Market Structure of the Livestock Industry

Testimony to the United States House of Representatives Committee on Agriculture, Subcommittee on Livestock, Dairy and Poultry

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Thank you, Mr. Chairman and members of the Subcommittee for this opportunity to testify about important issues affecting the economic health of the American livestock and poultry industries.

I will restrict my comments today to market structure issues in the cattle and beef industry, beginning with a few facts.

Facts

Cattle feeders are justifiably concerned over declining profitability. Iowa State University[1] data shows that inflation-adjusted returns from feeding steers have generally trended downward over the past two cattle cycles of approximately 10-15 years duration. Inflation-adjusted returns averaged \$40.26/head over 1981-1993, but only \$21.32/head over 1994-2006, a 47% decline. Omitting the spike in returns that occurred during May 2003 through July 2005 when Canadian cattle imports were banned, returns to cattle feeding averaged only \$2.29/head over the 1994-2006, which is a 94% long-term decline from the previous cycle. An average return of \$2.29/head for feeding cattle four months will not economically sustain the American cattle industry, particularly given the financial risks associated with cattle. Cattle feeders therefore have justifiable concerns over declining profitability, a concern that applies to feeders with AMAs as well as to independent feeders.

Most of the USDA and academic studies of market concentration and captive supply refer to "small" effects on cattle markets. Big or small depends on perspective. A 2% impact on the price of fed steers translates into a 50% effect on returns to cattle feeding based on the Iowa returns.

Market Power

Disproportionate market power is the fundamental issue in livestock, dairy and poultry industries. Competitive athletic events require a balancing of power, a clear set of rules and impartial enforcement of those rules. Too few rules and athletic events turn into brawls or one-sided scores; too many rules and the refs take over without allowing athletes to really compete. Truly competitive markets have similar requirements: a balancing of power, clear rules and rigorous and impartial enforcement of those rules.

[1] Compiled by Dr. John D. Lawrence. Downloadable at: http://www.econ.iastate.edu/faculty/lawrence/Lawrence_website/livestockreturns.htm. Return data were converted to constant dollar returns using the consumer price index.

There are two very different sources of market power that occur in both cash markets and markets for contracts. The first is traditional market-share or size based market power (Type I). Market power also can come from deception, significantly imperfect or asymmetric information, or other types of market failures[2] (Type II). Often, Type II imperfections exacerbate the effects of Type I market power.

An imbalance of traditional market power is akin to one athletic team stockpiling all of the good players. Non-traditional sources of market power are akin to one side using unfair tactics. If such tactics are covered by existing rules and regulations, then they should be impartially enforced. If existing rules do not consider such tactics, then rules should be changed and enforced.

Both Type I and Type II sources of market power presently exist, or are emerging in livestock, dairy and poultry markets. Concentration of beef packers now exceeds the Department of Justice threshold for markets where a high degree of power may be exerted.

Three non-traditional (Type II) sources of market power merit emphasis in livestock markets. First, alternative marketing arrangements (AMAs) that tie a base price in any way to the cash market[3]--the predominant form of AMA--distort buyer incentives in concentrated markets[4]. (An illustration is given in Appendix A.) Even if such a distortion has not occurred in the past, the potential for market distortion clearly exists. Economists agree on this; many have publicly emphasized that USDA or Congress should prohibit such AMAs[5].

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[2] Robert H. Lande, Market Power Without A Large Market Share: The Role of Imperfect Information and other "Consumer Protection" Market Failures, The American Antitrust Institute Working Paper No 07-06, March 14, 2007.

[3] Tying a large number of AMAs to the futures market is also problematic. The cash and futures market are connected; distorted incentives in futures market therefore affects the cash market, and vice-versa.

[4] Theoretically, such AMAs would not be a problem in un-concentrated markets with many buyers.

[5] Statements by academic economists follow.

> *"Contracts with a formula arrangement where the base price is either a cash market in which the packer/processor is an active buyer or a plant average price paid for the week prior to delivery offer the wrong incentives. Whether buyers attempt to manipulate the cash market to which the contract price is tied is somewhat immaterial because the incentive to do so is present and is undeniable." Dr. Wayne Purcell, VPI,* Statement at the Public Forum on Captive Supplies held by the United States Department of Agriculture, Denver, CO, September 21, 2000

> *"... the practice of tying a formula base to an in-house average spot market price does distort packers' incentives and has the potential to result in harm to livestock producers. We suggest that the Secretary (of Agriculture) should consider regulations designed to prohibit this practice." Dr. John Schroeter, Iowa State University,* Statement at the Public Forum on Captive Supplies held by the United States Department of Agriculture, Denver, CO, September 21, 2000

> *"... base prices based on plant averages (which is a cash price) are not recommended and this has been a position I have held for a long time." Dr. Ted Schroeder, Kansas State University,* Statement made in response to questions at the Public Forum on Captive Supplies held by the United States Department of Agriculture, Denver, CO, September 21, 2000. Parenthetical statement added.

Second, economists also agree that asymmetric information favoring the buyer tends to depress price below competitive levels. Although mandatory price reporting (MPR) has provided much needed information to market participants, large transactions are not reported due to confidentiality requirements (the 70/30 rule), holding rights of the large market player—a few packers--above the rights of the small market player. This is problematic because large transactions—now unreported--move the market. Market transparency requires timely reporting of all transactions, large and small.

Captive supply as well as market transactions not reported due to confidentiality is akin to insider trading. For good reason, federal regulations require reporting of insider trading in the stock market. Similar transactions in both the cash and futures market for cattle need reporting to make those markets transparent and efficient.

Third, the packer-dictated narrow trading window can be a non-traditional source of market power. The trading window is often only an hour or less on any day of the week picked by the buyer. This day varies from week to week and buyer to buyer. Whether the bids are early in the week or late in the week affects the psychology of the market and contributes volatility to the market. Such a narrow trading window does not allow sellers sufficient time to solicit other bids and results in inefficient management and marketing decisions.

These three non-traditional sources of market power—(a) AMAs tied to the cash market, (b) imperfect information and (c) a narrow trading window—pinpoint significant real and potential future anti-competitive practices in the industry. Correcting these problems with regulatory or legislative solutions does not require major surgery or economic trauma for the cattle industry.

The Fallacy of Composition

Captive supply advocates argue that AMAs are good for both feeder and packer because they reduce the need to haggle over the price Based on such assertions, some immediately jump to the conclusion that if AMAs are good for the individual then they are good for the industry.

"(NCBA should) adopt a policy position opposed to contractual arrangements between cattle feeder/producer and packer when the base price is tied to a cash market in which the buying packer is active in buying fed cattle and/or when the base price is tied to plant or firm prices paid or cattle costs into the plant(s) for some time period prior to the date of delivery with the reasons for the policy position coming from the inappropriate incentives of this approach and from the need to restore integrity to the pricing system. The incentives facing buyers when price is tied to markets in which they are large buyers are not consistent with confidence and integrity of the pricing process." Drs. Wayne Purcell, Clement Ward, Ted Schroeder, Rodney Jones, James Mintert, James Trapp, Barry Goodwin, Matthew Holt, and DeeVon Bailey, White Paper on Status, Conflicts, Issues, Opportunities, and Needs in the U.S. Beef Industry, May 1999

Not so. There is a fundamental logical error in such reasoning, which is referred to in economics as the fallacy of composition. A fallacy of composition arises when one infers that something is true of the whole from the fact that it is true of some (or even every) part of the whole.

A common example of the logical fallacy is that any person can get a better view at a football game by standing. Of course, if one stands, then others stand because their view was blocked. If everyone stands, no one gets a better view. In fact, if standing people start moving around looking for an even better view, as they tend to do, then most people get a worse view than with all sitting. It is thus a fallacy to conclude that just because an individual can get a better view by standing, all would get a better view by standing.

A logical fallacy exists with AMAs if the base price in such arrangements is tied to the cash market, as is typical. This contract feature distorts packer's economic incentives. To the extent that feeders who sell on the cash market are harmed by marketing agreements, then feeders with AMAs, as a group, are equally harmed.

Econometric Exercises

Congress is well aware that well over $10 million in taxpayer funds have been expended for seemingly endless "studies" of these market concentration and captive supply, with the RTI study being the most recent. The numerous USDA/GIPSA studies conducted by academics have generally been severely restricted in evidentiary scope; GIPSA never specified what constitutes "evidence" or specified the evidentiary standard to be used by researchers. The studies have generally been turned into "academic exercises," narrowly restricted to quantitative data suitable for econometric analysis. Consequently, the studies have ignored a wealth of non-quantitative evidence pertinent to the issues[6].

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[6] For example, the GIPSA studies total ignore recorded statements by Bob Peterson, who began his career as a cattle buyer and who, as CEO of IBP (now Tyson), was responsible for acquisition of about one-third of fed cattle slaughtered nationally over 17 years. Peterson emphasized the leverage the packer obtained in the cash market with captive supplies in talks to cattlemen in 1988, just before IBP had significant captive arrangements, then again in two talks to cattlemen in 1994. Selected excerpts follow.

> *"...our competitors are promoting contracts ... and seeking more. These (forward) contracts coupled with packer feeding could represent a significant percentage of the fed cattle during certain times of the year... Do you think this has any impact on the price of the cash market? ... you bet! ... We believe that it's having a significant impact on the market—on the cash market place.*[6]*:"*

> *"...we believe that some of those who are feeding cattle and using forward contracting are creating aberrations within the market place by coming in and out of the market; that is not reflecting the true value of the cash market."*

> *"But with the packers in the feeding business and forward contracting, there's going to be a major, major shift against the leverage system."*

> *"In my opinion the feeder can't win against the packer in the real fair play if we go into the feeding and the hedging program."*

Evidentiary standards used to arrive at conclusions (or non-conclusions) in the GIPSA studies have never been articulated. They have not been articulated by GIPSA to researchers, or articulated in the final research reports. Apparently the researchers used an academic standard, call it academic certainty, or statistical significance. A more relevant standard for regulatory action under the Packers & Stockyards Act (PSA) appears to be the legal concept of "preponderance of evidence," particularly since this is the standard for civil litigation under the PSA. Academic certainty and statistical significance are much stricter standards, more akin to the legal concept of "beyond a reasonable doubt."

In my opinion, the contentious issues of market concentration and captive supplies will never be resolved with academic certainty, but this is an inappropriate standard for regulatory action under the PSA.

RTI Study

I will now turn to the RTI study because it is central to this Hearing.

A fundamental flaw of the RTI study is that ***all*** quality benefits were attributed to AMAs, ignoring the fact that about 20% of cash transactions occur with a negotiated grid (grade and quality premiums and discounts). Negotiated cash grid transactions can provide precisely the same quality benefits claimed for AMAs. In fact, all cash transactions could have a negotiated grid if the packers so chose. If packers are as interested in quality as they repeatedly claim, then why aren't all of their cash acquisitions on a grid?

Had the RTI study appropriately compared elimination of AMAs to a norm with all transactions occurring with a negotiated grid, the only benefit to AMAs would have essentially been a $0.40/head transaction cost saving reported by surveyed packers. This is only four one-hundredths of a percent (not 4% but 0.04%) of the value of a fed steer, hardly the 4-16% negative impacts touted by the RTI study.

> *"Do you think that if we had a million cattle on feed and we thought cattle were going to get higher we'd kill ours first and wait for yours until last? Or do you think we'd kill yours first and wait for ours until last? Do you think if it's going down we're going to buy yours and wait for ours until last? This is pretty basic. Boy Scouts and Girl Scouts are nice, but when you get back to money in the bank and the facts, I'm telling you the facts."*
>
> *"... not formula cattle but packer-fed cattle, which can be killed early or late to fill a particular time frame, be it a day or a week grant the packer far greater flexibility to move in and out of the market. On the way down (in price), he kills his cattle first and on the way up, last."*

Peterson's statements also apply to marketing agreement (also called "formula") cattle as well as packer-owned cattle because the packer generally decides the day of the week on which marketing agreement and other captive cattle were slaughtered. So with captive supplies committed to slaughter in a particular week, the packer can slaughter or acquire them early (late) in the week if they expect price to go down (up). With packer-owned cattle this would simply reduce the price the packer paid for slaughter cattle purchased on the market that week. But with marketing agreement and other captive supplies with a base price tied to the market or to the in-plant average cost, large buyers have a magnified incentive to play this within-week game because it affects not only the price paid on the cash market but also reduces the cost of the previously committed captive cattle.

There has been a lack of "innovative" effort by USDA to identify new ways of doing business that are economically efficient, fair to both sides of the transaction, do not distort buyer or seller incentives, and result in beef with the quality attributes that consumers desire. The bi-polar industry debate on current marketing practices, specifically cash or AMAs, has been carried over to the extensive GIPSA studies. In other words, marketing agreements or other captive arrangements are not the only way of rewarding quality, and not the only way of avoiding the time and expense of buyer and seller "haggling" over the price of every pen of cattle. Likewise, "on the hoof" is not the only way of having negotiated cash transactions.

The RTI study accepted, apparently without question, packers' common assertion that AMAs were more "reliable" than the cash market. The facts show just the opposite[7]:

- AMAs were 2.2 times more variable than supply from the cash market based on GIPSA monthly data for the 15 largest packers, 1988-98
- AMAs were 1.5 times more variable than supply from the cash market based on AMS "additional movement" weekly data, 1994-1998
- Tyson/IBP's captive supply was 1.5 times more variable than their acquisitions from the cash market based on weekly data made public in Pickett v. Tyson/IBP, 1994-2002
- AMAs were 3.5 times more variable than supply from the cash market based on GIPSA monthly data for the four largest packers, 1990-2002
- AMAs were 2.4 times more variable than supply from the cash market based on GIPSA "revised" monthly data for the four largest packers, 1999-2002
- AMAs were 1.4 times more variable than supply from the cash market based on MPR weekly data, April 2004 through January 2007
- Variability of total U.S. beef production has not changed appreciably in many decades, even though AMAs now account for about half of total slaughter of fed beef, strongly suggesting that AMAs are not more reliable.

Therefore, the facts establish that AMAs are generally ***less*** reliable than the cash market.

The RTI study subtly circumvented examination of whether AMAs depressed cash prices below competitive levels. In essence, the RTI study compared prices under various AMAs to the cash market. About 80% of AMAs are tied in some way to price in the residual cash market. If exertion of market power (Type I or II) depresses price, both AMAs and cash sellers will be negatively impacted. Average quality adjusted price with AMAs will move with average quality adjusted price in the cash market. To again use the metaphor of spectators at a football game, the RTI study looked around the stadium and compared height of spectators; significantly, they did not carefully look to see if everybody was standing (competitive prices) or sitting (depressed prices). Furthermore, they did not assess whether the rules of the game would lead to true competition, or if

[7] All variability comparisons are based on the coefficient of variation, a statistic that allows comparison of the variation of populations that have significantly different mean values.

existing rules were being rigorously and impartially enforced. The RTI study, perhaps by design, did not thoroughly and completely examine whether livestock markets have met the conditions for being truly competitive[8].

Regulatory or Legislative Solutions

Are effects of concentration and captive supplies on the cash market big or small? Are they significant? In my opinion these issues will never be resolved with academic certainty. These issues could have been (and have been in one instance[9]) resolved based on a preponderance of evidence, with evidence more broadly defined than in the numerous and expensive GIPSA studies.

Economists generally agree that AMAs tied in any way to the market distort buyer incentives and exacerbate economic efficiency problems in concentrated markets. Economists also generally agree that asymmetric information favoring the large buyer can lead to sub-competitive prices. Market transparency and efficiency of cattle markets would be improved if the big players were required to timely report large transactions, which are akin to unreported insider trading in the stock market. Rules and regulations governing trades in the New York Stock Exchange and the Chicago Mercantile Exchange provide a model for improving transparency and efficiency of livestock markets.

If reducing transactions costs—the costs of haggling over the price of a pen of cattle—is the issue, then why has attention not been directed toward "innovative" solutions that do not distort the market? For example, electronic bidding has promise, but because of potential antitrust issues, such an electronic market may need government oversight.

If offering quality attributes desired by consumers is really the purpose of AMAs, then why have we not developed a new grading system geared to taste, tenderness and other attributes consumers' desire, rather sticking to the largely meaningless USDA grading system (prime, choice, etc).

If market power is an issue affecting the industry, why has GIPSA focused on the market for fed cattle: what about market power exerted by packers or by meat retailers in the wholesale market for beef?

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[8] Unfortunately, much economics jargon is poorly defined and sloppily used in normal discourse. In particular, the word competition has many meanings. In concentrated markets two firms may be "competing" with each other in some sense, but this does not necessarily mean that the outcome measures up to widely accepted requirements for markets to be "competitive."

[9] Based on a preponderance of evidence standard, the Jury in Pickett v. Tyson Fresh Foods, Inc., a Jury found Tyson (previously Iowa Beef Packers, IBP) guilty that Tyson's use of captive supplies depressed the cash market. Peculiar reasoning by the Courts overturned this verdict. See, C. Robert Taylor (2006) "Proving Anti-Competitive Conduct in the U.S. Courtroom: Economic Issues with the Courts' Opinions in Pickett v. Tyson Fresh Meats, Inc.," Journal of Agricultural & Food Industrial Organization: Vol. 4 : Iss. 1, Article 9. Available at: http://www.bepress.com/jafio/vol4/iss1/art9

My recommendation is to correct the three non-traditional (Type II) sources of market power identified above, putting on hold any regulatory or legislative action aimed at size-based (Type I) market power. My view, based on extensive empirical analysis of marketing issues in the cattle industry, is that regulatory or legislative action should:

1. Prohibit AMAs tied to the cash market or to the futures market because they distort buyer incentives
2. Develop rules and regulations similar to those for the NYSE and CME so that large trades will be publicly recorded
3. Widen the trading window so that cash sellers can seek other bids

It is time to quit "studying" the same issues over and over again—they will never be resolved with academic certainty, but this is not the appropriate standard for regulatory action. Effort could more productively be redirected toward seeking innovative ways of trading that are more economically efficient than AMAs or traditional cash transactions, and seeking more meaningful beef quality standards.

At this time, regulatory or legislative solutions to the three cattle industry problems I have pinpointed do not, DO NOT, require breaking up the packers, banning all forms of packer ownership of cattle, or banning contractual arrangements, as long as the arrangements have a predetermined base price and grid, and as long as full market information is made available to all market participants in a timely way.

Returning to the metaphor of competitive athletic events, at this time players do not need to be put on probation or waivers, teams do not need to be broken up and new leagues formed. However, a few relatively small changes in rules governing the game are necessary, and rigorous and impartial refereeing of the rules is needed. Then true competition may be returned to the game.

Thank you.

Appendix A: The Simple Arithmetic of Captive Supply

Marketing agreements with a base price tied to a cash market price distort buyer incentives. This is a very basic Econ 101 causal explanation for a negative relationship between cash price and captive supply. Distorted incentives are apparent to buyers, as is evident from the following statement made by a fed cattle buyer to Randy Stevenson[10]:

> *"... an IBP cattle buyer ... looked at high quality cattle we had on our show list for sale. The market was about $66/cwt in the cash market, based on live weight. (He) was very complimentary of our cattle's quality. He said his hands were tied and he could not offer more for the cattle, despite their above average quality. (He) said* ***'In the old days I would have been able to offer $67.50 for these cattle, but now paying more would screw up 20,000 formula cattle.'*** *It was completely clear to me that (the buyer) was telling me paying a higher price for out cattle would influence prices for cattle bought on a formula contract basis, off the cash market, before the transaction involving our cattle occurred. We lost money in this deal because IBP would not allow its buyer to engage in competitive bidding."*

Here is the simple arithmetic. Suppose that the base price for the 20,00 head of formula cattle was the top-of-the-market price. We know such contracts exist. Also suppose that another packer—maybe a very small packer--had already established the weekly top-of-the-market price at $66.00. If the IBP buyer pays Randy an additional $1.50/cwt ($18/head) for his pen of 1,000 high quality cattle, then the "additional cost" is the extra $18,000 for Randy's cattle, *plus an extra* $360,000 on the 20,000 head of formula cattle. Paying Randy an extra buck fifty on 1,000 head would have cost IBP an extra $378,000. Obviously, IBP would not be willing to bid $67.50 in a $66.00 market. Looked at another way, offering $67.50 for Randy's pen of high quality cattle would have been the equivalent of offering $97.50/cwt in a cash market without the captive arrangement.

Such arrangements obviously soften bids, in this illustration costing Randy $18,000. In the lingo of economics, marginal cost of slaughter cattle is higher to the buyer because of the marketing agreements tied to cash price, causing cash price to be lower than it would be without such captive arrangements.

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[10] Affidavit by Randy Stevenson, dated October 11, 2002.

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Committee on Agriculture
U.S. House of Representatives
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House Rules* require nongovernmental witnesses to disclose the amount and source of Federal grants received since October 1, 2004.

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Address: 107 Comer Hall, Auburn University

Telephone: 334-844-1957

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