly observed wide range in prices currently summarized in USDA AMS reports. If said refinements were feasible without adding undue industry costs, fed cattle sellers would be net beneficiaries from enhanced understanding of the market for cattle sold under formula contracts. This could enable interested producers to better target production practices to the highest net value (comparing estimates on production cost differences with improved revenue insights) opportunity available to their operation.[21]

The above point on wide price ranges in current USDA AMS reports also relates to past suggestions to use additional statistical methods to increase informational value

[18] Related discussion was provided in this 2017 report: https://www.ams.usda.gov/sites/default/files/media/DevelopingCompositeFedCattleValue2017.pdf

[19] https://www.ams.usda.gov/sites/default/files/media/HighlightsofFormulaCattleEvaluation2021.pdf

[20] An example application of reporting more on the price distribution was included in this 2017 report: https://www.ams.usda.gov/sites/default/files/media/DevelopingCompositeFedCattleValue2017.pdf

[21] This desired outcome would align, without formal mandates for changes in how fed cattle are marketed, with the "spirit" of the July 9th Executive Order (https://www.whitehouse.gov/briefing-room/statements-releases/2021/07/09/fact-sheet-executive-order-on-promoting-competition-in-the-american-economy/) titled "Promoting Competition in the American Economy."

available to the public.[22,23] Additional statistical models well-grounded in the academic literature could likely be used to better utilize raw data packers provide to USDA AMS under LMR that increases publicly available information on markets while maintaining confidentiality. As one specific example Schroeder and Tonsor illustrated in 2017, using individual LMR transactions occurring in late-2016, how one approach could work providing more information on fed cattle premiums and discounts that would be valuable for instance in comparing offered grids.[24] Consistent with the above point regrading data depth, the extent such models can be used in a valuable way is directly related to the data variables involved in packer submissions to USDA AMS.

In summary, genuine potential exists to modify current procedures such that additional valuable information becomes available on the fed cattle market without necessarily directly altering industry practices regarding fed cattle marketing methods. Said potential warrants serious consideration before other action is taken.

b. Are there any transactions that aren't being reported?

RESPONSE:
First, as noted verbally in the hearing, it is important to clearly distinguish the reporting by covered packers to USDA AMS from posting of reports by USDA AMS to the public. To go further, in other settings I and other economists have described the process as covered packers REPORT to USDA AMS and USDA AMS subsequently PRINTS or PUBLISHES market information. This distinction between "reporting" and "printing" or "publishing" can help clarify the processes underlying LMR.[25]

Second, there are specific rules on the packers covered by LMR who report to USDA AMS by law.[26]

Finally, I have no information suggesting there are covered transactions involving covered packers that are not reported to USDA.

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[22] For more details, see this 2017 fed cattle focused report (https://www.ams.usda.gov/sites/default/files/media/DevelopingCompositeFedCattleValue2017.pdf) and this 2017 lamb focused report (https://www.ams.usda.gov/sites/default/files/media/AMSLPS201746StudyLiveLambandLambProductsConfidentialityStudy.pdf).

[23] It should be noted that this suggestion is not novel. For instance, commonly reported weighted average statistics are themselves not prices occurring in a market but rather are a statistical measure provided across multiple transactions. Similarly, the use of guided regression models would use data from multiple market transactions to provide valuable statistical measures.

[24] https://www.ams.usda.gov/sites/default/files/media/DevelopingCompositeFedCattleValue2017.pdf

[25] This packer-reporting and USDA-publishing distinction underlies common confusion around how LMR operates and is core to appreciate when considering assessments such as the one provided in 2019 on viability of separate delivery window categories and/or geographic regions being used by USDA AMS: https://www.ams.usda.gov/sites/default/files/media/FinalReportNegotiated5AreaCattleStudy.pdf

[26] https://www.ams.usda.gov/rules-regulations/mmr/lmr

3) The USDA has announced that the plan to initiate three separate rulemaking processes to "support enforcement of the Packers and Stockyards Act" (PSA). What will happen to cow/calf producer prices if USDA eliminates the legal standard of "harm or likely harm to competition" to bring an action under the PSA?

   RESPONSE:
   I am unable to productively comment on this currently. This reflects the current level of uncertainty regarding specific changes and how this requires legal interpretation before any useful speculation can occur on economic impacts.

4) What motivating factors have driven the beef industry to its current level of negotiated cash trade and consolidation?

RESPONSE:
The evolution of fed cattle marketing methods has been extensively studied for decades. For instance the above noted Peel et al. report includes a multitude of related references.[27] To summarize, many buyers and sellers of fed cattle have adjusted business practices over time resulting in less prevalent negotiated spot transactions than occurred in prior decades.

Summary data provided by the Livestock Marketing Information Center indicates the share of domestic fed cattle transactions occurring using spot, negotiations was 49% in 2001, 55% in 2005, 39% in 2010, 21% in 2015, and 23% in 2020. These annual statistics are offered mainly to note that while prevalence of spot market negotiations is lower than in past decades, much of this change occurred prior to 2010.

This evolution reflects multiple things with two being particularly important. First, both participating buyers and sellers benefit from operational efficiencies associated with increased certainty around coordinated logistics of fed cattle marketing following use of marketing methods besides spot-negotiations. Stated differently, there are cost reduction benefits of using methods besides spot-negotiations. Furthermore, there is limited ability of negotiated spot transactions to effectively align production and marketing of specific cattle with consumer beef desires. That is, with maturation and proliferation of demand for specific beef products the economic value of aligning particular production, processing, and marketing efforts have grown – this alignment is pragmatically challenging in traditional spot markets.

I also will highlight one academic paper (and included citations) of direct relevance.[28] A quote included by Dr. Sexton is (pg 209-210): "*As a profession we have only begun to understand the implications of increasing product differentiation and vertical coordination among firms for market performance and distribution of benefits among participants. A key point of this paper is that we must not focus on concentration alone when thinking about departures from perfect competition in modern agricultural markets, nor in evaluating their performance. Rather, the trends towards greater concentration and vertical coordination, along with increased emphasis on product quality and differentiation, must be considered and evaluated jointly.*" I fully concur with this quote and think it certainly applies to the evolution experienced in the U.S. beef-cattle industry. My summary would be the U.S. beef-cattle industry has evolved for MANY reasons and that simply looking at concentration of any sector at any one point in time fails to reflect the reality of many economic forces at play.

[27] https://extension.okstate.edu/fact-sheets/print-publications/e/fed-cattle-price-discovery-issues-and-considerations-e-1053.pdf
[28] https://onlinelibrary.wiley.com/doi/full/10.1093/ajae/aas102

5) If the industry were mandated by legislation as referenced in question 1, what are the potential costs, benefits, and net effects?

RESPONSE:
As noted most recently by Peel et al., these mandates if implemented would take the industry away from a free-market approach that has guided the industry historically.[29] In short, said mandates would add costs to the industry that compromise market efficiency and limit the industry's ability to adapt with changes in broader market signals such as desired adjustments conveyed by beef customers or developments in how other industries establish commodity prices. These elevated costs in the absence of offsetting benefits would result in a less profitable industry and ultimately drive the industry to be smaller than it otherwise would be. Further, consumers would realize higher prices reflecting less domestic beef being available.

[29] https://extension.okstate.edu/fact-sheets/print-publications/e/fed-cattle-price-discovery-issues-and-considerations-e-1053.pdf

6) What long term vulnerabilities would the cattle industry be exposed to if the industry were mandated by legislation as referenced in question 1?

RESPONSE:
See the prior question's response.

7) Is the negotiated or spot market the only way to discover a base price for cattle?

RESPONSE:
The spot negotiated market has traditionally been the method for establishing base price for fed cattle. While this approach has worked for decades it is inaccurate to presume it is the only feasible way to establish base values for fed cattle.

Other segments of U.S. agriculture have evolved to be less dependent on traditional spot market transactions. Examples include adjusting to price commodities using products reported elsewhere in a vertical supply chain. The increased use of pork cutout values in pricing of barrows and gilts in the hog industry is one such example. This example is not offered to say the fed cattle industry should immediately shift to pricing using boxed beef values but rather to simply highlight it is inaccurate to assert spot negotiated markets are the only way to establish base values for a commodity.

More broadly there is some (in cases dated) research examining alternative base prices including futures markets, wholesale meat prices, or retail meat prices. One could also consider "cost plus" arrangements to price livestock that reflect paying producers based upon estimated production costs. Additional contemporary research would be valuable in assessing the modern benefits and drawback of these and other candidate ways to establish base prices.[30]

[30] This recent piece by Dr. Schulz (https://www.farmprogress.com/livestock/thinking-through-virtues-boxed-beef-index) provides related context around possible future viability of boxed beef prices being an alternative, compared to now common use of negotiated prices published by USDA, for establishing base prices in formula cattle pricing contracts.

8) Can you speculate on what other types of transactions could be used to establish a base price?

RESPONSE:
See the prior question's response.

Senator Deb Fischer

1) In your testimony, you highlight your concerns with a lack of price discovery in the cattle market and yet you caution that any government mandate intended to increase negotiated trades could have serious unintended consequences. Some industry participants, associations, and economists share your concern and have suggested that the solution to the price discovery issue needs to be a voluntary one. In other words, buyers and sellers should voluntarily increase cash trades to a level sufficient to facilitate price discovery.

   a. If various studies are accurate and feedyards who do participate in AMAs receive anywhere from $25 (*Koontz*, 2015) to $92 (Gardiner testimony) per head more, what incentive is there for feedyards to revert back to the cash market voluntarily?

   RESPONSE:
   As noted in this question, past research has quantified significant economic benefits to those using AMAs. This research is reaffirmed by industry anecdotal examples.

   Given the presence of a net benefit to those currently using an AMA then those industry participants would likely not revert back to using traditional spot markets without suffering economic loss. That said, if current AMA users viewed price discovery as sufficiently limited to warrant changes, or if they viewed other possible changes such as legislative mandates as presenting even larger economic damage, then they may voluntarily adjust their marketing practices.

   It further is worth noting that the location of announced new packing facilities, or expansion of existing facilities, generally aligns with regions which historically have higher rates of selling fed cattle via traditional, negotiated markets. However, consistent with observed evolution in past decades, economic forces around this additional processing capacity likely will not fully align with using traditional, negotiated markets. Stated differently, given what I expect to be the reality behind coordinating cattle flows into new packing facilities I anticipate (to the extent allowed given any mandates that may be implemented at the time) cattle buyers and sellers affiliated with these new facilities to find it beneficial to transact cattle using methods besides traditional, negotiated markets. In fact, it is a real possibility the government could subsidize building of new packing facilities (or expansion of existing operations) while at the same time hampering the economic viability of these operations given currently proposed restrictions on how fed cattle can be marketed.

   b. Would a voluntary approach to requiring sufficient levels of weekly negotiated trade require packers to voluntarily submit data to a non-government entity? Given your statement that "…with implementation of LMR a significant amount of market information is available in a manner much more trusted than was the case of voluntary reporting prior to LMR being implemented" how reliable would data and information submitted voluntarily to a non-government entity be?

RESPONSE:
If market participants deemed it worthwhile then participation in negotiated markets would be captured in compliance with LMR.

As of today, I am not aware of formal proposals that would alter what LMR covered packers are required to report. Accordingly, if covered packers procure cattle in a negotiated market that would be reported to USDA regardless of if that negotiated market activity reflected industry efforts to comply with new legislative mandates or simply the voluntary decision of fed cattle buyers and sellers to do business using spot markets.

As to the broader point on reliability of voluntary data, one can go back a couple decades and study concerns around voluntary market reporting that in part led to LMR. Among such concerns is that of selective reporting where some but not all transactions are reported to USDA leaving users of USDA reports less confident in how representative reported information is. Today there is a much higher level of confidence that data available to USDA AMS in producing their reports is representative of fed cattle and wholesale beef markets.

c. Should any effort to increase cash trades, voluntary or otherwise, take into account regional differences amongst the 5 major cattle feeding regions when establishing the levels of cash trades appropriate to facilitate price discovery? What are the pros and cons of establishing cash minimums by region versus establishing a national minimum?

RESPONSE:
There are well documented differences in the type of cattle and business relationships across the industry's geographically-distinguished feeding regions.[31] This of course has a significant impact on why the relative use of cattle marketing methods varies regionally. To-date the revealed, privately-determined behavior of market participants across regions suggests different net benefits of using negotiated markets. This well-documented difference in behavior should be appreciated in any voluntary or legislative efforts to increase fed cattle price discovery. Given this, I and many other analysts would have concern with blanket, "one size fits all" approaches as the impacts would vary regionally.

Beyond comments on regional differences in markets it is important to highlight that the volume of cattle negotiated is itself not the only consideration of whether "sufficient" price discovery is occurring. Ultimately the extent to which spot-market negotiated cattle are representative of the broader fed cattle market is of key importance. Stated differently, if the type of cattle sold in negotiated markets differ notably from cattle sold using other marketing methods then the weaker alignment is between spot-market negotiation activity being representative of the broader fed cattle market. Accordingly, one must consider more than simply transaction volumes.

[31] For instance see this 2019 report:
https://www.ams.usda.gov/sites/default/files/media/FinalReportNegotiated5AreaCattleStudy.pdf

2) In your opinion, what is preventing buyers and sellers from using CME cattle futures or wholesale boxed beef as the base in formula transactions, in place of USDA negotiated prices?

RESPONSE:
Formally and legally, I do not believe today anything prevents interested fed cattle buyers and sellers from using CME futures markets, USDA reported boxed beef prices, or other mutually agreed upon values as alternative sources to USDA reported negotiated fed cattle prices. Ultimately the reliability of any candidate base price source and how that base aligns with perceived base value of the commodity (fed cattle here) drives interest of buyers and sellers.

Furthermore, there are historical periods where with the benefit of hindsight one side of a transaction (buyer or seller) would have been benefited from using a different base price source and/or having a different premium/discount schedule. Those differences over time are to be expected, are not new to agricultural commodity markets, and are a healthy outcome reflecting market dynamics.

As an example of ongoing research on the topic, consider the 2020 assessment by Brester, Swanser, and Crosby which suggests CME live cattle futures market prices may offer a viable base for formula pricing.[32] The authors' state in their abstract: "*Proposed legislation mandating that a larger percentage of live cattle be procured through negotiations represent a market intervention. We show that live cattle futures market prices could be used as a base in formulas and would be less restrictive in meeting specific cattle procurement percentages*." In my opinion more research on this topic is needed to assess the direct viability of alternative bases for formula transactions in the fed cattle market.

[32] https://ageconsearch.umn.edu/record/305569/?ln=en

Senate Committee on Agriculture, Nutrition, and Forestry
Examining Markets, Transparency, and Prices from Cattle Producer to Consumer
June 23, 2021
Questions for the Record
Dr. Dustin Aherin
(responses in blue)

Ranking Member John Boozman

1) What is your assessment as to the farmer's level of understanding, or awareness, of USDA's livestock crop insurance products? Do you believe there is a larger role university extension specialists, in coordination with the Department, could play in educating cattle producers about the availability and effectiveness of livestock risk management tools?

   - In my opinion, there is opportunity to greatly improve the awareness and understanding of USDA's livestock crop insurance products, particularly the Livestock Risk Protection (LRP) program. With major changes to LRP in recent years, including expanded head count limits, increased premium subsidies, and allowing premium payments to be made at the end of the coverage period, even producers who considered, but decided against implementing the product in the past may find the new specifications more accommodating. LRP should be seriously considered by producers who are considering a risk management plan.

   - Producer education is key to cattle and beef industry success, and university extension programs have a critical role to play. I believe that evaluating current extension programs, practices, and funding for opportunities to revitalize producer outreach, improve effectiveness, and better fit communication strategies with 21st century technologies is necessary and would be an extremely worthwhile endeavor. The wide array of responsibilities faced by beef producers, particularly small and medium-sized owner-operators, often means that financial assessment, business strategy, and risk management take a backseat to immediate animal husbandry demands. Cow-calf producers in particular would benefit from risk management education efforts. The importance of consistent, thorough, and applicable producer education, particularly surrounding business management and risk management, cannot be overstated.

2) Risk management tools are becoming more readily available for livestock producers. For example, commodity futures markets and livestock insurance help producers hedge against market volatility. What was the impact of the cattle market volatility experienced over the past couple of years for producers who utilized these tools?

   - Supply chain disruptions presented challenges for all producers, and risk management goals and outcomes vary depending on the individual producer and the strategy implemented. That said, a general conclusion is that risk management strategies performed as expected, or perhaps even better than expected considering the record positive basis during the periods of the most extreme market uncertainty and price declines, and effectively protected prices for those producers who had risk management plans in place.

3) What tools are available to cattle producers on the commodities futures markets? In your opinion, are those tools under utilized by producers in hedging risk? Do you believe there are additional tools that could be provided that may further assist producers in hedging against risk?

- CME Group offers both futures and options contracts for Live Cattle and Feeder Cattle.

- While continuous monitoring for potential improvements and changes is necessary, Live Cattle futures and options contracts in their current form are used extensively as risk management tools.

- Using Feeder Cattle futures and options can be more challenging. Compared to Live Cattle, Feeder Cattle futures basis has more seasonal and regional variability resulting from seasonal and regional variability in supply of and demand for feeder cattle. For some contracts, the often strong seasonal price appreciation from initial trading to expiration precludes some producers from using feeder cattle futures as a risk management tool. There is also consistently lower volume in Feeder Cattle futures trade. Combined, these factors can limit the use of Feeder Cattle futures.

- Livestock Risk Protection (LRP) offers a viable alternative to using commodity futures for risk management. Whereas commodity futures contracts have a fixed contract size, LRP's head count flexibility is an attractive feature. LRP's lack of required margin, as well as the premium subsidies and payment options previously described may offer additional advantages for some producers. LRP can be a reasonable option to protect producer revenue in the case of a general market decline and may be particularly attractive to small to mid-sized producers or producers who are less familiar with or do not care for the attributes of commodity futures.

- Forward contracts often utilize futures contracts as well. In many, or probably most cases, forward contracts establish basis at contract initiation and allow producers to lock-in a selling price based on the futures contract that is nearest, but not before the agreed upon cattle delivery period.

- In general, risk management tools, used individually or in combination, can be used to achieve two different goals: to either "lock-in" a price or price window, or protect a producer from a price move in the undesired direction (price decrease if a seller, price increase if a buyer). It is important to note that risk management does not guarantee profitability, but it can decrease uncertainty and help prevent catastrophe. While each risk management tool offers unique advantages and disadvantages, many cattle producers have effectively employed the currently available suite of risk management tools. Such risk management tools encompass not only cattle prices, but feedstuffs, such as corn futures and USDA's Pasture, Rangeland, Forage (PRF) insurance program. It is important to continuously monitor risk management products to ensure they are applicable to an ever-changing market, that they accurately represent the underlying commodity, and to make changes or additions to the suite of tools as necessary; however, I do not have any specific suggestions for additional tools at this time.

4) It was mentioned during the hearing that other means exist, aside from alternative marketing agreements (AMAs), to compensate producers for quality improvements. Will you describe some of these other arrangements or agreements among producers and processors in the beef cattle industry?

- Value-based, post-harvest grids offer the primary means to reward and incentivize producers for beef quality. Value-based, post-harvest grids can be offered as part of an AMA (assuming AMAs include any contract establishing a delivery agreement greater than 30 days in advance) or a negotiated grid (an "agreement under which the base price for the livestock is determined by buyer-seller interaction. The livestock are usually scheduled for delivery within 14 days. The final net price will be determined after application of premiums and discounts to the net price"- USDA).

- Negotiated grids offer the best way to sell cattle in the spot market while still being directly and accurately compensated for carcass quality or other cattle and carcass traits. However, negotiated grids do not offer the same supply chain management advantages (which include improved efficiency, consistency, and lower risk in marketing, procurement, and capacity utilization for both cattle feeders and beef packers) as AMAs.

- While cash market transactions can still reward producers for cattle quality based on a producer's historical cattle quality and predictions of current cattle quality, prediction error prevents producers from being compensated most accurately for carcass traits and ultimately distorts the intended market signal.

- The reason cattle carcass quality is so much better today than in the past is because of the clear and direct signals sent to producers by valuing an animal based on its actual carcass quality. Even if genetics and management are known, cattle may not kill as expected (even the best cattle buyer can only get so close). By not paying based on actual, post-harvest cattle quality the signal for what cattle to produce gets distorted by prediction errors. These same prediction errors would also expose packers to more uncertainty and more risk of over-paying for cattle. The packer owns that risk when buying cattle pre-grading. To offset that added risk, a packer would likely bid for all cattle assuming they are in a relatively tight range around average quality. Therefore, good cattle would not be sufficiently rewarded, and poor cattle may not be sufficiently discounted. Again, the signal gets distorted. Over the long run this would reduce cattle quality or at least slow quality improvement. Eventually, this would likely slow or reverse beef demand growth which would reduce beef prices and cattle prices compared to what they would be if we continue post-harvest, grid marketing at its current level.

Senator Roger Marshall

1) There are a several legislative proposals being discussed, some would have the government mandate a certain percentage of negotiated or spot transactions between the feeder and the packer. How will this mandate impact small cow/calf producers in Kansas, either selling to a feedlot or retaining ownership at the feedlot to sell on a grid?

- If the government mandated a certain percentage of negotiated or spot transactions between cattle feeders and packers, there is an exceptionally high likelihood that cow-calf producers would receive a lower price for their cattle. Cow-calf producers would bear the greatest burden of the negative impacts because they are primary suppliers rather than margin operators (i.e. there's no other market participant further upstream to pass the burden to).

- Cattle prices have been low relative to wholesale beef prices because of the imbalance between cattle supply and operational packing capacity. Over much of the past two years, we have simply had more cattle than we have had the capability to harvest. While record strong beef demand in both domestic and international markets and at times a limited beef supply have driven up beef prices, the bottleneck in packing capabilities has prevented that demand from being transmitted to the cattle sector. Beef cattle value is dependent on the ability to transform cattle into beef. The impacts of both the pandemic and the Holcomb, KS, plant fire severely constrained this transformation. A limited resource, in this case operational packing capacity, will be rationed to those willing to give up the most to access and incentivize that resource. On one end of the supply chain that means paying high prices for beef, while on the other, that means accepting a lower price for cattle.

- Government intervention into how cattle are marketed does not change the market fundamentals described above and thus will not improve cattle prices. Price discovery in some form or fashion is necessary in any market. It is possible that increased negotiated cash transactions could improve price discovery, but improved price discovery does not mean a better price. Price discovery means that we get closer to the "true", fundamentally driven market price. That "true" price could be better or could be worse. We have no way of knowing exactly what that "true" price is. We can only estimate it based on market dynamics of supply and demand, such as those described above. And based on those dynamics, recent beef to cattle price spreads have been well within the range of expectations.

- It has been suggested that mandating increased cash trade will bring more bids to the open market, increasing competition and increasing cattle prices. If all else stays equal, increased bids would be expected to increase price. But it is almost certain that all else will *not* stay equal. For both cattle feeders and packers, AMAs reduce marketing costs and reduce supply chain risks, while increasing capacity utilization, which reduces per head operating costs for both packers and cattle feeders. Increasing cash trade would do the opposite. As packer operating costs increase, they will decrease the price they pay for fed cattle. This is no different than cattle feeders reducing their bids for feeder cattle when corn price increases. All told, it is very possible that the net effect of mandating increased cash trade could decrease cattle price while also increasing marketing costs and inventory risks for cattle feeders. Because cattle feeders are margin operators, increased costs, increased risks, and lower fed cattle prices would ultimately result in cattle feeders paying less for feeder cattle and calves.

- AMAs help facilitate value-based marketing. Improved carcass quality increases consumer demand (willingness to pay for a given quantity) for beef and increased consumer demand increases beef and cattle prices. The reason cattle carcass quality is so much better today than in the past is because of the clear and direct signals sent to producers by valuing an animal based on its actual carcass quality. Even if genetics and management are known, cattle may not kill as expected (even the best cattle buyer can only get so close). By not paying based on actual, post-harvest cattle quality the signal for what cattle to produce gets distorted by prediction errors. These same prediction errors would also expose packers to more uncertainty and more risk of over-paying for cattle. The packer owns that risk when buying cattle pre-grading. To offset that added risk, a packer would likely bid for all cattle assuming they are in a relatively tight range around average quality. Therefore, good cattle would not be sufficiently rewarded, and poor cattle may not be sufficiently discounted. Again, the signal gets distorted. Over the long run this would reduce cattle quality or at least slow quality improvement. Eventually this would likely slow or reverse beef demand growth which would reduce beef prices and cattle prices compared to what they would be if we continue post-harvest, grid marketing at its current level. Slowed or reversed beef demand growth would result in lower cattle prices.

- Negotiated grids offer the best way to sell cattle in the spot market while still being directly and accurately compensated for carcass quality or other cattle and carcass traits. However, negotiated grids do not offer the same supply chain management advantages (which include improved efficiency, consistency, and lower risk in marketing, procurement, and capacity utilization for both cattle feeders and beef packers) as AMAs. As currently defined, it is not clear to me if negotiated grid transactions meet the demands of some proposed legislation.

- It should not be overlooked that mandating an increase to negotiated or spot transactions would likely reduce the use of forward contracts, not only formula trades. Small cattle feeders often prefer to use forward contracts as a risk management tool for various reasons, including the absence of margin requirements and eliminated basis risk. A mandate that inherently discourages the use of forward contracts could make risk management more difficult for small cattle feeders.

- All of the above points are supported by an immense body of economic research literature, as well as my own personal research. The most comprehensive research to-date on the topic of fed cattle transaction type and potential market power is the "GIPSA Livestock and Meat Marketing Study- Volume 3: Fed Cattle and Beef Industries Final Report" (RTI, 2007), which was commissioned by the USDA, authored by 16 economists from public institutions and non-profit organizations, and peer-reviewed by multiple anonymous reviewers. Both market participant interviews and quantitative analysis conducted as part of RTI (2007) support the conclusions stated above. While the cattle and beef industry have continued to evolve since 2007, to my knowledge there is no published research that contradicts the full production system impacts that were estimated in RTI (2007).

2) Part of the cattle markets discussion is connected to mandatory price reporting which was created decades ago to make markets more transparent.

   a. One of the reporting buckets is called "formula" which is essentially the catch all bucket if a transaction doesn't fit into negotiated, negotiated grid, or forward contract. Is there a value to producers to change the way formula prices are reported?

      - While the general industry consensus is that the majority of formula cattle are marketed on a value-based, post-harvest grid, not all formula cattle are marketed on a grid. It could be worthwhile to distinguish which formula cattle are marketed on a grid and which are not. Given the volume of formula transactions, some report disaggregation is likely possible without facing major confidentiality constraints, but further exploration is required.
      - Base price reporting for formula transactions is also worth considering to increase market transparency, even though formula base prices often reference negotiated prices from the past rather than negotiated prices for the current week.
      - The distinction between grid and non-grid could also be worthwhile for forward contract cattle, although with the low volume of forward contract cattle, confidentiality constraints likely preclude such report disaggregation.

b. Are there any transactions that aren't being reported?

- To my knowledge, the only transactions not reported are those that do not meet confidentiality requirements or transactions that do not fall under mandatory reporting rules, such as those involving plants that process less than 125,000 cattle per year, which is the threshold for mandatory reporting.

3) The USDA has announced that the plan to initiate three separate rulemaking processes to "support enforcement of the Packers and Stockyards Act" (PSA). What will happen to cow/calf producer prices if USDA eliminates the legal standard of "harm or likely harm to competition" to bring an action under the PSA?

- First of all, I have no legal expertise. That said, the ability for livestock and meat industry participants to align themselves with adjacent industry segments in order to reduce risk, increase efficiency, and reward and incentivize desired traits has stimulated the production of higher quality beef and reduced production costs. *If* a rule change discourages the use of AMAs (I don't have the legal expertise to say if this proposed PSA change will or won't), the ramifications would be generally the same as the those stated in the response to Question 1. As stated in the response to Question 1, increased production costs, increased supply chain risks, and any decrease in beef demand will be transmitted from the packer, to the cattle feeder, and finally to the cow-calf producer in the form of lower cattle prices. Ultimately, the cow-calf producers will bear the greatest burden of any negative impacts.

4) What motivating factors have driven the beef industry to its current level of negotiated cash trade and consolidation?

- As stated in the response to Question 1, replacing negotiated cash trade with AMAs reduces marketing costs and reduces supply chain risks, while increasing capacity utilization, which reduces per head operating costs for both packers and cattle feeders. The supply and inventory management offered by AMAs also helps improve the consistency of beef delivered to consumers by allowing fed cattle to be marketed in a more dependable and timely manner. Furthermore, AMAs offer convenient implementation of value-based marketing, which helps incentivize and improve beef quality. Improved beef quality and consistency grow beef demand.

- The use of economies of scale to increase production efficiency and reduce production costs motivated the mid- to late-20th century investment in larger packing plants and consolidation into larger meat packing companies. It also stands to reason that larger beef packing companies can better serve large customers, such as retailers and distributors, who have also grown in size in recent decades. It is worth noting that beef industry concentration has not changed meaningfully in the past 25 years.

5) If the industry were mandated by legislation as referenced in question 1, what are the potential costs, benefits, and net effects?

- It has been suggested that mandating increased cash trade will bring more bids to the open market, increasing competition and increasing cattle prices. If all else stays equal, increased bids would be expected to increase price. But it is almost certain that all else will *not* stay equal. For both cattle feeders and packers, reducing the use of AMAs will increase marketing costs and increase supply chain risks, while decreasing capacity utilization, which increases per head operating costs for both packers and cattle feeders. As packer operating costs increase, they will decrease the price they pay for fed cattle. All told, it is very possible that the net effect of mandating increased cash trade could decrease cattle price while also increasing marketing costs and inventory risks for cattle feeders. Because cattle feeders are margin operators, increased costs, increased risks, and lower fed cattle prices would ultimately result in cattle feeders paying less for feeder cattle and calves.

6) What long term vulnerabilities would the cattle industry be exposed to if the industry were mandated by legislation as referenced in question 1?

- Any mandate requiring a specific transaction type hobbles the cattle and beef industry's ability to evolve to meet ever-changing consumer demands and production challenges. Transaction type and supply chain coordination have shifted over the past several decades in an effort to reduce production risk and production cost while improving beef quality. These efforts have been largely successful, with the end result being higher quality, lower cost beef for consumers, all else equal. Even throughout the pandemic, other than the brief production decline from plant shutdowns and slowdowns in Q2 2020, high beef prices have been primarily driven by record strong consumer demand in both domestic and export markets, not a supply shortage. Any mandate that forces an increase in negotiated cash trade moves the industry backwards in its ability to meet consumer demands. And mandating any level of negotiated cash trade prevents the industry from adapting to future consumer demands and market conditions.

- Consumer, investor, and government demand has positioned sustainability as a major and growing focus across all of agriculture. Marketing beef in grocery stores and restaurants based on sustainable cattle and beef production practices has already begun. Given the sustainability goals of major beef and food companies, beef brands centered around sustainability will continue to grow. Verifying and tracing sustainable production practices throughout the entire beef supply chain and guaranteeing a supply of cattle that meet sustainability standards for a particular brand require information sharing and supply coordination between market participants. As already discussed, one of the best ways to coordinate supply chains and incentivize demanded traits is the use of AMAs or other contractual agreements. Fulfilling the supply needs of differentiated product lines, whether based on quality or production practices, is extremely difficult and inefficient in the negotiated cash market.

7) Is the negotiated or spot market the only way to discover a base price for cattle?

- While the negotiated spot market currently serves as the primary base price reference for fed cattle formula transactions, other species, swine in particular, have shown that wholesale meat prices (pork cutout value) and futures prices can also serve as reference prices. In some cases, base price for hog formulas is calculated as a combination of negotiated spot, pork cutout, and/or futures price. If cattle producers truly want cattle prices to more closely reflect consumer demand, it may make sense to price cattle based on transactions that occur closer to the consumer (e.g. meat prices) rather than farther away (e.g. negotiated cash). It's important to note that all reference prices have advantages and disadvantages.

8) Can you speculate on what other types of transactions could be used to establish a base price?

- As indicated in the response to Question 7, many hog and pork market participants decided after weighing the advantages and disadvantages of different base price references that prices other than negotiated spot hog prices could be used to calculate base formula prices. While there are major differences between the pork and beef industries, there may come a time, perhaps sooner than later, that beef and cattle market participants choose to reference a transaction point different than the negotiated spot fed cattle market to determine formula base price. It is my understanding that in recent months some beef industry participants have already begun seriously exploring the viability of referencing beef cutout values to establish base price for fed cattle formula transactions.

Senator Rev. Raphael Warnock

1) According to data from the University of Georgia, cattle are raised in all 159 counties in my state and represent an annual farm gate value over $660 million. Despite this economic value, processing capacity for cattle is limited within the state.

   a. What barriers, both capital barriers and regulatory barriers, prevent the expansion of regional processing capacity in a state like Georgia?

- The upfront cost of building a new or expanded plant is extremely expensive. Industry sources estimate that a new plant costs roughly USD 100,000 to USD 120,000 per head of daily capacity. Increasing construction costs over the past year likely put current costs near or even above the high end of that estimate. Putting together and allocating that kind of capital is a high-risk, complex exercise, particularly for a potential newcomer.

- Food safety inspection and environmental regulation are two of the more complex and costly regulatory requirements facing any new or existing meat processing facility.

- The demand for locally produced, niche market food stems from a small, but growing segment of US consumers. This segment of consumers may very well present opportunities for some cattle producers and small processors within local supply chains.

- However, it is critical to understand why cattle feeding and cattle slaughter have historically been very limited in the southeastern US. Southeastern states, such as Georgia, have large cow-calf industries, but other regions are better suited to cattle feeding. For example, the high plains have a drier, more arid climate, which cattle thrive in, while the western corn belt has abundant supplies of feedstuffs such as corn. It was discovered more than a hundred years ago that it is more economical to transport beef rather than cattle, thus slaughter facilities are located within cattle feeding regions.

b. How can Congress most effectively address these barriers to support economic opportunities in rural Georgia?

- In my opinion, the actions that will be most effective over the long-run are providing technical assistance and improving market education, both in the realm of consumer and market research and the requirements of successfully building and operating a small processing facility.

- Building a successful meat processing company is not just about building a facility and conducting operations, it is about building a successful business model. That means understanding meat consumers and livestock suppliers to create a profitable marketing and procurement strategy. A better organized and communicated business strategy is also likely to attract more equity investment and/or more favorable lending.

- I do believe there is opportunity to build successful businesses centered around evolving consumer demands. Yet, there is a point where beef industry processing capacity expansion goes too far to withstand cyclical periods of tight cattle supplies. Support for new packing capacity that is given too freely, without enough private risk, and with disregard to drought risks and long-term market fundamentals, may invite over-expansion, putting all market participants in jeopardy, particularly new entrants.

Senate Committee on Agriculture, Nutrition, and Forestry
Examining Markets, Transparency, and Prices from Cattle Producer to Consumer
June 23, 2021
Questions for the Record
Dr. Mary K. Hendrickson

Senator Tina Smith

1) ***The recent JBS cyber-attack highlighted the concentration in the meat processing industry. The cyber-attack resulted in meatpackers slaughtering 22 percent fewer cattle than the prior week.***

   In late May, the University of Minnesota Food Protection and Defense Institute warned the Agriculture Department the dangers of cyber- crimes could play on our food supply chains.

   The work of the University of Minnesota Food Protection and Defense Institute shows how important investments in academic research is to showing how even small kinks in the supply chain can wreak havoc on the entire system – from farm to packer to grocery store or restaurant.

   The federal government uses research to decide where to make future investments in order to protect farmers and supply chains. Why should the USDA prioritize research on how consolidation has impacted farmers and consumers?

To be blunt, we have to understand that our consolidated food and agriculture system is precarious, with little of the redundancy of form and function that we need if we are going to provide food and fiber for humanity in the face of on-going systemic failures and future shocks. Enough of the right kind of food and water is necessary for every human being on this planet. If we are going to create food systems that can sustain us, our communities, and the planet into the future, it is imperative that we prioritize research on the multi-faceted and interconnected impacts of consolidated food and agriculture on farmers, workers, communities, and ecologies. By creating a transdisciplinary understanding of how consolidated agriculture and food systems impact everything from soil health to children's health, from farmer and worker livelihoods to the ability of rural residents' to enjoy their property, from water quality to nutritional quality, we can better engage all of us in proposing solutions that will continue to keep everyone fed while protecting the natural resources on which our lives depend.

Senator Rev. Raphael Warnock

1) ***Dr. Hendrickson, you have focused your career on understanding the relationship between competitive markets, farmers, and rural communities. In your testimony, you discussed the resiliency that local market participants were able to display in the early days of the COVID-19 pandemic.***

a. ***What specific attributes of local markets allowed these farmers and market participant to be nimble while the broader agriculture supply chain suffered major disruptions*?**

Dawn Thilmany and co-authors suggested that local and regional food system actors had strong social capital, particularly bridging social capital, which they could leverage as they responded to the extreme shock of the pandemic.[1] Social capital consists of both "bonding" and "bridging" capital, where the former is developed within existing networks, while the latter helps to bridge between networks, groups, communities, and institutions. Investments in both kinds of social capital can help groups and communities respond to natural, social or economic shocks such as the pandemic. As the authors argue on page 87, local and regional food system actors had "the potential to generate both bridging and linking social capital through facilitating connections between producers, consumers, and small food businesses, as well as public health stakeholders such as university extension, government agencies, and nongovernment organizations (NGOs)." In addition, local and regional food system actors were nimble and connected to their supply chain partners, allowing them to rapidly innovate.[2] These actors had the flexible management and relationships to quickly switch distribution channels or production choices.

An example of this pivot is Gunthorp Farms in Indiana, which provided pork, poultry and other meat products to a variety of restaurants and food services from Illinois to Florida. Greg Gunthorp, owner of the business, told me that the almost total disappearance of food service markets upon which his business depended initially appeared catastrophic. However, he had a large human capital base, flexibility in equipment, and the management ability to change processing and packaging in his USDA inspected on-farm slaughter and processing plant, allowing him to switch to individual retail customers and grocery stores. He has since made further changes in his livestock operation to continue diversifying markets and distribution channels. While the entire process was stressful and difficult, he is still in business while retaining his employees and keeping them safe.[3]

It is also important to note that local and regional food systems are focused on their communities and regions, producing food and marketing food closer to home rather than responding to national or global markets. This builds in redundancies and fail-safe mechanisms across the country. We already knew that transportation is one of the first things to shut down in a pandemic; the distributed nature of local/regional food systems allowed them to continue production and distribution during COVID-19. Food system redundancies also have the potential to limit the size and scale of food safety failures,[4] or to provide food during natural disasters.[5]

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[1] Thilmany, D., E. Canales, S. Low, and K. Boys. 2021. "Local Food Supply Chain Dynamics and Resilience during COVID-19." *Applied Economic Perspectives and Policy* 43(1): 86–104. doi:10.1002/aepp.13121
[2] Ibid.
[3] See more information about Gunthorp Farms at https://gunthorpfarms.com/ .
[4] DeLind, Laura B., and Philip H. Howard. 2008. "Safe at Any Scale? Food Scares, Food Regulation, and Scaled Alternatives." *Agriculture and Human Values* 25(3):301–17. doi: 10.1007/s10460-007-9112-y.
[5] Scott Marlow from RAFI-USA (https://www.rafiusa.org/) said that when Hurricane Matthew hit North Carolina, Simply Natural Creamery was the only bottled milk in the local stores for over a week, despite being directly in the eye of the hurricane. Because they were grass fed, they didn't lose their feed supply, and could keep cows happy and fed during the disaster. Government programs helped this business to invest in resiliency. Prior to the hurricane, the

b. ***How can Congress better support small-scale farmers who participate in local and regional food markets?***

There are two prongs to support farmers and food business engaged in local and regional food systems. The first is to ensure competitive markets as these systems will not flourish without meaningful and lasting competition policy. One negative example in this vein is what happened to the market for organics in the United States. Largely developed by small-scale producers, my colleague Philip Howard notes that the adoption of a national standard for certification "helped to catalyze scores of acquisitions of pioneering organic brands by larger food processors and venture capitalists. These trends have only intensified, to the point that nearly all of the 30 largest processors in North America have acquired organic brands. In addition, the scale of transactions has increased, such as the acquisition of natural/organic foods giant WhiteWave by Danone for $12.5 billion (July 2016). Some processors that resisted enormous buyout offers for many years have more recently been acquired for hundreds of millions of dollars (Pacific Foods, Applegate Farms, and So Delicious/Turtle Mountain/Purely Decadent)."[6] Similar pressures to scale-up alternative food systems risks alienating consumers who were attracted by the authenticity of such systems.[7]

The second prong is to provide the support necessary to keep local and regional food system enterprises flexible and nimble. The last thing we want to do is mandate rigid regulatory procedures, or to promote scale and efficiencies that mimic the dominant system at the expense of flexibility and nimbleness. Two recent policies come to mind as the kind of policies needed to keep the vitality of these systems. One is the creation of the umbrella LAMP program as part of the 2018 Farm Bill. Another is the recently announced investments in small and very small meat processing plants as part of the larger investment in expanding meat and poultry processing capacity. Such policies are a good start, but attention also needs to be paid to regulatory flexibility, especially in terms of food safety.[8] In addition, more consideration should be given to providing accessible technical assistance across multiple federal agencies in a coordinated fashion. Farmers, entrepreneurs and community leaders often need help with completing grant and loan applications or obtaining help with food safety protocols.

c. ***Your testimony touched on the relationship between market concentration and rural social and economic vitality. How does increased competition within agricultural markets affect rural well-being, and what recommendations do you have for Congress on how to better support the well-being of our rural constituents?***

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business had received two USDA Value-Added Producer Grants that had allowed them to develop bottling and ice cream production.

[6] See diagram and discussion at https://philhoward.net/2020/09/24/organic-processing-industry-structure-2020/.

[7] DeLind, Laura B. 2011. "Are Local Food and the Local Food Movement Taking Us Where We Want to Go? Or Are We Hitching Our Wagons to the Wrong Stars?" *Agriculture and Human Values* 28(2):273–83. doi: 10.1007/s10460-010-9263-0. Mount, Phil. 2012. "Growing Local Food: Scale and Local Food Systems Governance." *Agriculture and Human Values* 29(1):107–21. doi: 10.1007/s10460-011-9331-0

[8] Thilmany, D., E. Canales, S. Low, and K. Boys. 2021. "Local Food Supply Chain Dynamics and Resilience during COVID-19." *Applied Economic Perspectives and Policy* 43(1): 86–104. doi:10.1002/aepp.13121

Increased competition in agricultural markets can expand, rather than constrain, choices for farmers, workers, communities and consumers that can ultimately provide sustainable rural livelihoods and protect our natural capital. The constrained choices that are currently presented to farmers, workers and rural residents in our consolidated system often end up damaging communities and ecologies. For instance, many U.S. farmers feel forced into specialized monocultures that separate livestock from crop production both at the farm level and at larger regional geographies with widely documented negative ecological impacts such as soil loss and degradation, changes in water quality and the rise of herbicide resistant weeds.[9] Workers can also face constraints from consolidated agriculture where employment options are limited and accompanying working conditions can be problematic. Ian Carrillo and Annabel Ipsen (2021) document the limited choices that kept meat-packing workers at their jobs, despite risking high-rates of COVID-19 infection and illness and explain how infections spread through communities from these workplaces. The authors use the idea of "precarity convergence… to capture the notion that consolidating and shifting risk onto vulnerable peoples and places increases possibilities for destabilization [of systems]."[10] Finally, rural property owners who also reside in rural areas often feel state and federal government prioritizes the accumulation of profit over other property rights such as the right to enjoy their property free of nuisance (e.g. smell, herbicide drift, water contamination), the right to enjoy property based on nostalgia, or the right to procure food from their property for sustenance.[11]

What are examples of the benefits of increased competition in agricultural markets? Nebraska farmers, Keith and Brian Berns, experimented with cover crops through a USDA Sustainable Agriculture and Education farmer-rancher grant in 2007. However, cover crop seeds were hard to locate because none of the largest seed firms produce them, a situation that continues to this day.[12] This led the brothers, located in Bladen, NE (population 175), to establish Green Cover Seed, a rural business that now employs over 45 people and ships cover crop seed all over the U.S. – enough to plant a million acres of cover crops.[13] The business provides needed employment in an area hard hit by the 1980s Farm Crisis, and reinvests in community in a

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[9] See the following: Schewe, Rebecca L., and Diana Stuart. 2017. "Why Don't They Just Change? Contract Farming, Informational Influence, and Barriers to Agricultural Climate Change Mitigation." *Rural Sociology* 82(2):226–62. doi: 10.1111/ruso.12122; Stuart, Diana. 2009. "Constrained Choice and Ethical Dilemmas in Land Management: Environmental Quality and Food Safety in California Agriculture." *Journal of Agricultural and Environmental Ethics* 22(1):53–71. doi: 10.1007/s10806-008-9129-2; Aguilar, Jonathan, Greta G. Gramig, John R. Hendrickson, David W. Archer, Frank Forcella, and Mark A. Liebig. 2015. "Crop Species Diversity Changes in the United States: 1978–2012." *PLOS One* 10(8):e0136580

[10] Carrillo, Ian and Annabel Ipsen. 2021. "Worksites as Sacrifice Zones: Structural Precarity and COVID-19 in U.S. Meatpacking." *Sociological Perspectives* in press. https://journals.sagepub.com/doi/10.1177/07311214211012025

[11] Ashwood, Loka. 2018. *For Profit Democracy: Why the Government Is Losing the Trust of Rural America.* New Haven, CT: Yale University Press; Ashwood, Loka, Danielle Diamond, and Fiona Walker. 2019. "Property Rights and Rural Justice: A Study of U.S. Right-to-Farm Laws." *Journal of Rural Studies* 67(March):120–29. doi: 10.1016/j.jrurstud.2019.02.025.

[12] The lack of interest among the dominant transnational seed firms in producing cover crop seeds could be attributed to the complexity and context-specific nature of production or other such reasons. I might also speculate that cover crop seed production is still in the innovative, but risky, development stage which suggests large firms might hold off investments and instead seek to acquire cover crop seed companies as they mature.

[13] See information about Green Cover Seeds at https://greencover.com/about/. Information about USDA's North Central Region SARE program can be found here: https://northcentral.sare.org/. The specific grant referenced here can be found at https://projects.sare.org/sare_project/fnc07-653/.

variety of ways, including their Milpa Garden program.[14] White Oak Pastures, in Bluffton, GA, practices multispecies grazing – a model that will not fit a specialized, concentrated meat supply chain – and commits to a zero-waste system of processing animals on farm for sale locally and nationally. More importantly, they claim that "the impact of our farm on this small town of 100 citizens has been dramatic. We now employ 155+ good people who are eating, shopping, and living in Bluffton."[15] My own research with agricultural economists shows that local food systems can provide small, positive economic impacts to communities,[16] and that farmers oriented to local food systems are motivated by pride, satisfaction with their products and the contribution that the local foods market can provide to the quality of life in their community.[17]

In essence, increased competition in agricultural markets can lead to innovation, provide meaningful jobs for farmers and rural residents, contribute to social capital, provide choices for workers and consumers, and above all protect against shocks. Researchers interested in comprehensive rural wealth argue that we need ways to measure net effects of changes in social, natural, cultural, political, and human capital in addition to financial capital.[18] Policy-makers could prioritize these other capitals in their policies in an effort to balance out the laser focus on financial capital (profit) and efficiency.

In addition, my research – and research by other rural sociologists[19] – suggest that policy-makers should seek ways to democratize food and agriculture by fashioning alternatives and policies that seek to:

1) Curb and prevent monopolistic tendencies in agrifood systems within all sectors and at all scales through diverse policy instruments from contract to competition law, including all titles of the Farm Bill.
2) Shine a racial lens in scholarship on agrifood system power and consolidation that highlight the myriad ways that economic power has often been built within and upon other relationships of power, providing new insights into potential remedies.
3) Adopt a stance prioritizing resilience and redundancy in business arrangements as well as policies.
4) Rethink core assumptions such as efficiency and property rights in ways that acknowledge their social and ecological consequences.
5) Encourage the development of alternative production and consumption arrangements that root producers and consumers in place, offer producers and consumers more choices at

[14] https://www.agriculture.com/use-soil-health-to-feed-your-neighbors
[15] https://whiteoakpastures.com/pages/local-food
[16] Jablonski, Becca, Mary Hendrickson, Steve Vogel, and Todd Schmitt. 2017. "Local and Regional Food Systems Driving Rural Economic Development." Pp. 57–78 in *Harvesting Opportunity: The Power of Regional Food System Investments to Transform Communities*, edited by A. Dumont, D. Davis, J. Wascalus, T. C. Wilson, J. Barham, and D. Tropp. Washington, D.C.: Federal Reserve and USDA. Rossi, James D., Thomas G. Johnson, and Mary Hendrickson. 2017. "The Economic Impacts of Local and Conventional Food Sales." *Journal of Agricultural and Applied Economics* 49(04):555–70. doi: 10.1017/aae.2017.14.
[17] See survey at https://localfoodlinkages.files.wordpress.com/2011/11/lfl-producer-summary-newsletter.pdf.
[18] Pender, J., T. Johnson, B. Weber and J. Fannin. 2014. *Rural wealth creation: introduction and overview*. Routledge. Cornelia Flora and Jan Flora have explored community capitals extensively, see https://agecon.unl.edu/cornhusker-economics/2015/community-capitals-framework.
[19] See more at https://farmactionalliance.org/concentrationreport/ and also at https://www.ruralsociology.org/research-and-policy-briefs.

different scales, afford more opportunities for communities to develop self-reliance, and reduce society's dependence on dominant agrifood firms.

6) Rethink what kinds of crops, livestock and even sectors of the food system are subsidized, and how they are subsidized, in a transparent iterative process that allows citizens to truly weigh their benefits and consequences.

Senator Roger Marshall

1) Is the negotiated or spot market the only way to discover a base price for cattle?

2) Can you speculate on what other types of transactions could be used to establish a base price?

Unfortunately, these technical questions regarding thinning markets are outside the area of my expertise and I cannot provide answers to these specific questions.

I would, however, point to some other market structures that could help in thinking about these questions. Outside of commodity markets, there are other examples of market structures that are based on rewarding all actors in the food supply chain, such as building values-based value chains for an agriculture and food of the middle.[20] These kinds of food supply chains are "formed through creating alliances between producers and their supply chain partners to distribute significant volumes of high-quality, differentiated food products while maintaining transparent relationships and fair distribution of revenues." [21] Note that partnerships are key, and that power must be shared through the supply chain for transparency and fairness to occur.

[20] Agriculture of the Middle refers to those farmers operating in between direct markets and commodity marketing options, and how distinguish their products based on quality, stewardship and fairness. "Agriculture of the Middle projects create strategic alliances among farmers, processors, distributors and retailers to reach consumers who care about the impacts of their food purchases." See http://agofthemiddle.org/.

[21] Ostrom, M., Master, K.D., Noe, E. and Schermer, M. 2018. Values-based Food Chains from a Transatlantic Perspective: Exploring a Middle Tier of Agri-food System Development. *The International Journal of Sociology of Agriculture and Food*. 24, 1 (Jan. 2018). DOI:https://doi.org/10.48416/ijsaf.v24i1.112.

THE FOOD SYSTEM: CONCENTRATION AND ITS IMPACTS

A Special Report to the Family Farm Action Alliance

by

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Highlights

- Consolidation is happening across all sectors in the food system, at the national and global levels, and has resulted in a particular set of power relationships. This has resulted in numerous negative impacts on farmers, workers and their communities as well as consumers, who have experienced higher prices and less innovation.
- These power relationships impact our food system democracy and are particularly concerning for marginalized voices and communities.
- Crop acreage is consolidating in larger farms, while the sales midpoint for livestock has starkly increased between 1987-2017. For hogs, the midpoint of sales has increased from 1,200 to 51,300 and in dairy, the herd size has gone from 80 to 1,300 cows.
- New processes of integration are occurring. In U.S. pork production, large pork producers own processors and grain elevators, while supermarket behemoths Walmart and Costco are using backward integration in dairy, beef and chicken. Kroger continues its strategy of backward integration in dairy and is supplying competing retailers. In addition, asset management firms are increasing their investments in food and agriculture, potentially reducing competition via common ownership of most of the leading firms in a number of industries.
- In a consolidated system, farmers, workers and the environment are interconnected, meaning that when problems hit one part, they quickly engulf others. For meatpacking, the coronavirus hit workers, and the human tragedy of over 40,000 workers with COVID-19 (189 deaths) quickly became a farm and environmental disaster. Besides the financial hit for farmers who may have euthanized between 300,000 to 800,000 hogs and 2 million chickens, the waste of the embodied resources (28,500 tons of pork, .02% of the 2018-2019 corn crop) is stunning. The inability to control the drift of the herbicide dicamba has divided communities, damaged livelihoods and ecologies, and illuminated the inability of agencies to regulate dominant firms.
- Agrifood consolidation reduces farmer autonomy and redistributes costs and benefits across the food chain, squeezing farmer incomes. In 2018, farmers whose primary occupation was farming but with sales of less than $350,000 had a median net income of -$1,524. An agriculture system without people has depopulated rural communities causing a collapse in social relationships. Communities of color bear a disproportionate burden of exposure to excessive pesticide use or large animal confinement operations.
- Consolidation obscures ownership to the point that farmers and consumers frequently have far fewer options in the market than it appears. For instance, Anheuser-Busch InBev (Belgium) has acquired 17 formerly independent craft breweries since 2011, although these ties are not indicated on the product labels. Seed companies label the same seeds under multiple brands while products from a single processing plant may be sold under as many as 40 different brands.
- Because political democracy rests on economic democracy and vice versa, our laser focus in scholarship, praxis and policy must be on democratizing the agrifood system at local, state, regional and national scales. Working together, policy-makers, farmers, workers and communities need to fashion alternatives and policies that can help to curb monopolistic tendencies in the agrifood system, to shine a racial lens in scholarship on agrifood system power and consolidation, to prioritize resilience and redundancy, to rethink core assumptions such as efficiency and property rights, and to encourage the development of alternative production and consumption arrangements.

Introduction

In this paper, we report the current state of concentration in the food system in the United States and globally, examine the consequences of that concentration – which have become very evident with the COVID-19 crisis – and suggest avenues for action and transformation of the food system. Our collective scholarship has long been concerned with increasing concentration in agriculture and food because of the impact of the associated economic and political power has on democracy, equity, ecology and community.

In the last 150 years of relatively temperate and stable climate, we have come to rely on a high-yielding, mechanized, capital-intensive system of agriculture and food that operates at a global scale, impacting local places around the globe unevenly. Lyson (2004) succinctly illustrated how technological revolutions including mechanization, the use of chemicals, and biotechnology made agriculture more specialized, disconnecting food production and consumption from particular places and their communities. Big data/digitalization of agriculture continues this trend (Mooney 2018; Rotz et al 2019). These revolutions tend to deskill agrifood labor, rewarding the most powerful firms and exploiting vulnerable labor forces. Our fossil-fuel dependent transportation systems have enabled regional specialization across the globe – for example, fruit and vegetable specialization in places such as Spain, Kenya or Mexico, or highly industrialized grain production in the American Midwest or Eastern Europe. These processes have altered producers' relationship with their land and communities, often marginalizing the labor process across the food chain, and changing the relationship of consumers with food acquisition and preparation – transforming ecological and community relationships in the process.

These changes have paved the way for the current social and economic structure of our agrifood system. A capital-intensive system rewards those with access to capital (that is money), and marginalizes those without it. This has become particularly important in an increasingly unequal society, where money and power have accrued to a few, predominantly white households, with agriculture following the same trends. More importantly, money and wealth that is increasingly concentrated in the hands of a few risks the notions of dispersed power at the center of Western democracies (Wu 2018).

This concentration of ownership, wealth and power is particularly apparent in the agrifood system where just a few companies dominate almost all aspects of food production. The social and ecological risks associated with our current agrifood system – rising levels of food insecurity and hunger, ecological degradation – are directly related to who has the power to make decisions in food and agriculture. Who decides where and what food will be produced, who produces it and how, and who will get to eat it? We observe that these decisions have increasingly migrated from a more community or public arena (c.f. Weis 2007; Wilkinson 2017) into the realm of private decision-making that largely involves those within the biggest firms, including their management teams, boards of directors and shareholders. Those decision-makers have their eye on increasing their power relative to other firms, and although this may increase their profits, it does not usually align with enhancing the public good. We need only look at the agrifood sector during the COVID-19 pandemic. In a time where the World Food Programme warned that the number of hungry people in the world will double to 270 million people[1] and dairy farmers dumped

[1] https://www.wfpusa.org/coronavirus/

their milk while facing bankruptcy,[2] grain traders like Bunge and ADM reported healthy profits[3] and privately held Cargill returned record profits to the family that constitutes their shareholders.[4]

Consolidation and concentration are key features across the food system, from aggregating farmland holdings to seeds and fertilizers to processing and manufacturing to distributing and retailing. We have seen horizontal, vertical and global integration within and across the supply chain, across commodities and food sectors, and at multiple scales – from regional markets to global markets. The food system is not unique in the way capital and decision-making is concentrated. Studies show that concentration is a systemic rather than isolated feature of the broader economy, and within agrifood itself (Hendrickson, Howard and Constance 2019; Khan 2020). Recent authors of *The Curse of Bigness* (Wu 2018) and *Goliath* (Stoller 2019) argue that concentrated political and economic power threatens our democracy and must be addressed. From our perspective, it may be even more urgent to address within the agriculture and food system, both in the U.S. and globally, in order to ensure that humanity can be fed in the future.

The distribution of power in the food system, embodied in the power to make decisions about what food is produced, how, where and by whom, as well as who gets to eat – and what they get to eat, is our major focus of concern because of the negative impacts of those decisions to farmers, workers, communities and our ecology. Without a rebalancing of economic and political power within the global food system, humanity confronts a crisis over our very sustenance.

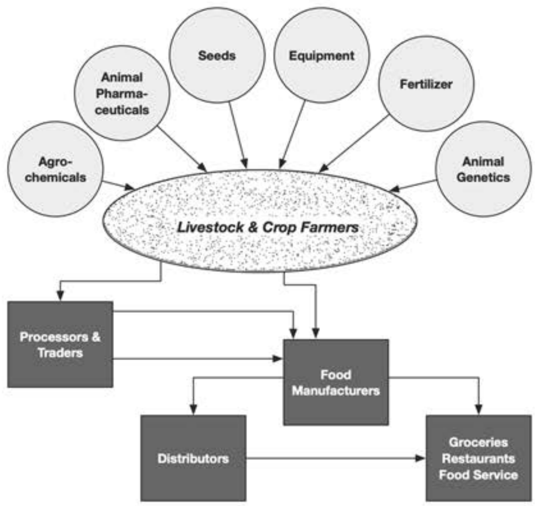


Figure 1: Illustration of different points of consolidation and control in the agrifood system. There are officially close to two million farms in the U.S., but less than half of them consider farming their primary occupations. Still, these million farmers must buy seeds, fertilizers and chemicals from the same few firms as many farmers around the world do, while selling to just a few food processors and traders who operate in the U.S. and globally, who then move food further down the supply chain until it eventually winds up in a grocery store where a majority of us purchase our food.

[2] See https://www.detroitnews.com/story/business/2020/07/03/dairy-farmers-dumping-milk-worldwide-brink-crisis/5372654002/ or https://www.cnn.com/2020/06/08/perspectives/cabot-dairy-farmers-pandemic/index.html
[3] See *Successful Farming:* https://www.agriculture.com/markets/newswire/grain-trader-adms-profit-doubles-on-boost-from-agri-nutrition-businesses and https://www.agriculture.com/markets/newswire/update-3-bunge-raises-outlook-as-robust-agribusiness-powers-profit-beat
[4] https://www.bloomberg.com/news/articles/2020-07-31/cargill-pays-record-dividend-to-family-owners-after-profits-boom

Current State of Concentration in Key Products and Market Channels

Recent years have seen continued consolidation in numerous food and agricultural industries. These patterns stem from mergers and acquisitions among formerly separate firms, as well as the exit of other competitors. The result is more concentrated markets, or sales that are dominated by fewer and larger firms. A simple measure of concentration is a ratio, typically the combined share of the top 4 firms, or concentration ratio 4 (CR4). A limitation of the CR4 is that it only measures horizontal changes, and firms are increasingly integrating vertically, such as by acquiring upstream suppliers or downstream customers. In addition, leading firms are rapidly integrating globally, and it is more challenging to measure concentration worldwide than in a single national market.

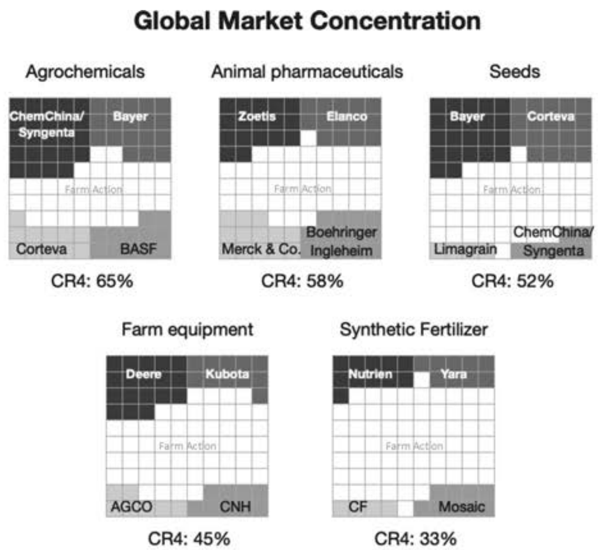
One significant result of these changes is increasing foreign ownership of formerly U.S.-headquartered firms, sometimes with substantial foreign government support. Another is that firms have become dominant across industries previously separated in ownership, such as seed and agricultural chemical sales, or processing of beef and soybeans. This has been accompanied by rapid trends toward larger farms and a declining number of farms. In this section, we show consolidation in key livestock and crop sectors, as well as levels of concentration for key products and market channels in both the US and global arenas.

Agricultural Inputs and Data at the Global Level

There are approximately 2 million farmers in the US, but most of them buy inputs from a very small number of firms. These are the same firms that millions more farmers around the world increasingly rely on – especially for agrochemicals, animal pharmaceuticals, seeds, farm equipment and fertilizers. The leading firms and their global market shares are shown in the figure below. Four out of five of these input industries have a CR4 of over 40%, a level that may be conducive to price signaling when observed in national markets – but we emphasize that these firms are now dominant in *global* markets. National and more specific market segments may be even more concentrated, such as the two leading firms combining for 70% of corn and 61% of soybean seed sales in the US (Maisashvili et al. 2016), or the leading firm controlling more than half the sales of heavy tractors and combines in the U.S. (Horton and Kirchmeier 2020).

Recent changes in the agrochemical industry have reduced the number of dominant firms from six to just four, and ownership has changed from three U.S.-headquartered firms to just one. Since 2015, the U.S. firms Dow and DuPont merged and spun off an agriculture focused firm named Corteva, ChemChina acquired Syngenta (Switzerland), and Bayer (Germany) acquired Monsanto (U.S.) and divested some seed divisions to BASF (Germany). Note that all four of these remaining firms are also dominant in seeds – BASF is currently ranked the fifth largest in global seed sales.

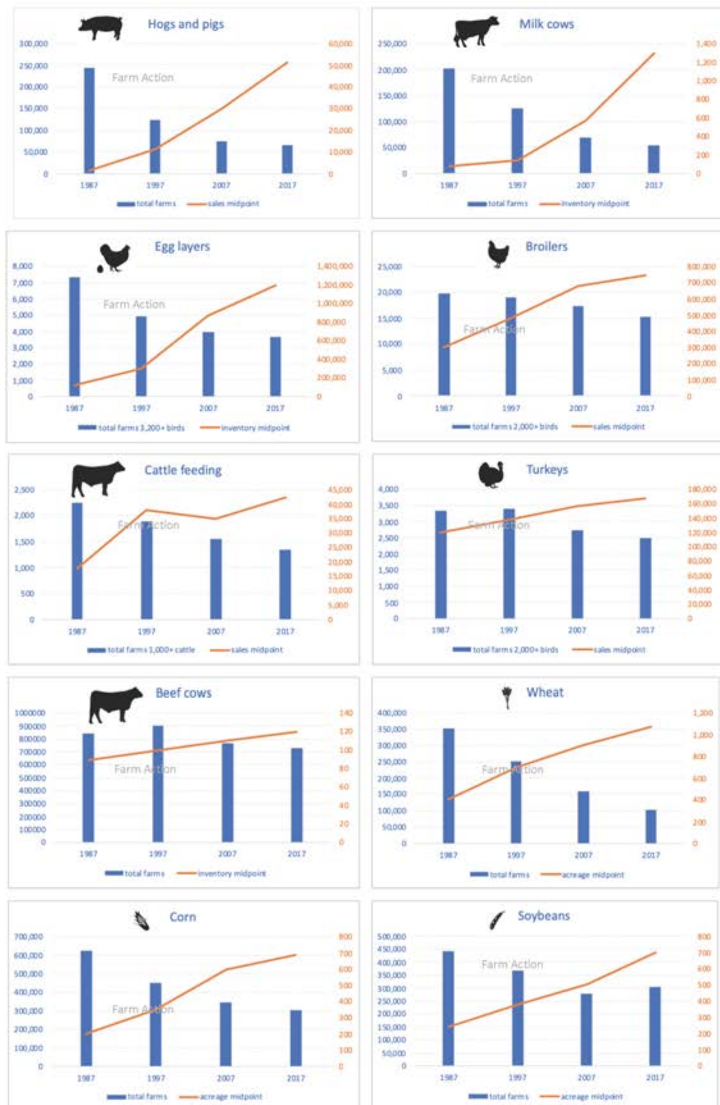
Other inputs that farmers rely on include animal genetics from large seedstock banks used both by integrators and farmers breeding by artificial insemination. Although this industry is much smaller in comparison to those discussed above – approximately $5 billion in annual sales – it is even more concentrated. Globally, just two firms control 99% of turkey genetics, 94% of laying hen genetics, and 91% of broiler genetics, and just three firms control 47% of swine genetics (ETC Group 2013; Shand and Wetter 2019). Two European firms, EW Group and Hendrix, are each among the top firms in three out of four of these species.



Farm Level and Producer Consolidation

The figure below indicates how consolidated agriculture has become at the farm level since the 1980s. The midpoint – where half of the farms have smaller numbers and half have larger numbers – has increased 50-fold for hog farms, and a median dairy farm is 16 times bigger in 2017 than in 1987. MacDonald et al. (2020) show that dairy has been consolidating at the farm level faster than any other sector in recent years, with the midpoint herd size increasing from 80 in 1987 to 1,300 in 2017. In crop farming, the share of acres in farms larger than 2,000 acres has more than doubled in 40 years, from 15% to 37%, while the midpoint for all crop farms stood at 1,445 acres in 2017, up from 650 acres in 1987 (MacDonald 2020). MacDonald further notes (p. 6), "Almost all of that expansion came at the expense of farms with 100–999 acres, whose share fell from 57% of cropland acres to 34% over thirty years. The net effect was that 85–90 million acres of cropland shifted out of the midsize class and into the largest acreage class over 1987–2017."

Consolidation in U.S. Livestock and Crop Sectors, 1987 to 2017



Half of all animals are on farms with at least as many animals as the midpoint, and half are from farms no larger than the midpoint.

Half of all harvested crop acreage is on farms that harvest more, and half is on farms that harvest less

Data: USDA Census of Agriculture and MacDonald (2020). Author based midpoint calculations on confidential farm-level records from the USDA National Agricultural Statistics Service, Census of Agriculture Sales midpoint is number of head sold or removed, inventory midpoint is number of head in herd/flock.

Figure 3: Number of farms and mid-points of farm sizes for selected agricultural commodities.

These figures do not fully represent the scale of the very largest farms, such as dairies with 30,000 or more cows, and feed yards with 100,000 or more cattle. The top four cattle feeders have a total capacity of over 2.5 million head, as estimated from multiple sources, about 500,000 more than they had in *Cattle Buyer's Weekly* estimate in 2015.[5] In addition, the four largest pork producers have between them nearly 1.8 million sows in the U.S..

Table 1: Largest U.S. Cattle on Feed Producers	**One-time Capacity**	**Supplier to**
Five Rivers (Pinnacle Asset Management)	980,000	JBS[6]
Cactus Feeders	600,000[7]	N/A, possibly Tyson
Friona Industries	577,000[8]	Cargill[9] and others
Green Plains	355,000	Cargill[10]
None of the 3 largest packers feed their own cattle outright after the sale of Five Rivers sale in 2018. Note that feedlots likely turn capacity twice per year, so 600,000 one-time capacity equates to about 1.2 million head per year. In 2015, Cattle Buyers Weekly pegged the 4 largest feeders as JBS Five Rivers, Cactus Feeders, Cargill and Friona, with a total capacity of 2.06 million.		

Table 2: Largest U.S. Pork Producers	# Sows 2019	# Sows 2018	# Sows 2010
Smithfield Foods (WH Group)	930,000	950,000	876,804
Seaboard Farms	345,000	340,000	213,600
Pipestone System	282,000	251,000	140,000
Iowa Select Farms	242,500	235,000	157,500
Source: Successful Farming Pork Powerhouses 2019 and 2010.			

Processing and Trading

The largest firms may pick up and discard divisions like a game of trading cards, with a goal of becoming more dominant in specific markets. The figure below indicates the names of processing firms and their market shares for a number of key products.[11] Some industries that were already highly concentrated decades ago, such as beef processing, have experienced

[5] https://r-calfusa.com/wp-content/uploads/2013/04/160125-Top-30-Cattle-Feeders.pdf
[6] https://www.agprofessional.com/article/sale-worlds-largest-cattle-feeder-jbs-five-rivers-finalized
[7] https://tscra.org/care-for-the-cattle-comes-first-at-cactus-feeders/
[8] https://www.drovers.com/article/friona-ind-buys-two-cattle-empire-feedyards
[9] https://www.cargill.com/news/releases/2016/NA31962055.jsp
[10] https://www.drovers.com/article/cargill-exits-cattle-feeding-sells-two-yards
[11] Addendum - May 6, 2021: This report gathers market share data from a variety of secondary sources to analyze the concentration ratio of the top four firms, as well as the firm names. The USDA also collects and reports data for livestock markets, based on slaughter numbers collected through the Food Safety and Inspection Services (FSIS). The USDA reports the concentration ratio of the top four firms, but for privacy reasons does not disclose firm names. The report's authors triangulated a number of secondary data sources to provide the most robust picture of agricultural markets. To further this goal we additionally report the USDA figures for the concentration ratio of the top four firms for six categories of livestock in Figure 5. Note that USDA separates out steer & heifer slaughter from cow & bull slaughter while other sources report figures for all "beef" slaughter combined.

ownership changes. This has resulted in two firms headquartered in Brazil – JBS and Marfrig – taking the first and fourth place in market share, respectively. Cargill remains in third place for beef and soybean processing, but sold its pork division to JBS in 2015 – due to its inability to move up from a fourth place position in this segment, according to some analysts.[12] Similarly, Tyson sold its chicken divisions in Brazil and Mexico to JBS in 2014, rather than trying to compete in markets where JBS had strong government support. These changes contributed to JBS overtaking Tyson to become the world's largest meat processor. Smithfield was once the largest processor in the pork segment, for both the U.S. and the world, until it was acquired by the WH Group in 2013 with backing from the government of China.

Beer is a rare industry that is experiencing decreasing concentration in the U.S., in part due to growing competition from craft breweries. The leading firm, Anheuser-Busch InBev (Belgium), has responded by acquiring 17 formerly independent craft breweries since 2011, although these ties are not indicated on the product labels (Howard 2018). The bread industry is consolidating quite rapidly via acquisitions, however, and the leading firm, Grupo Bimbo, is headquartered in Mexico.

Grain trading has long been dominated by just a few firms – ADM, Bunge, Cargill and Louis Dreyfus – but in recent years, the Chinese firm, COFCO, has joined their ranks. COFCO is China's largest state-owned agrifood company (Belesky and Lawrence 2019). It has become the second largest global grain trader in just a few years, after acquiring firms in the Netherlands and Hong Kong, and surpassing Dreyfus, Bunge and ADM.

Retail and Distribution

The supermarket industry rapidly consolidated beginning in the late 1990s. These trends for convenience stores and food distributors have accelerated more recently. The top firms have been very active in making acquisitions, such as 7-Eleven's purchase of 3,900 stores from Speedway in 2020 and Sysco acquiring half a dozen other distributors in 2019. Some newer forays from retailers include backward integration up the supply chain, particularly in dairy and meat processing.[13] Kroger, which has long been vertically integrated, may produce up to 90% of fresh milk for its stores, and even sells some of its supply to a competitor, Food Lion.[14] While food retailers have long sold private-label grocery brands,

> ***Common Ownership Across Products and Market Channels***
>
> Asset management firms are increasing their shares in multiple firms in the same sector, and this "common ownership" or "horizontal shareholding," in markets that are already highly concentrated, may further reduce incentives to compete (Clapp 2019, Clapp & Purugganan 2020). BlackRock and Vanguard, for example, both own significant shares in at least five dominant firms in both meat and dairy processing, as well as all three leading soft drink firms, and all three leading cold cereal firms.

[12] https://www.nationalhogfarmer.com/marketing/cargill-jbs-deal-changes-pork-industry-landscape

[13] Howard (2016) documents that Kroger controlled 20 % or more of the milk supply in the St. Louis area by 1968.

[14] https://www.ey.com/en_us/consumer-products-retail/how-vertical-integration-is-impacting-food-and-agribusiness and two *Wall Street Journal* articles https://www.wsj.com/articles/walmart-kroger-bottle-their-own-milk-and-shake-

these moves may represent something different. Walmart has moved into integrating dairy and beef processing, developing its own supply chain for Angus beef, which includes partnering with Creekstone Farms in Kansas for slaughter and FPL Foods in Georgia for packing.[15] Costco, the third largest food retailer, set up their own poultry production and processing operation in Nebraska.[16] By doing so, the company may save 25 cents per rotisserie chicken, but it also gives them greater control over their supply chain to reduce uncertainty.[17]

up-american-dairy-industry-11595872190 and https://www.wsj.com/articles/retailers-are-bottling-their-own-milk-raising-pressure-on-dairy-companies-1507887002

[15] https://www.wsj.com/articles/walmart-to-develop-its-own-supply-chain-for-angus-beef-11556121364

[16]https://www.npr.org/2018/10/22/659561091/costco-builds-nebraska-supply-chain-for-its-5-rotisserie-chickens and https://civileats.com/2018/12/11/costcos-100-million-chickens-will-change-the-future-of-nebraska-farming/

[17] https://www.ey.com/en_us/consumer-products-retail/how-vertical-integration-is-impacting-food-and-agribusiness

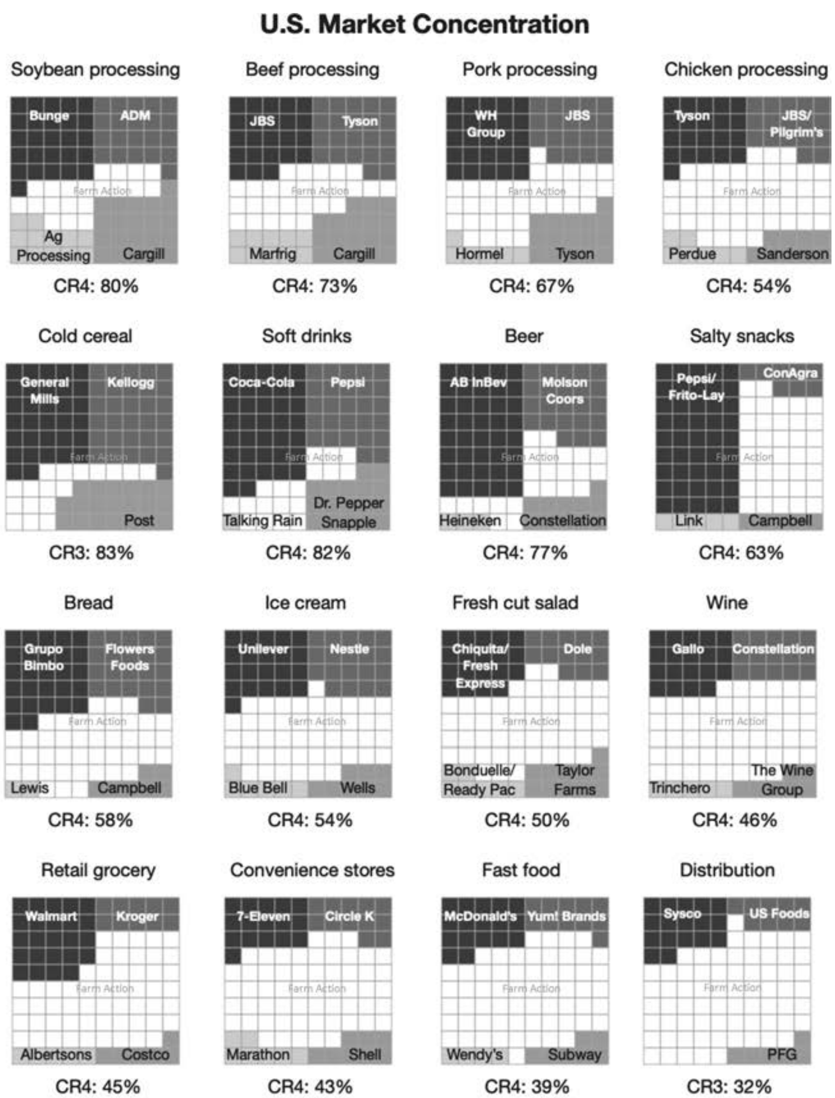


Figure 4: Concentration ratios for selected commodities, food processing/manufacturing, and distribution/retail channels.

Figure 5: Concentration ratios for livestock and poultry processing.

Impacts on Farmers, Workers, Communities and the Environment

The concentration and consolidation we have broadly outlined has often been justified on the basis of efficiency, despite failing to incorporate an enormous number of social, economic and ecological externalities when calculating such measures. Nearly 50 years ago, in a series entitled "Who Will Control Agriculture?," agricultural economists Briemyer, Guither and Sundquist (1973) warned that the changing organization of agriculture did not enhance the efficiency or productivity of the system and would exact social and psychological costs on farmers and society. In addition, some recent studies have failed to measure efficiency gains (nor price reductions) from consolidation in manufacturing (Blonigen and Pierce 2016). Defenders of the current monopolized system cite that consumer welfare has not been harmed,[18] yet consumer prices are "sticky," rising when costs for powerful processors and retailers increase, but less likely to fall when prices paid to farmers decrease (Shields 2010). Recently, a number of lawsuits point to multiple cases of price-fixing, including in tuna, and allegedly in chicken, beef and pork.[19] For those of us concerned with resilience, efficiency has often been the enemy of redundancy, which can provide fail-safe mechanisms, making systems more resilient. Here we present two cases – the meat industry and the widespread problems with the herbicide dicamba – to illustrate the fragility and interconnectedness of the dominant agrifood system.

The Meat Industry

Nowhere is this systemic vulnerability clearer than in the protein sector, which has been hard hit by the COVID-19 crisis, particularly in North America. Meat production, processing and consumption have risen steadily in recent years, part of the "meatification" of global society (Weis 2015; Winders and Ransom 2019). Increased meat consumption is a central component of the industrial diet developed in the United States (Winson 2013) and diffused globally, contributing to obesity epidemics throughout the world (Otero 2018). The feed/meat complex has developed with concerted cooperation between state and market actors through various subsidies and pro-business regulations (Howard 2019). Meatification, primarily the feed/cattle complex, is also a major contributor to greenhouse gas emissions (IPCC 2018). Meat processing is one of the most dangerous jobs in the United States, especially hazardous for immigrant groups with limited English-speaking skills and sometimes precarious legal status (GAO 2005; Choi and Constance 2019; Human Rights Watch 2005). The "chickenization" of the red meat industry has restructured meatpacking from a dangerous, but good paying, blue-collar, union job dominated by white males to an even more precarious working-class, non-union job, often staffed by marginalized female, immigrant, and refugee groups (Freshour 2019; Schwartzmann 2013; Stull 2019; Stull and Broadway 2005). Finally, "chickenization" is also restructuring the

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[18] Dorsey et al (2020 p. 862) are perhaps the latest to argue that "the elegant 'consumer welfare standard'… offers a rigorous, objective, and evidence-based framework for antitrust analysis."

[19] See summary of alleged price-fixing of pork at https://thefern.org/ag_insider/more-antitrust-lawsuits-hit-the-meat-industry-this-time-its-pork/, chicken at https://www.porkbusiness.com/article/three-poultry-execs-plead-not-guilty-price-fixing, and beef at https://www.agriculture.com/livestock/cattle/lawsuits-allege-price-fixing-by-big-beef-companies. The most recent case is a lawsuit by restaurant chain Bob Evans alleging price-fixing in poultry: https://www.meatingplace.com/Industry/News/Details/94274.

protein production sector away from open markets to contract farming, as captive supplies in beef (see Table 1) and contracting in pork further marginalize producers.

This protein sector clearly illustrates the complex interconnectedness of one industry. Recently, this sector revealed how worker vulnerabilities triggered by COVID-19 created crises in worker welfare, animal welfare and farmer livelihoods during the pandemic. In our consolidated farm and food system, farmers, workers and the environment are interconnected, meaning that when problems hit one part, they quickly engulf others. For meatpacking, the coronavirus hit workers, and a supply chain focused on efficiency quickly broke down. Below we focus on the impacts to workers, farmers and the environment of this one massive disruption that is a wake-up call to redesign the system.

Labor: According to reporting by Leah Douglas at the Food and Environment Reporting Network, over 40,500 workers in 417 meatpacking plants had tested positive for COVID-19 by mid-August, and 189 meatpacking have died from it (see Figure 5). Transmission of COVID-19 among workers has been rapid and difficult to control in almost all large-scale poultry, pork and beef processing plants in N. America, Europe and Latin America. For instance, the Centers for Disease Control (CDC) reported that in 14 states, 9% of meat and poultry processing workers were diagnosed with COVID-19 by the end of May. Close working conditions for long time periods, shared transportation to work, and shared (congregate) housing were highlighted by the CDC as potential causes. When industry CEOs such as John Tyson warned of a meat supply crisis due to plant shutdowns, President Trump issued an executive order that declared meatpacking plants to be "critical infrastructure" under the Defense Production Act and prohibited their closure by state health authorities.[20]

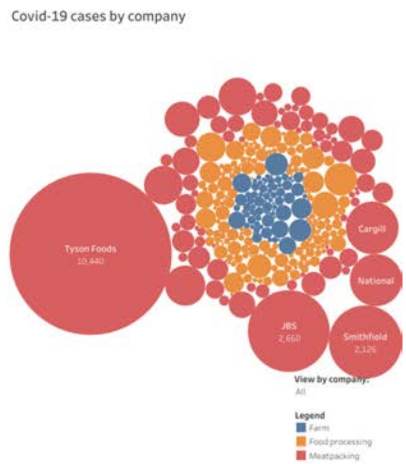

Figure 6: Counts as of August 12, 2020 by Leah Douglas, Food and Environment Reporting Network Accessed at: https://thefern.org/2020/04/mapping-covid-19-in-meat-and-food-processing-plants/

Farmers/Animal Welfare: By mid-April, nearly 20 percent of daily pork processing capacity had been idled by COVID-19, with similar problems in beef processing.[21] An early outbreak at a Smithfield Foods plant in S. Dakota shut down a plant responsible for 5 percent of the nation's daily pork slaughter.[22] When a plant that processes nearly 20,000 animals a day closes, it creates crises for farmers supplying that plant. They must either feed those animals, find an alternative

[20] https://www.theatlantic.com/ideas/archive/2020/05/essentials-meatpeacking-coronavirus/611437/

[21] https://www.dtnpf.com/agriculture/web/ag/news/article/2020/04/20/plants-suspend-operations-growing

[22] https://www.meatingplace.com/Industry/News/Details/91490

market or euthanize them. Alternative markets for 20,000 pigs per day are difficult to find, even outside a pandemic situation. One agriculture press article estimated that nearly a million pigs had disappeared from slaughter markets in the second quarter of the year, with anywhere from 300,000 to 800,000 pigs euthanized.[23] At the low estimate, that's nearly 29,000 tons of pork destroyed.[24] At least 2 million chickens were also euthanized by mid-May.[25] Previous mass euthanizations occurred in the wake of livestock disease epidemics, such as porcine diarrhea virus epidemic in 2013 and avian influenza in 2015. The genetic uniformity of these animals contributed to their susceptibility—globally just one breed accounts for more than 99% of turkeys, for example, and in the U.S. more than 85% of dairy cows belong to the Holstein breed. Mass euthanasia of healthy, marketable livestock has undoubtably caused emotional trauma for farmers, and all of us can lament the tremendous loss of life and natural resources embodied in the once living animals. The wastefulness of a system with few fail-safe mechanisms is astounding. It also clearly illustrates that our agrifood system more heavily emphasizes relations of power rather than feeding people.

Food, Feed and the Environment: Meat production at this scale requires enormous amounts of corn and soybeans, two of the seven so-called "program crops" that have historically been heavily subsidized by the U.S. Farm Bill, both through direct payments and subsidized crop insurance (Starmer and Wise 2007; see also Congressional Research Service 2018).[26] Howard (2019) argues that firms like Tyson, Smithfield and JBS were able to consolidate due to low feed costs, made possible by direct and disaster payments that kept row-crop farmers producing even though market prices did not cover their costs. Most of the best soil in the U.S. is devoted to the production of corn and soybeans.[27] In 2018-2019, just under 40% of the U.S. corn crop was used for feed[28] - some of which those hogs and chickens ate before they were euthanized. [29] The corn-soy rotation that covers much of Corn Belt, contributed to the Heartland region having the lowest diversity in seven of the eight USDA census years between 1978 and 2012 (Aguilar et al. 2015).[30] Monocultures negatively impact the provision of ecosystem services and biodiversity through simplifying the ecosystem and by requiring higher production inputs (Klasen et al. 2016). Corn and soybeans become the de facto crop rotation across large portions of the Corn Belt, with associated soil erosion that was estimated to cost Iowa farmers $1 billion per year (Eller 2014). Soil erosion costs the entire U.S. over $44 billion per year, including $100 million

[23] https://www.agri-pulse.com/articles/14018-number-of-hogs-euthanized-due-to-covid-19-impacts-still-unknown

[24] We calculated 300,000 hogs at market weight of 275 pounds, dressing out at a minimum of 70%.

[25] https://www.theguardian.com/environment/2020/may/19/millions-of-us-farm-animals-to-be-culled-by-suffocation-drowning-and-shooting-coronavirus

[26] "From 2007 to 2016, the total net cost of the federal crop insurance program was about $72 billion" of which 60% went direction to producers and 39% went to private insurers (Congressional Research Service 2018)

[27] https://www.ers.usda.gov/topics/crops/corn-and-other-feedgrains/feedgrains-sector-at-a-glance/

[28] https://www.fapri.missouri.edu/wp-content/uploads/2020/06/2020-June-Update.pdf

[29] If 300,000 market-weight pigs (275 pounds each) were euthanized, using feed rations from Iowa State Hog Market Ag Decision Maker, that would represent 3.4 million bushels of corn fed, or about .024% of 2018-19 US corn production, using FAPRI figures.

[30] The Heartland region as defined by USDA encompasses all of the states of Ohio, Indiana, Illinois and Iowa, most of Missouri, and portions of eastern Nebraska and South Dakota, southern Minnesota, and southwestern Kentucky (Aguilar et al. 2015).

in lost farm income.[31] The washing away of nitrogen and phosphorus fertilizers in top soil contributes to hypoxia, such as the Dead Zone in the Gulf of Mexico.[32] A renewed interest in soil health has led to increased use of cover crops and reduced tillage which can alleviate these problems, but still fewer farmers on the land farming larger acreages make the labor and timing of such practices challenging (Hendrickson 2019). Few if any markets exist for diversified crops and livestock meaning crop rotations are limited (Roesch-McNally et al. 2018).

Dicamba Debacle: "[T]he herbicide for which [Mike] Wallace literally gave his life"[33]

Dicamba, registered as an herbicide in 1967 and available in 1,000 products in the U.S.,[34] has recently pitted farmer against farmer and farmer against community, as well as given "all of agriculture a black eye"[35] in the words of one weed scientist. In the five years since Monsanto's (now Bayer's) Xtend dicamba resistant soybeans were approved, all of the large agrochemical-seed firms have introduced dicamba-tolerant seeds, including ChemChina, Corteva, BASF and Bayer.[36] In the same time period, the Heartland has witnessed one related murder,[37] thousands of dollars of uncompensated off-target injuries and failure of institutions to combat the power of agriculture firms.

Power Play: In 2015, Monsanto's Xtend (dicamba-glyphosate tolerant) soybeans were approved for the 2016 planting season, even though the accompanying less volatile formulation of dicamba was not approved.[38] Thus the dicamba formulation available in 2016 was not allowed for "in-crop" use as it was volatile and could easily drift. Monsanto continued to sell these beans, and seemed to blame farmers when some "tried using older formulations of dicamba and the off target movement was very bad."[39] Indeed, court documents in a peach grower's lawsuit against Bayer and BASF suggest that the companies "created circumstances that damaged millions of

[31] The $44 billion per year includes lost productivity, along with sedimentation and eutrophication of water reservoirs according https://www.farmprogress.com/soil-health/high-cost-soil-erosion. Sartori et al. (2019) estimated the global costs of soil erosion due to water at $8 billion annually, reducing global food production by 33.7 million tonnes and raising prices by up to 3.5%.

[32] In 2017, the Dead Zone, an area of low or no oxygen that kills aquatic life, was 8,776 square miles. Measurements in 2020 were disrupted by Hurricane Hanna. https://www.noaa.gov/media-release/smaller-than-expected-gulf-of-mexico-dead-zone-measured

[33] https://arktimes.com/news/cover-stories/2017/08/10/farmer-vs-farmer

[34] https://usrtk.org/pesticides/dicamba/

[35] Bill Johnson, Purdue University, weed scientist: https://www.dtnpf.com/agriculture/web/ag/crops/article/2018/07/20/dicamba-moves-beyond-bean-fields-eye

[36] For a complete list of brand names see https://www.agriculture.com/crops/soybeans/whats-next-for-dicamba-tolerant-technology.

[37] Missouri farmhand Allan Curtis Jones was convicted of shooting Arkansas farmer Mike Wallace seven times and killing him in an apparent dispute over the spraying of dicamba by Jones and resulting damage to Wallace's fields. https://www.agweb.com/article/man-convicted-of-murder-in-feud-with-farmer-over-dicamba-apnews

[38] "Roundup Ready 2 Xtend soybeans are tolerant to both glyphosate and dicamba. It allows for the use of dicamba herbicide over the top of Roundup Ready 2 Xtend soybeans to help control problem weeds." https://www.farmprogress.com/story-asgrow-roundup-ready-2-xtend-soyeans-arrive-missouri-9-139092 For a history see https://www.reuters.com/article/us-monsanto-dicamba-specialreport/special-report-the-decisions-behind-monsantos-weed-killer-crisis-idUSKBN1D91PZ.

[39] https://ipm.missouri.edu/MPG/2017/11/dicamba/

acres of crops by dicamba in order to increase profits from a set of new dicamba-related products offered for sale beginning in 2015."[40]

By 2017, the new formulations of dicamba had been approved so farmers could plant dicamba-tolerant soybeans and legally use dicamba to control weeds in mid-summer. Still dicamba damage continued. There were reports of so-called defensive planting, whereby farmers protected themselves from neighboring farmers' use of dicamba by planting Xtend or other dicamba tolerant soybeans[41] – especially if the price was not substantially different than other traited seeds.[42]

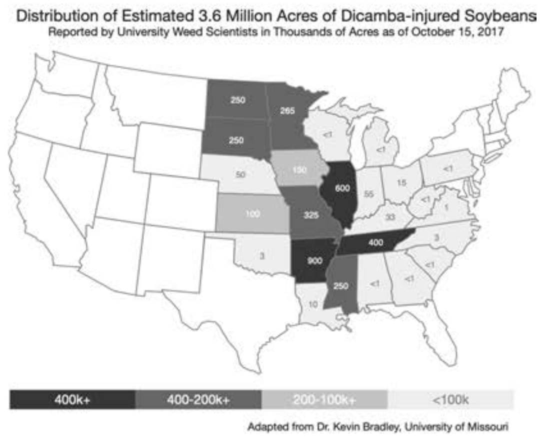

Figure 7: Distribution of dicamba-related soybean injuries known in 2017.

While dicamba resistant soybeans were widely planted from 2017-2020, – largely because of resistant weeds like waterhemp and Palmer amaranth, problems with dicamba use remained. Weed scientists at the University of Missouri detailed potential problems with volatility even with new formulations.[43] In February, 2020 a jury awarded Bader Farms, a peach orchard, $15 million in compensation for damages from off-target dicamba drift, and awarded over $200 million more in punitive damages.[44] In June, the agriculture community was stunned when a federal court ruled that EPA's approval of reformulated dicamba (XtendiMax, Engenia and FeXapan) in use on "an estimated 60 million acres of soybeans and cotton [was] vacated – or ended – effective immediately."[45] Farmers could apply any existing stocks of those herbicides through July 31, 2020.[46]

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[40] https://www.agriculture.com/crops/pesticides/dicamba-on-trial

[41] "'I had to start growing dicamba beans because the losses were so much you can't stand it,' said Sam Branum, a recently retired farmer near Hornersville [MO]. 'If you're farming around it, you either get with it, or you get out.'" Another Missouri farmer Carlis McHugh said "We switched over to it to protect ourselves…You didn't have a hell of a lot of choice, if you know what I mean." https://www.rfdtv.com/story/41832450/dollar265m-dicamba-verdict-could-give-other-lawsuits-victories.

[42] Personal conversation with one author's relative, a farmer who chose to defensively plant dicamba tolerant soybeans.

[43] https://ipm.missouri.edu/IPCM/2019/4/dicamba/

[44] https://www.agriculture.com/news/business/bader-farms-wins-dicamba-lawsuit-against-bayer-basf

[45] https://www.dtnpf.com/agriculture/web/ag/crops/article/2020/06/04/know-legal-status-dicamba

[46] https://agriculture.mo.gov/news/newsitem/uuid/dd3b5f4d-abd2-4466-937e-325d51fd29f2/missouri-department-of-agriculture-follows-epa-guidance-on-dicamba

Environmental Consequences of Corporate Actions: To understand the problems with dicamba, Howard and Hubbard (2020) trace changes in the seed industry, with historic seed firms first being acquired in the 1970s by oil and grain trading companies, and then by agrochemical companies in the 1990s. The latter was spurred by slowing rates of growth in agrochemical sales largely due to environmental concerns. Then came herbicide-tolerant crops, starting with the introduction of Monsanto's Round-Up Ready soybeans in 1996. Agrochemical-seed firms could now bundle seeds and chemicals, which could keep farmers dependent upon one firm for these inputs (James, Hendrickson and Howard, 2013).

The herbicide dicamba has been in use since the 1960s, primarily in corn production, but tensions exploded in 2016. Why? Monocropping in cotton, corn, and soybeans have created a plethora of herbicide-resistant weeds[47] that have occurred since the introduction of Round-Up Ready seeds. Dicamba-tolerant, as well as 2,4-D tolerant seeds, were seen as an urgently needed solution. As Missouri weed scientist Kevin Bradley notes, dicamba became a problem for two reasons: farmers spray more to combat weeds such as herbicide resistant pigweed (*Amaranthus palmeri*), which we note thrives particularly well in a rapidly changing climate; and dicamba is being used later in the season, which makes it vulnerable to drift due to hot and humid conditions.[48]

This overreliance on one single weed management tool – herbicides – alarmed soil scientists who argue that soil conservation gains are threatened by the tillage desperate farmers use to control weeds, and called for an "integrated weed management" approach (CAST 2012).

Community Impact: The volatility of dicamba has pitted neighbor against neighbor in rural communities. The most poignant, of course, is the murder of Mike Wallace by his farming neighbor's employee, Curtis Jones, over dicamba drift damage to an estimated 40% of Wallace's crops. In the months after this murder, Wallace's family worked to get a permanent ban on dicamba, "a quest that has put Wallace's family at odds with many of their neighbors."[49] Others acknowledge the potential community problems, as this Arkansas farmer said in 2017, "We're trespassing on our neighbors, and we're trespassing on our neighbors in town. It's not just our neighbor farmers. There's a lot of damage in yards. You hate to say that and call attention to it, but it is a reality."[50]

In 2018, just two years after dicamba tolerant beans were introduced, an investigation by the agricultural news service DTNPF on community impacts of dicamba drift exposed the destruction of a South Dakota CSA farm's crops, a Tennessee rural resort struggling to save gardens and trees, and an Illinois homeowner who spent at least $10,000 investigating damage from dicamba on her "carefully landscaped yard."[51] In all these cases, individuals – in the first two instances, consumers and farmers attempting to build agrifood alternatives – were blind-sided by the constrained choices of conventional farmers (e.g. Hendrickson and James 2005). In essence, the rights of rural community members to make choices about their livelihoods or even

[47] There are 514 unique cases of herbicide resistant weeds globally, involving 262 species, in 93 crops in 70 countries: http://www.weedscience.org/Home.aspx

[48] https://www.harvestpublicmedia.org/post/dicamba-has-been-around-years-why-would-it-now-be-causing-problems and https://ipm.missouri.edu/MPG/2017/11/dicamba/

[49] https://arktimes.com/news/cover-stories/2017/08/10/farmer-vs-farmer

[50] https://arktimes.com/news/cover-stories/2017/08/10/farmer-vs-farmer

[51] https://www.dtnpf.com/agriculture/web/ag/crops/article/2018/07/20/dicamba-moves-beyond-bean-fields-eye

their enjoyment of rural properties is usurped by the right of dominant agrifood companies to profit or of conventional row-crop farmers to control weeds.[52] Perhaps the situation is best summed up by a Missouri farmer interviewed in 2019 (James et al. 2020): "With Dicamba, you can do everything right and it can still move around and damage the neighbor's orchard or the garden of the lady down the road….morally, can you spray a product that you have no control over once it leaves the boom tip and you have to rely on Mother Nature to keep it where it's at and you damage someone else's crop?"

Failure of Institutions: The power of these dominant firms is also demonstrated by the failure of the EPA and state agencies to regulate dicamba, and the struggle by universities to provide accurate information about its use. University weed scientists were caught off-guard as dicamba related injuries accumulated in 2016 and 2017.[53] Some state agencies have been in the cross-hairs between corporate power, desperate farmers and community concerns. For instance, after the Arkansas Plant Board restricted use of dicamba-based herbicides in 2016 and 2017, Monsanto sued the board "arguing that the 2016 rule had effectively prohibited in-crop use of XtendiMax in 2017, and that the 2017 rule would effectively prohibit in-crop use of XtendiMax in 2018." At the same time, farmers also sued the board after it set an early April, 2018 cut-off date for spraying dicamba instead of the May 25 date.[54]

Other state agencies responsible for regulating herbicides issued and rescinded bans limiting use at certain times,[55] and pleaded with EPA to ban post-emergent use when reregistering the chemical.[56] States were flooded with damage reports,[57] even though some farmers felt state agencies were reluctant to investigate and even discouraged reports.[58] The federal judiciary stepped in, vacating EPA's approval of three specially formulated herbicides in the middle of the 2020 growing season.[59]

Farmer and Community Impacts

Both of these cases serve as illustrations for the impacts of concentration in the food system across multiple, global scales. As Hendrickson (2015) argues, a consolidated system constrains the ability of farmers to manage their farms using agroecology, which requires diversity and redundancy, rather than specialization and efficiency. In *Too Big to Feed*, the International Panel

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[52] Ashwood et al (2019) show how Right-to-Farm laws prioritize the right to profit from property over other rights such as the right to sustenance or the right to heritage. In addition, Ashwood (2018) explores how government enforcement of the right to profit has undermined democracy in rural communities.
[53] Kevin Bradley writing a plea to understand dicamba, and also linking other weed scientist articles: https://ipm.missouri.edu/IPCM/2017/7/Ag_Industry_Do_we_have_a_problem_yet/
[54] https://nationalaglawcenter.org/the-deal-with-dicamba-part-one/
[55] See a summary at https://www.dtnpf.com/agriculture/web/ag/news/article/2019/03/01/illinois-arkansas-others-add-state.
[56] https://www.dtnpf.com/agriculture/web/ag/news/article/2020/04/30/state-regulators-ask-epa-ban-dicamba
[57] See https://www.dtnpf.com/agriculture/web/ag/crops/article/2019/12/10/states-report-another-year-dicamba
[58] On-going research being conducted by Hendrickson and colleagues.
[59] https://www.dtnpf.com/agriculture/web/ag/crops/article/2020/06/04/know-legal-status-dicamba

of Experts on Sustainable Food Systems (IPES-Food 2017)[60] argued that agrifood consolidation reduces farmer autonomy and redistributes costs and benefits across the food chain, thereby squeezing farmer incomes. The table below illustrates this squeeze. One can see that the *median* net farm income for intermediate farms, those grossing less than $350,000 and for which one of the operators considers farming an occupation, was -$1,524 in 2018.

Table 3: Principal farm operator household finances, by ERS farm typology, 2018

Item	Residence Farms	Intermediate Farms	Commercial Farms	All Farms
Number of farms	1,069,497	742,931	166,940	1,979,368
		Income, median dollars per household		
Farm income	-2,610	-1,524	141,614	-1,735
Off-farm income	90,559	46,483	41,000	65,841
Earned Income	74,305	7,910	17,500	37,500
Unearned Income	14,000	25,310	5,000	20,404
Total household income	88,220	50,097	195,254	72,481

Source: USDA-ERS. Residence farms are those where the operator is retired or has another occupation. Intermediate farms have at least one operator who spends 50% or more of work time farming and have agricultural sales <$350,000. Commercial farms are the same except have agricultural sales >$350,000.
https://www.ers.usda.gov/data-products/farm-household-income-and-characteristics/farm-household-income-and-characteristics/#Farm%20Household%20Characteristics

As we have described, the agrifood system is a set of power relationships with dominant agrifood firms leveraging their power over farmers, workers and communities in producing, manufacturing and retailing food. This can have particular impacts on farmers, workers and communities of color. Johnson Gaither (2016) outlines how heirs' property[61] can affect how Black property owners, as well as heirs of Native American fractionated allotments and Texas *colonias*, are able to engage with government agriculture and land programs. Due to unclear titles or multiple heirs, farmers of color may also face displacement through land partition or tax sales (Dyer and Bailey 2008). This puts them specifically at risk of losing their farms through land consolidation, particularly as cultural rights and/or the right to sustenance are mostly superseded by the right to profit in current application of property rights (Ashwood, Diamond and Walker 2019). Farmers of color have also been historically locked out of conventional

[60] One of the authors, Philip Howard, is a member of this panel. The report is available at http://www.ipes-food.org/_img/upload/files/Concentration_FullReport.pdf.

[61] Gaither defines it as, "inherited land or real estate owned by two or more people as tenants in common" usually arising from a lack of a will or outside a formal probate process. Gaither summarizes legal scholarship that notes Native Americans, who were often compelled to lease their land to Whites, did not consider land as a commodity which constrained their ability to participate in White notions of free markets.

agricultural markets, leading them to forge alternative market arrangements – like cooperatives[62] – that can be vulnerable to dominant trading or supermarket firms.

Farmers and consumers frequently have far fewer options in the market than it appears. Farmers Business Network,[63] for example, notes that "Seed companies routinely label the same seeds under multiple brands with dramatically different prices." Recalls have illustrated the hidden yet widespread practice of contract packing, with identical foods from a single processing plant sold under as many as forty different brands, including those that appear to be direct competitors (DeLind and Howard 2008).

The IPES-Food (2017, p. 77) also argued that agrifood consolidation was "narrowing the scope of innovation," controlling information through a focus on big data, allowing labor abuses and fraud, and hollowing out corporate commitments to sustainability. IPES expressed concerns about increased environmental and public health risk – which were prescient as the pandemic has shown. Other scholars such as Drake (2013, p. 1083) detailed how non-white "communities across the United States disproportionately bear the burden of pollution by big agriculture" through exposure to excessive pesticide use and location of large-scale animal operations, thereby linking consolidation in the agrifood systems with civil rights.

As was illustrated with the dicamba debacle and meat industry consolidation, there are important community level impacts of consolidation in agriculture and food. Dicamba has divided rural communities, while the labor strategies of big meat have exacerbated impacts of immigration on communities, particularly in the Midwest. In their meta-analysis on the relationship between agricultural structure and community well-being, Lobao and Stofferahn (2007) found detrimental effects of industrialized farming on communities were reported in 82% of 51 studies. These negative effects included greater income inequality or poverty; decreased retail trade and diversity of retail firms; population declines; and negative health effects of large livestock operations. Gibson and Gray (2019) show how a consolidated agriculture "without people" has depopulated Western Kansas with an accompanying collapse of social relationships. A recent New Yorker article provides the human face of these effects, examining the unhappy fate of dairy farmers across a very productive region of Wisconsin, due to the rapidly changing structure of their industry, which has seen the elimination of many smaller (less than 300 cows) herds.[64] Such changes have social and political ramifications as rural areas depopulate, challenging the ability of rural communities to provide essential services and invest in businesses and infrastructure (Peters 2019).[65]

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[62] See Federation of Southern Cooperatives https://www.federation.coop/ and also https://www.wealthworks.org/success-stories/new-mexico-cooperatives.

[63] https://use.farmersbusinessnetwork.com/seed-relabeling-report-2018/

[64] https://www.newyorker.com/magazine/2020/08/17/how-suffering-farmers-may-determine-trumps-fate

[65] According to Peters research, of the 70% of non-metro counties that lost population since 2010, most were concentrated in the Great Plains and Midwest – the Heartland region that provides corn and soy. Some scholars at Iowa State, including D. Peters, have tried to help Iowa communities manage these processes through "smart shrinkage." https://www.news.iastate.edu/news/2018/10/31/shrink-smart

Possibilities for Democratizing the Food System

Our aim in this report was to document current conditions of consolidation within the agrifood system and to frame the social and ecological consequences of such a system. We are concerned that the relationships of power currently exhibited within the agrifood system have significant negative impacts on farmer livelihoods and autonomy, particularly for less powerful members of society, especially those who are systemically discriminated against and exploited based on race, gender, queer identity, ethnicity, or nationality. Centralizing food system decisions about what is produced, where, how and by whom damages farmers' abilities to treat their farms as specific agroecosystems and constrains their choices by determining what they can produce for what markets. In response to continued consolidation in agrifood, rural communities in some agricultural areas have depopulated, collapsing social relationships, while in others, relationships, livelihoods and property have been damaged by the choices of some farmers caught in a treadmill of monocropping. Vulnerable workers have been sacrificed to injury and illness, and serious questions arise about the social and ecological resilience of such systems in the face of climate change and societal turmoil.

At the heart of this analysis is a focus on power – both economic and political. Ultimately American political democracy rests on economic democracy and vice versa (Wu 2018). Thus, our laser focus in scholarship, praxis and policy must be on democratizing the agrifood system through a multitude of strategies at local, state, regional and national scales.

What would democratizing the food system look like? We already see a plethora of emerging alternatives from Community Supported Agriculture farms that intimately share risks and rewards with consumers to farmer cooperatives, urban agriculture farms, garden-based education, commons-based land ownership, fair trade or building values-based value chains that serve local and regional food systems. All of these in some way are attempting to reshape relationships of power within the food system. Full spectrums of innovations must be encouraged without cooptation or blocking by those whose power may be relatively diminished. This will only be achieved with an accountable, and truly democratic government, which has yet to be fully realized.

What is missing is analysis and action on policy that can be immediately deployed to reshape power relationships in agriculture and food. It is not our intent – nor our expertise – to offer fully formed policy solutions here. Rather we believe that democratizing food and agriculture will take policy-makers, farmers, workers and communities working together to fashion alternatives and policies that can help to:

1) Curb and prevent monopolistic tendencies in agrifood systems within all sectors and at all scales through diverse policy instruments from contract to competition law, including all titles of the Farm Bill.
2) Shine a racial lens in scholarship on agrifood system power and consolidation that highlight the myriad ways that economic power has often been built within and upon other relationships of power, providing new insights into potential remedies.

3) Adopt a stance prioritizing resilience and redundancy in business arrangements as well as policies.
4) Rethink core assumptions such as efficiency and property rights in ways that acknowledge their social and ecological consequences.
5) Encourage the development of alternative production and consumption arrangements that root producers and consumers in place, offer producers and consumers more choices at different scales, afford more opportunities for communities to develop self-reliance, and reduce society's dependence on dominant agrifood firms.
6) Rethink what kinds of crops, livestock and even sectors of the food system are subsidized, and how they are subsidized, in a transparent iterative process that allows citizens to truly weigh their benefits and consequences.

To transform our agrifood system from one that is monopolized and brittle to one that is democratic, equitable, ecological and resilient will take many solutions and experiments across all scales and sectors of food production and consumption. We hope that we have contributed to this process by providing a framework for seeing and understanding the social and economic organization of the agrifood system.