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Price Discovery Issues for Fed Cattle: What's the Future of the Cash Market or How Thin Is Too Thin?

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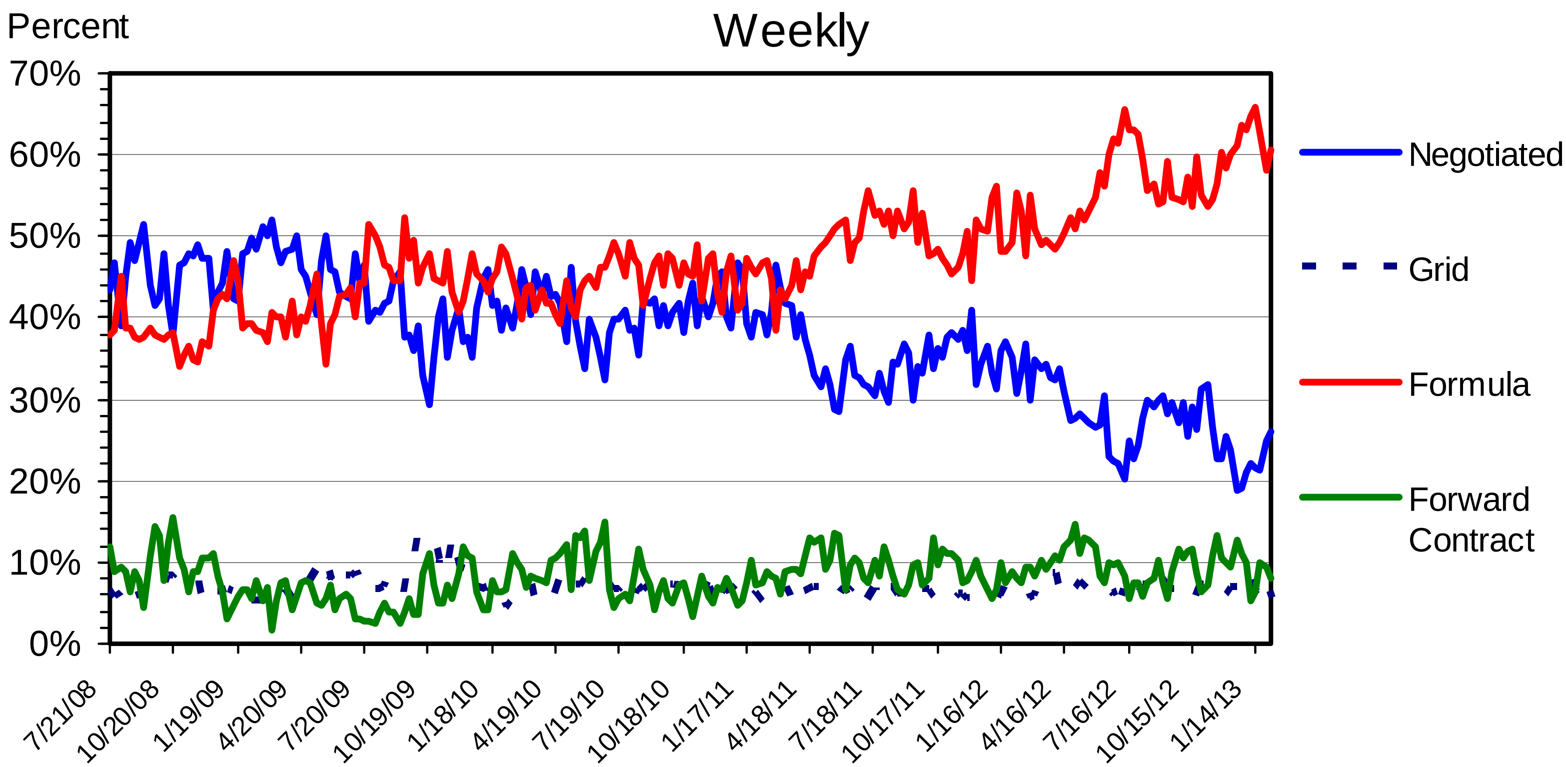
USDA Ag Outlook Forum

February, 2013

STEERS/HEIFERS SOLD BY TRANSACTION

National

Weekly

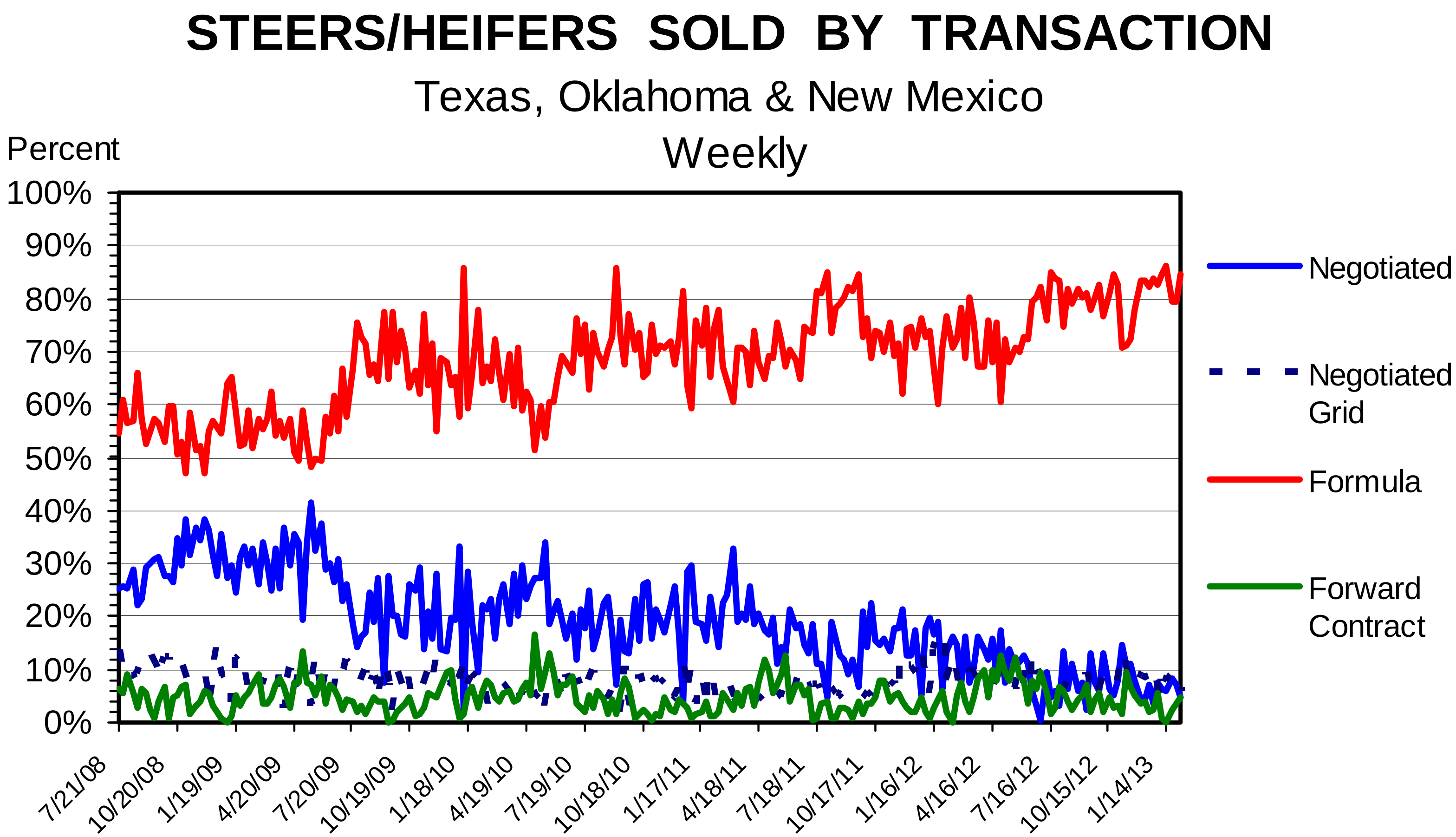


Data Source: USDA-AMS

Compiled by: Livestock Marketing Information Center

Definitions

- *Negotiated is the cash market – there is bid and ask – may be live weight or carcass weight or grid – but there is price discovery.*
- *Formula is the price paid is discovered elsewhere – may be plant average price or a USDA AMS regional price or a downstream price or a futures price – but there is no price discovery. Now the terms of the formulas are negotiated but prices are not.*
- *Forward contracts are transactions with >14 days before delivery.*
- *Packer owned are 100% packer own cattle.*



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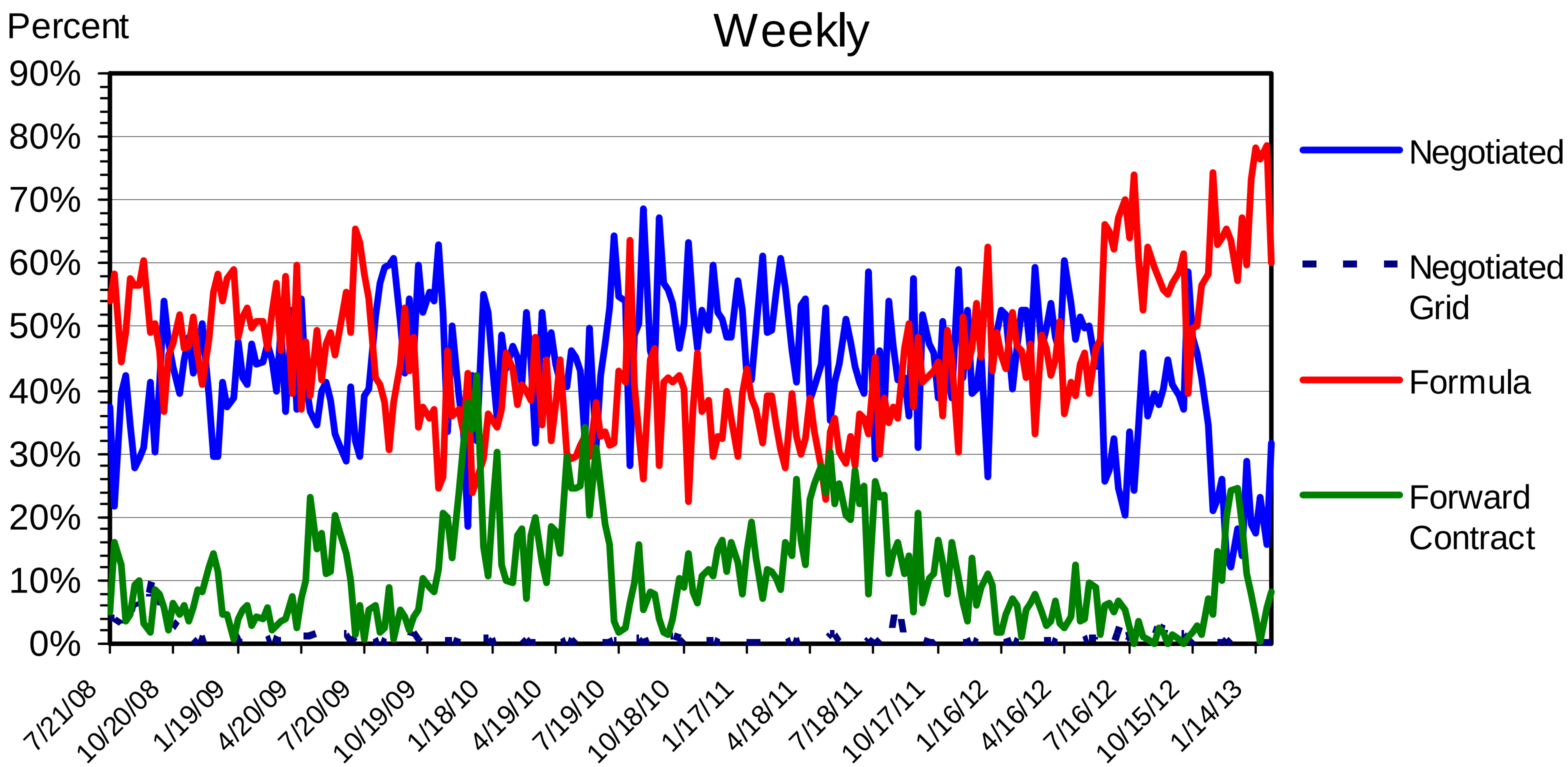
STEERS/HEIFERS SOLD BY TRANSACTION

Kansas
Weekly



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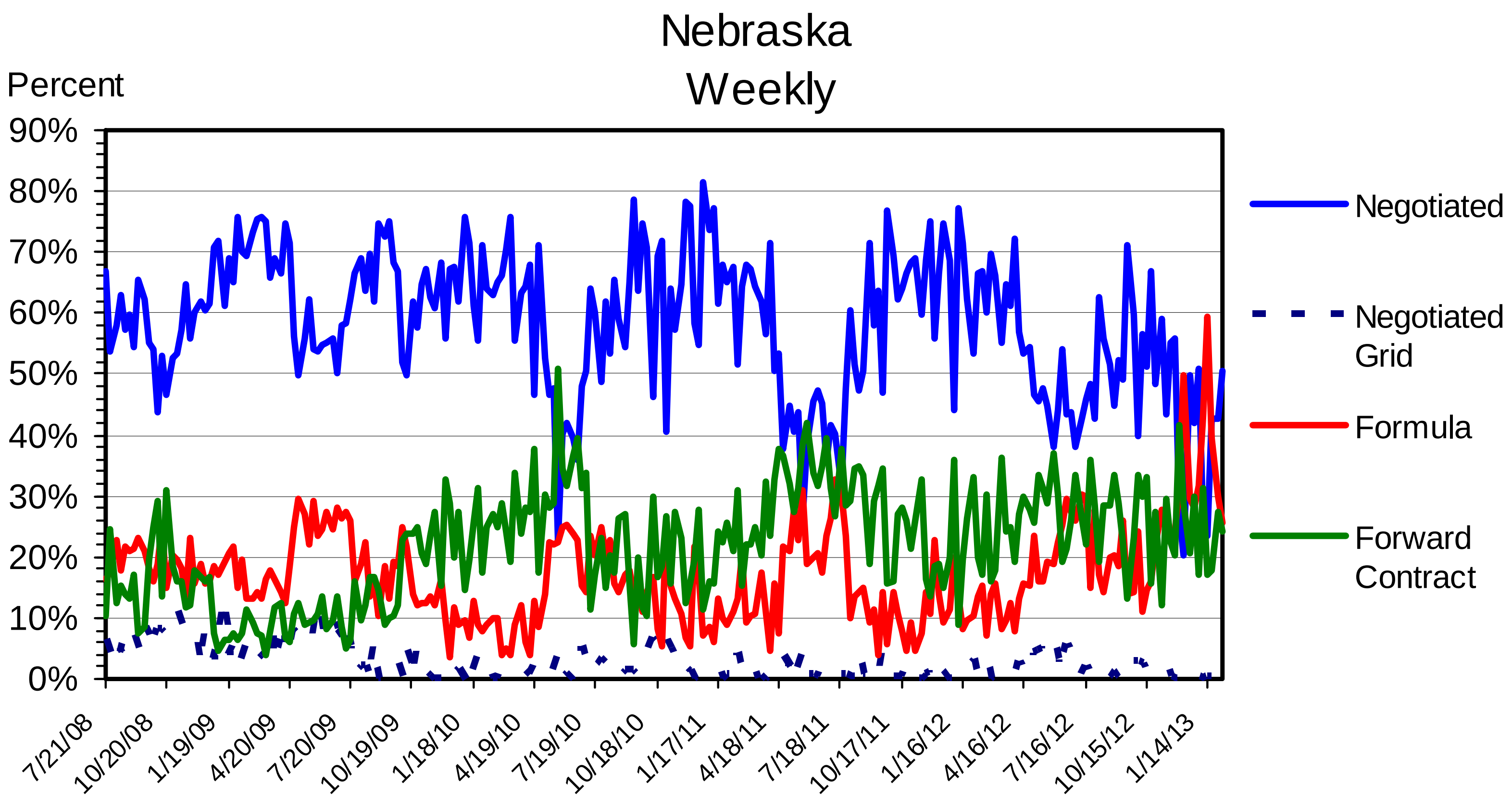
STEERS/HEIFERS SOLD BY TRANSACTION



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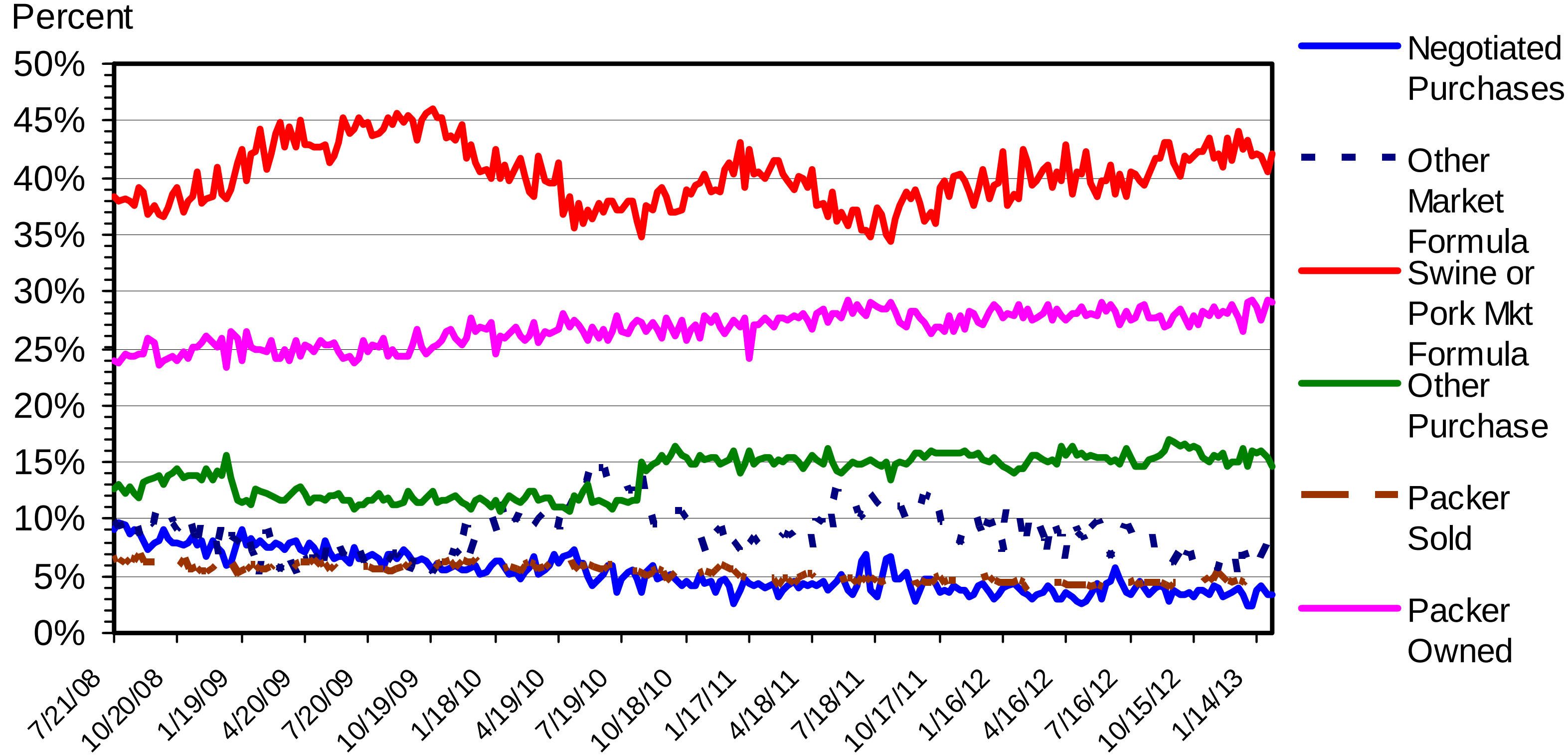
HOGS SOLD BY TRANSACTION

National, Weekly



Data Source: USDA-AMS

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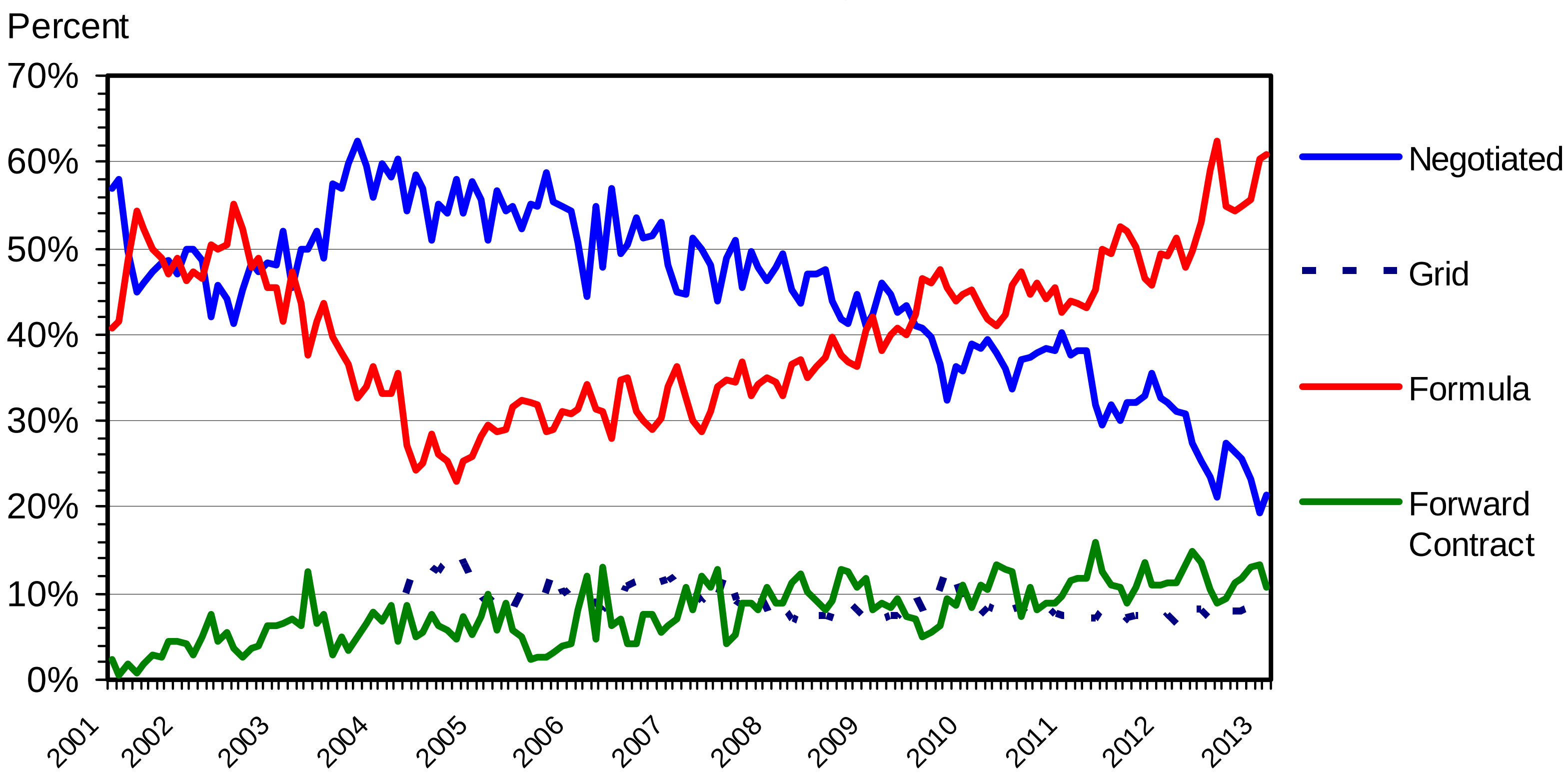
TOTAL CATTLE SOLD BY TRANSACTION

Monthly



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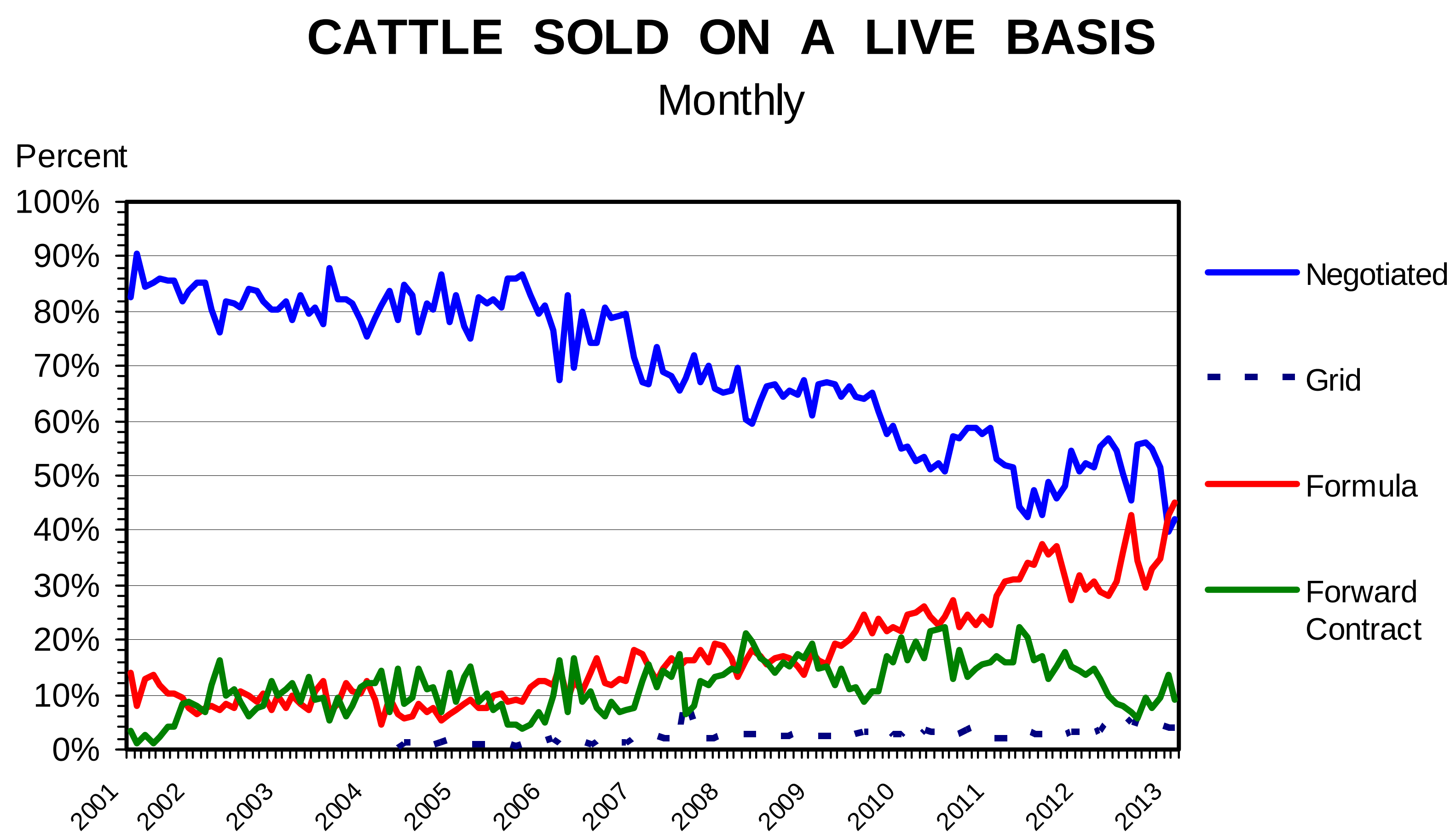
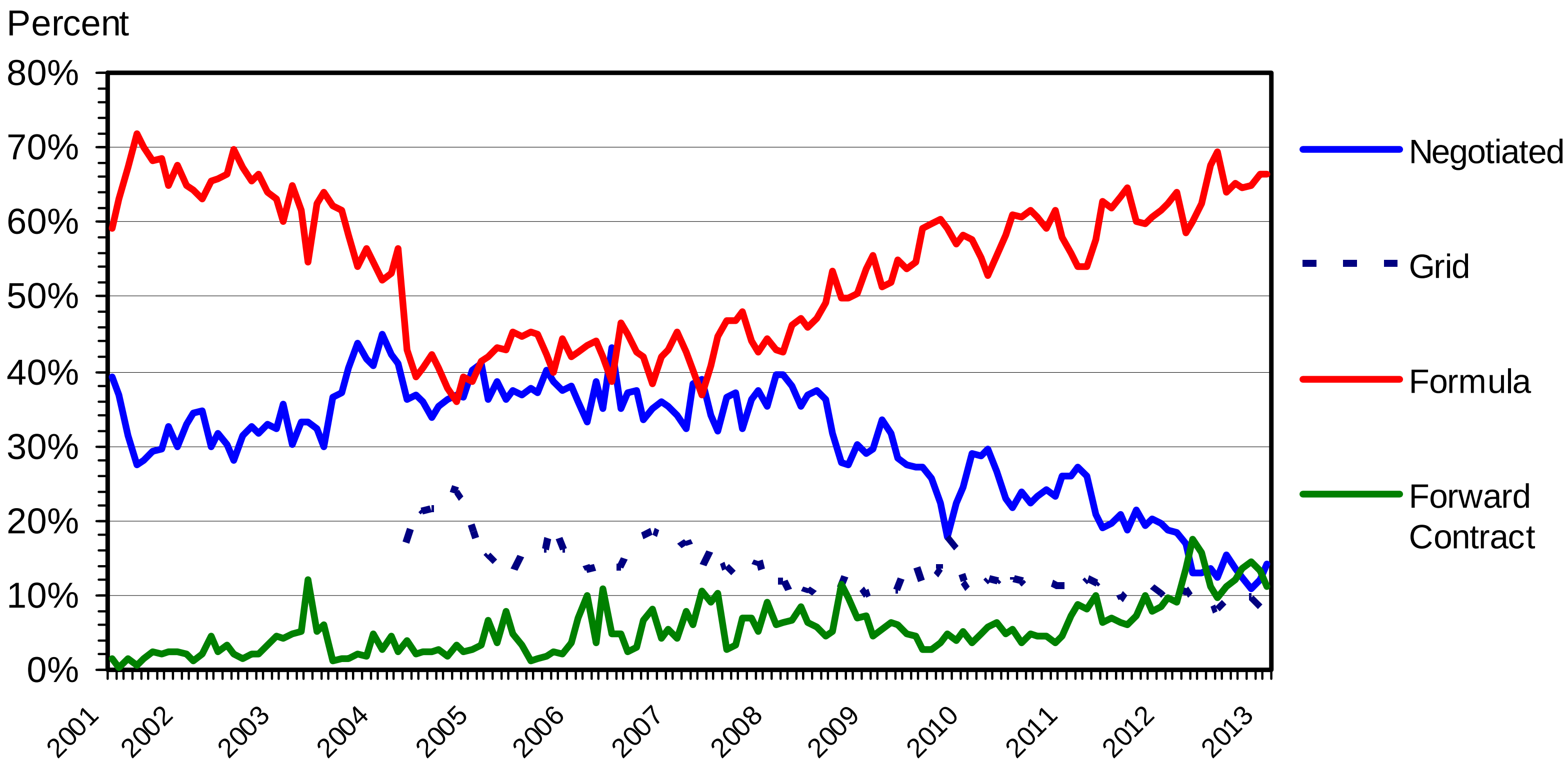


Data Source: USDA-AMS

Compiled by: Livestock Marketing Information Center

CATTLE SOLD ON A DRESSED BASIS

Monthly



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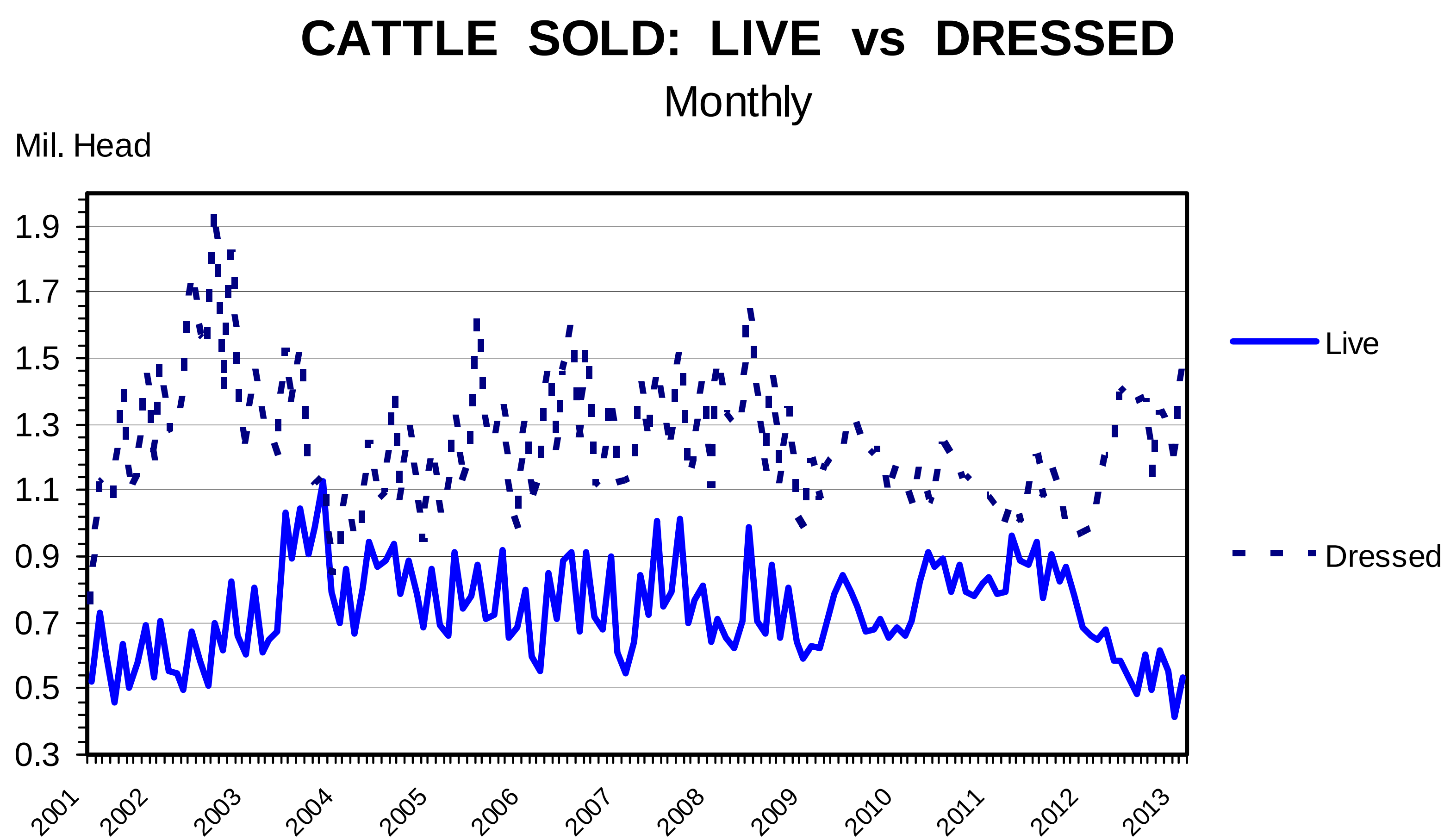


Data Source: USDA-AMS

Compiled by: Livestock Marketing Information Center

Captive Supply Research

- *Much concentration legislation is focused on prohibiting captive supplies.*
- *Very well studied: dozen published works.*
- *Very thoroughly studied:*
  - *1996 Concentration Study (Red Books)*
    - *13-Month study period: 4/1992-4/1993 with transactions for every pen of animals traded in the country.*
  - *2007 Livestock & Meat Marketing Study*
    - *30-Month study period: 10/2002-3/2005 with transactions for every pen of animals traded in the country.*
  - *Both studies Congressionally mandated and funded.*
- *Strategic behavior by packers in the use of captive supplies was not found.*

Incentives to be on a formula?

- *Cattle management – pens are marketed when they need to be marketed.*
- *Feedlot management – personnel, mills, & systems.*
- *Capacity utilization – low-90s for formula enterprises & high-70s & low-80s for cash market enterprises.*
- *Financing, partial ownership, & profit-sharing.*
- *One of the most expensive people in the feedyard enterprise is figuring how to get cattle to make money and is not figuring out how to make money on the phone.*

- *Higher volumes, predictable volumes, & lower costs.*
- *Fewer personnel.*
- *Predictable program cattle volumes.*

How do we know this?

Results from the USDA GIPSA (Congressionally Mandated and Funded) Livestock and Meat Marketing Study

Completed in 2007.

Beef, Pork, Lamb, and Downstream Projects.

January 2007

GIPSA Livestock and Meat Marketing Study

Contract No. 53-32KW-4-028

Volume 3: Fed Cattle and Beef Industries
Final Report

Prepared for

Grain Inspection, Packers and Stockyard Administration
U.S. Department of Agriculture
Washington, DC 20250

Prepared by

RTI International
Health, Social, and Economics Research
Research Triangle Park, NC 27709

RTI Project Number 0209230

RTI INTERNATIONAL

What's the "beef" with Captive Supplies?

- *Packers get the formula cattle without bidding on them.*
- *For example,*
  - *Packers need: 20,000 head per week.*
  - *Half of supplies are formula – only need 10,000 head.*
  - *Therefore, AMA's have to soften demand.*
- *But what's the flaw in that argument?*
  - *<u>I am sure that if the packers don't have to buy them then feedlots don't need to sell them</u>.*
- *And lets call them Alternative Marketing Agreements.*

A Correct Example of AMAs

	Low AMA	High AMA	Concern	Actual
Packer needs:	20,000	20,000	20,000	20,000
Formula	5,000	16,000	16,000	12,000
Cash	15,000	4,000	4,000	8,000
Feedlot showlists:	20,000	20,000	25,000	18,000
Formula	5,000	16,000	16,000	12,000
Cash	15,000	4,000	9,000	6,000

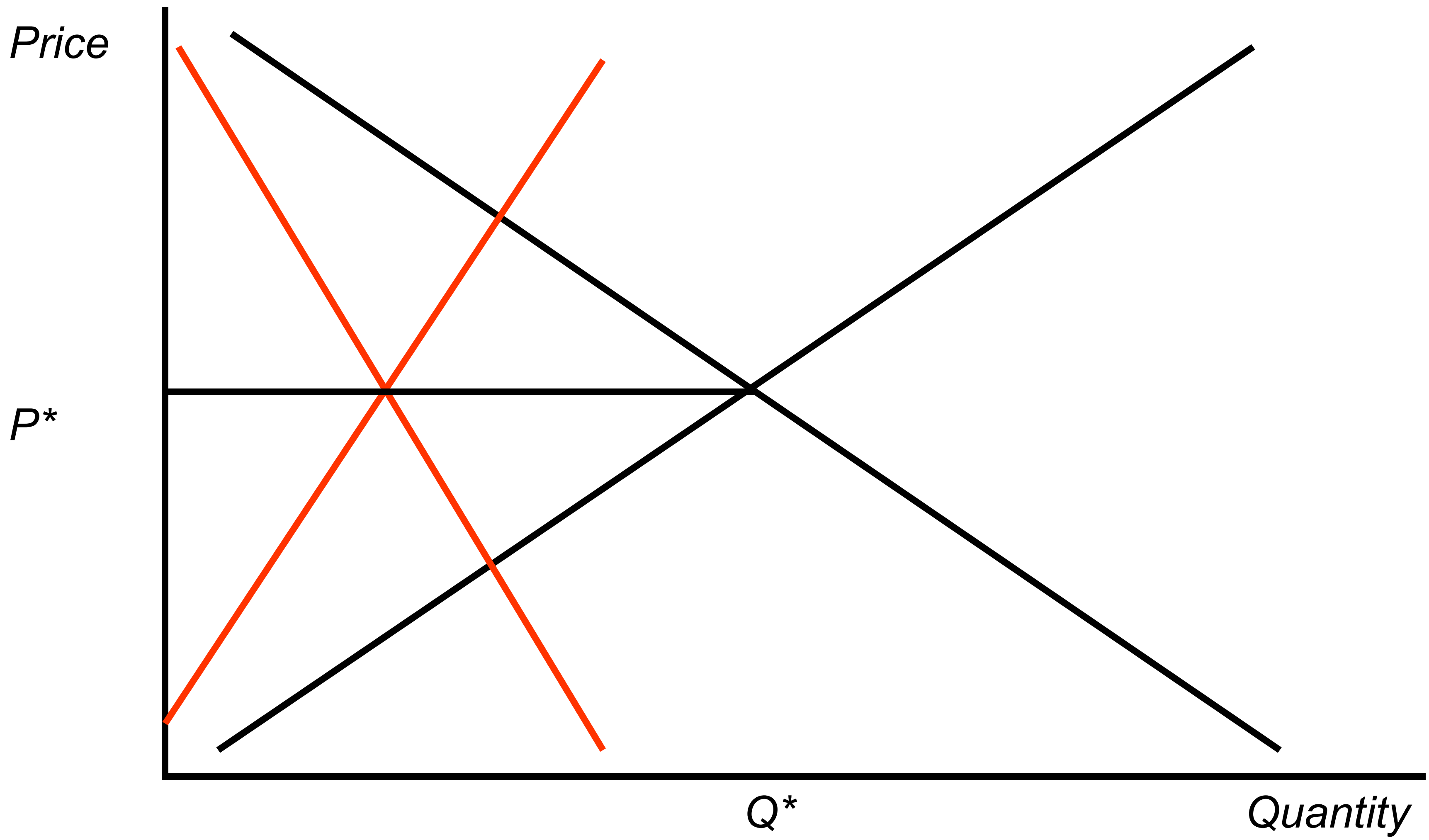
The number of formula cattle slaughtered by the packer has to be equal to the number of formula cattle moved by the feedlots.

The market is in balance with the first two examples – low numbers of AMA cattle and high numbers of AMA cattle.

The market is out of balance in the “Concern” scenario – 2012.

The “Actual” scenario is what we saw in 2010-11 & may see in 2013.

A Correct Example of AMAs



What do we know from AMA Research?

- *AMAs are not used to manipulate the cash market price.*
- *AMAs appear to be demand enhancing.*
- *AMAs are cost reducing. Packers are more efficient and feeding enterprises are more efficient.*
  - *No sweet-deals & no coercion.*
- *AMAs benefit consumers (& all downstream firms), cow-calf producers (& all upstream firms), and feeding enterprises that use them. ($9.5 billion in $2003 or 13.8% of a measure of producer economic wellbeing.)*

- *Just because AMAs are beneficial does not mean that the cash market should be displaced.*

Proposals so far…

- *Johnson Amendment to 2002 Farm Bill and all the other, annually introduced, "Livestock Market Fairness" Bills to prohibit or limit packer ownership…*
- *GIPSA Proposed Rules which said explicitly that it did not prohibit AMAs but which would have very effectively prohibited AMAs.*

- *None of which address the real problem of effective price discovery.*

Example of Public Good

- *Suppose a group of cow-calf producers do not have enough of their own land to graze all their animals but have access to common land.*
- *What happens to that common land?*
  - *It will be over-grazed.*
  - *Same outcome for all open-access fisheries.*
- *Public goods are overused because each individual does not pay their specific full cost.*
- ***There is no market solution to the problem****.*
- *Solution to problem is to form a government or association of producers with authority to say who uses the public good when and for how long.*

Price Discovery is a Public Good

- *Cash market participants invest resources to negotiate and discover cash market prices.*
- *Formula operations save that investment and make use of the prices discovered by the cash market participants.*
- *It is exactly like the grazing example. Formula operations use the outcome of the investment by cash market operations without paying for it.*
- *And there might be a market solution…*
- *But there might not be… (My sort-of evidence is hogs…)*

Proposals

- *Form a working group within this association reporting to the Marketing Committee with authority to do something.*
  – *Organized discussions between packers, formula enterprises, and cash market enterprises.*
  – *Report on the process & decisions: what prices are used, benchmarking, & changes.*
- *Research is needed.*
  – *This is not an "it depends" economist answer. We don't know.*
  – *Objective information is needed to support the making of good decisions.*
  – *Formula operations should fund the research.*

Two years of explanation and education efforts.

And let's not forget the Competition Workshops and if you only went to the one in DC you missed the fun.

But I do appreciate the OCE' contribution to the Final Rules…

Proposed Rules

Federal Register
Vol. 75, No. 119
Tuesday, June 22, 2010

This section of the FEDERAL REGISTER contains notices to the public of the proposed issuance of rules and regulations. The purpose of these notices is to give interested persons an opportunity to participate in the rule making prior to the adoption of the final rules.

DEPARTMENT OF AGRICULTURE

Grain Inspection, Packers and Stockyards Administration

9 CFR Part 201

RIN 0580–AB07

Implementation of Regulations Required Under Title XI of the Food, Conservation and Energy Act of 2008; Conduct in Violation of the Act

AGENCY: Grain Inspection, Packers and Stockyards Administration, USDA.

ACTION: Proposed rule.

SUMMARY: The Department of Agriculture (USDA), Grain Inspection, Packers and Stockyards Administration (GIPSA) is proposing to add several new sections to the regulations under the Packers and Stockyards Act, 1921, as amended and supplemented (P&S Act).

The new regulations that GIPSA is proposing would describe and clarify conduct that violates the P&S Act and allow for more effective and efficient enforcement by GIPSA. The proposed regulations would clarify conditions for industry compliance with the P&S Act and provide for a fairer market place.

DATES: We will consider comments we receive by August 23, 2010.

ADDRESSES: We invite you to submit comments on this proposed rule. You may submit comments by any of the following methods:

- *E-mail: comments.gipsa@usda.gov.*
- *Mail:* Tess Butler, GIPSA, USDA, 1400 Independence Avenue, SW., Room 1643–S, Washington, DC 20250–3604.
- *Fax:* (202) 690–2173.
- *Hand Delivery or Courier:* Tess Butler, GIPSA, USDA, 1400 Independence Avenue, SW., Room 1643–S, Washington, DC 20250–3604.
- *Federal e-Rulemaking Portal: http://www.regulation.gov.* Follow the on-line instructions for submitting comments.

Instructions: All comments will become a matter of public record and should be identified as "Farm Bill Comments," making reference to the date and page number of this issue of the Federal Register. Comments will be available for public inspection at *http://www.regulations.gov* and in the above office during regular business hours (7 CFR 1.27(b)). Please call GIPSA Management Support Services staff at (202) 720–7486 to arrange a public inspection of comments.

FOR FURTHER INFORMATION CONTACT: S. Brett Offutt, Director, Policy and Litigation Division, P&SP, GIPSA, 1400 Independence Ave., SW., Washington, DC 20250, (202) 720–7363, *s.brett.offutt@usda.gov.*

SUPPLEMENTARY INFORMATION:

Background

The P&S Act sets forth broad prohibitions on the conduct of entities operating subject to its jurisdiction. These broad provisions make enforcement difficult and create uncertainty among industry participants regarding compliance. In enacting Title XI of the Food, Conservation and Energy Act of 2008 (Farm Bill) (Pub. L. 110–246), Congress recognized the nature of problems encountered in the livestock and poultry industries and amended the P&S Act. These amendments established new requirements for participants in the livestock and poultry industries and required the Secretary of Agriculture (Secretary) to establish criteria to consider when determining whether the P&S Act has been violated.

In accordance with the Farm Bill, GIPSA is proposing regulations under the P&S Act that would clarify when certain conduct in the livestock and poultry industries represents the making or giving of an undue or unreasonable preference or advantage or subjects a person or locality to an undue or unreasonable prejudice or disadvantage. These proposed regulations also establish criteria that GIPSA would consider in determining whether a live poultry dealer has provided reasonable notice to poultry growers of a suspension of the delivery of birds under a poultry growing arrangement; when a requirement of additional capital investments over the life of a poultry growing arrangement or swine production contract constitutes a violation of the P&S Act; and whether a packer, swine contractor or live poultry dealer has provided a reasonable period of time for a grower or a swine producer to remedy a breach of contract that could lead to termination of the growing arrangement or production contract.

The Farm Bill also instructed the Secretary to promulgate regulations to ensure that poultry growers, swine production contract growers and livestock producers are afforded the opportunity to fully participate in the arbitration process, if they so choose. We are proposing a required format for providing poultry growers, swine production contract growers and livestock producers the opportunity to decline the use of arbitration in those contracts that have an arbitration provision. We are also proposing criteria that we would consider in finding that poultry growers, swine production contract growers and livestock producers have a meaningful opportunity to participate fully in the arbitration process if they voluntarily agree to do so. We would use these criteria to assess the overall fairness of the arbitration process.

In addition to proposing regulations in accordance with the Farm Bill, GIPSA is proposing regulations that would prohibit certain conduct because it is unfair, unjustly discriminatory or deceptive, in violation of the P&S Act. These additional proposed regulations are promulgated under the authority of section 407 of the P&S Act, and complement those required by the Farm Bill to help ensure fair trade and competition in the livestock and poultry industries.

In recent years, there has been an increased use of contracting in the marketing and production of livestock and poultry by entities under the jurisdiction of the P&S Act. This increased contracting coupled with the market concentration has significantly changed the industry and the rural economy as a whole, making proposed regulations necessary, especially in those situations in which packers, live poultry dealers or swine contractors use their market power to harm producers or impair private property rights of growers and producers. Transparency, competition and financial integrity of the marketplace have also diminished.

Section 407 of the P&S Act (7 U.S.C. 228) provides that the Secretary "may make such rules, regulations, and orders as may be necessary to carry out the provisions of this Act." Pursuant to this

What about the GIPSA Proposed Rules?

- *The P&S Act has two sections different from antitrust legislation which are used in legal challenges*
  - *"unfair and unjustly discriminatory"*
  - *"undue and unreasonable preference"*
- *The 2008 Farm Bill required GIPSA to more clearly define "undue or unreasonable preference" with respect to poultry and pork production contracts.*
- *However, GIPSA proposed Rule changes to both sections and with respect to all livestock and poultry contracts – poultry, pork, and beef – and production and marketing contracts. And addressed competitive injury.*

GIPSA Proposed Rules

- *"Paying a premium or applying a discount… without documenting reasons and substantiating the revenue and costs justification…" is <u>unfair</u>. (Doesn't say contract when talking about cattle.)*
- *Not offering the same <u>contract terms</u> to all producers that can provide the required livestock is <u>undue or unreasonable</u>. But doesn't require purchases if needs are met. Does require "legitimate business reasons" and "to maintain records that justify" differential treatment.*
- *Dismissed judicial "competitive injury" standards.*

Concerns within the GIPSA Proposed Rules

- *No economics clarifying "unfair, unjustly discriminatory," and "undue or unreasonable preference."*
- *"Paying a premium or applying a discount… without documenting reasons and substantiating the revenue and costs justification…" is <u>unfair</u>. (Doesn't say contract when talking about cattle.)*
- *Not offering the same <u>contract terms</u> to all producers that can provide the required livestock is <u>undue or unreasonable</u>. But doesn't require purchases if needs are met. Does require "legitimate business reasons" and "to maintain records that justify" differential treatment.*
- *Remember, within P&S Actions the burden of proof can be on the packer and the standard can be vague.*

Competitive Injury

- *Courts – especially appeals courts – treat the P&S Act as antitrust legislation.*
- *I think it's hard to argue it's not or more than.*
- *Therefore, courts want to see some market impact that injures competition.*
- *The GIPSA Proposed Rules says injury to the marketplace is not required.*
- *I guess that's why we have checks-&-balances...*

Competitive Injury

- *“Competitive injury occurs when an act or practice distorts competition.”*
- *“Likelihood of competitive injury occurs when an act or practice raises rivals’ costs, improperly forecloses competitive through exclusive dealing, restrains competition, or otherwise represents misuse of market power to distort competition.”*
- *“To show competitive injury or likelihood of, it is not necessary to show the act or practice effected price levels.*
- *No cost/benefit analysis, no rule of reason, & not even an impact on prices.*

Unfair, Unjustly Discriminatory & Deceptive Practices

- *“Eight specific examples of conduct deemed unfair.” So unfair is defined by some examples.*
- *“Paying a premium or applying a discount… without documenting reasons and substantiating the revenue and costs justification…” is unfair.*
- *The proposed rule does not say “contract” when talking about cattle so I assume that means any transaction.*
- *Packer-to-packer trades are unfair.*

Undue or Unreasonable Preference or Advantage

- *"Not offering the same <u>contract terms</u> to all producers that can provide the required livestock is <u>undue or unreasonable</u>. But doesn't require purchases if needs are met. Does require "legitimate business reasons" and "to maintain records that justify" differential treatment.*
- *Prohibits packer buyers from buying for more than one packer. (Small auction market impact.)*
- *Requires sample contracts to be submitted to GIPSA for public posting.*

So How Thin Is Too Thin?

- *Confidence & Pricing Error*
  - *More transactions are needed for better price discovery – high probability of less pricing error.*
  - *Trade-off between number and confidence/error.*
    - *If you want to be 99% sure then it’s a lot more than if 95% is acceptable.*
    - *If you want to have <$0.25 error then it’s a lot more than if $1 is acceptable.*
- *Impact on price levels?*
  - *Do formula volumes weaken cash prices?*
- *Impact on price volatility?*
  - *Do formula volumes increase volatility in the cash market?*

So How Thin Is Too Thin?

Make use of a statistical tool: Chebychev's Inequality

$$Prob\{-c \le (X_n - \mu) \le c\} \ge 1 - (\sigma^2/nc^2)$$

Prob is the probability (we need to choose)

c is the error in price (we need to choose)

X_n is the mean reported price (measured)

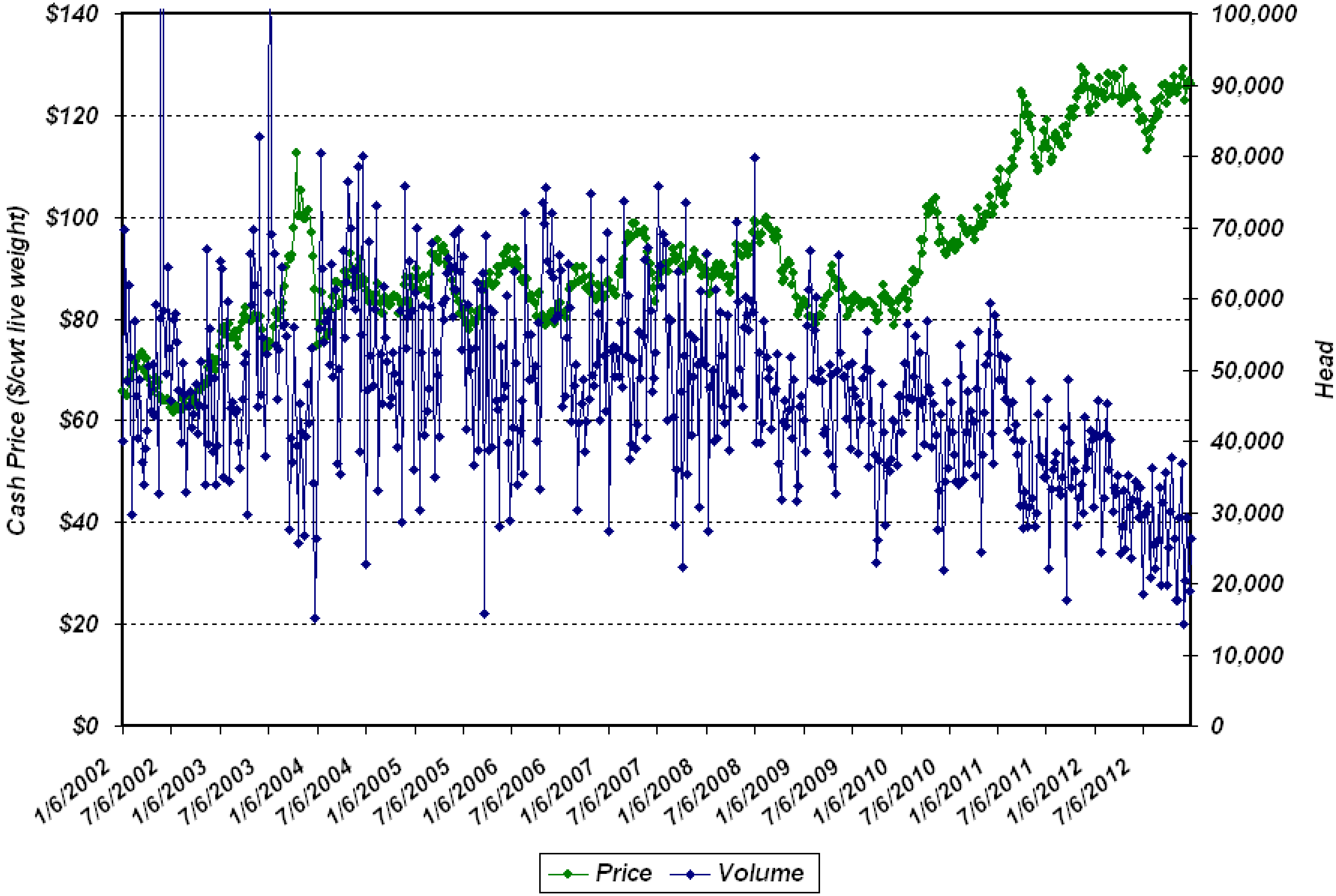
μ is the underlying market price (unknown)

σ^2 is the variance of reported price (measured)

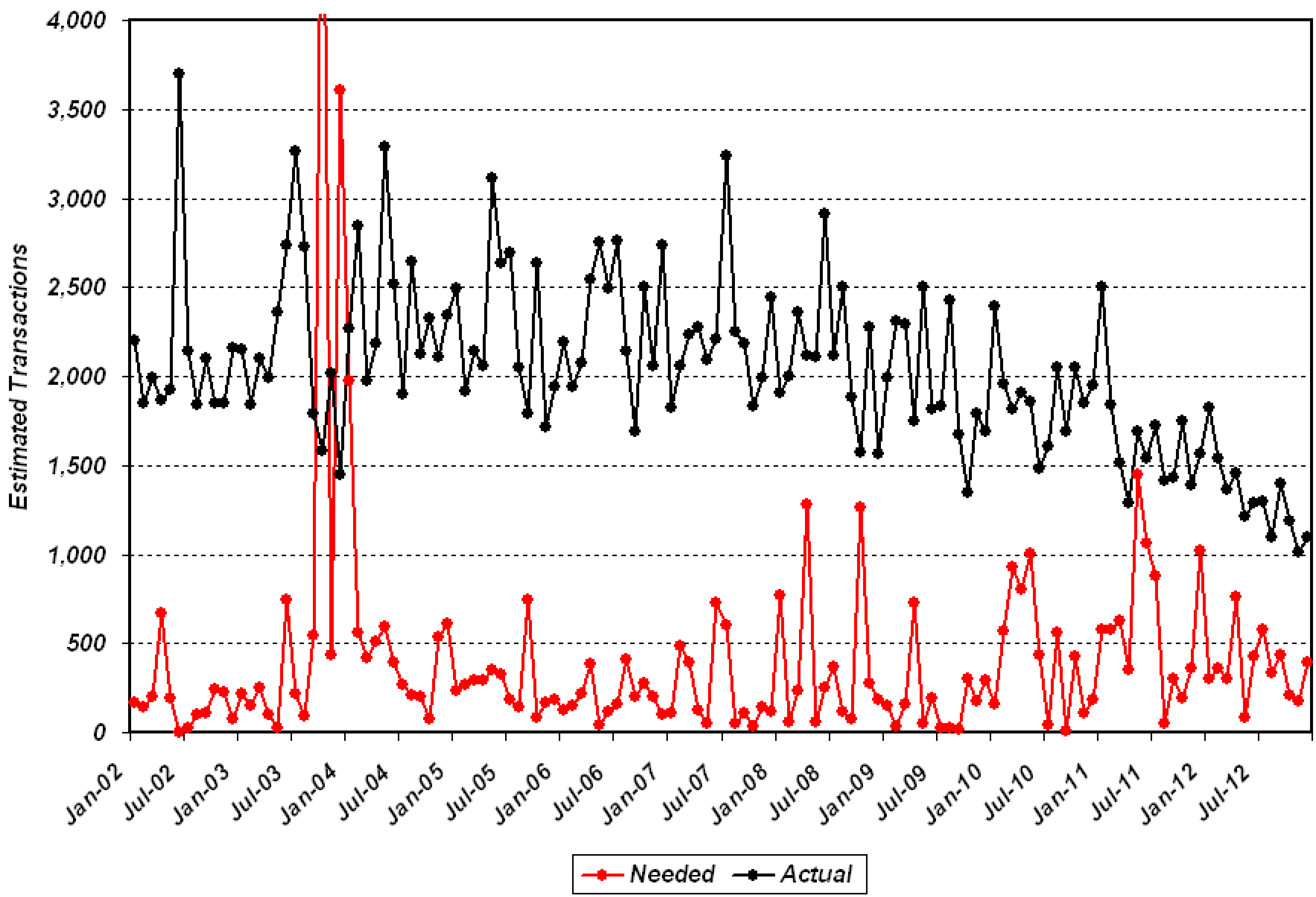
n is the number of trades

Solve for $n = (\sigma^2/\{1–Prob\}c^2)$ so given X_n, σ^2, c and Prob…

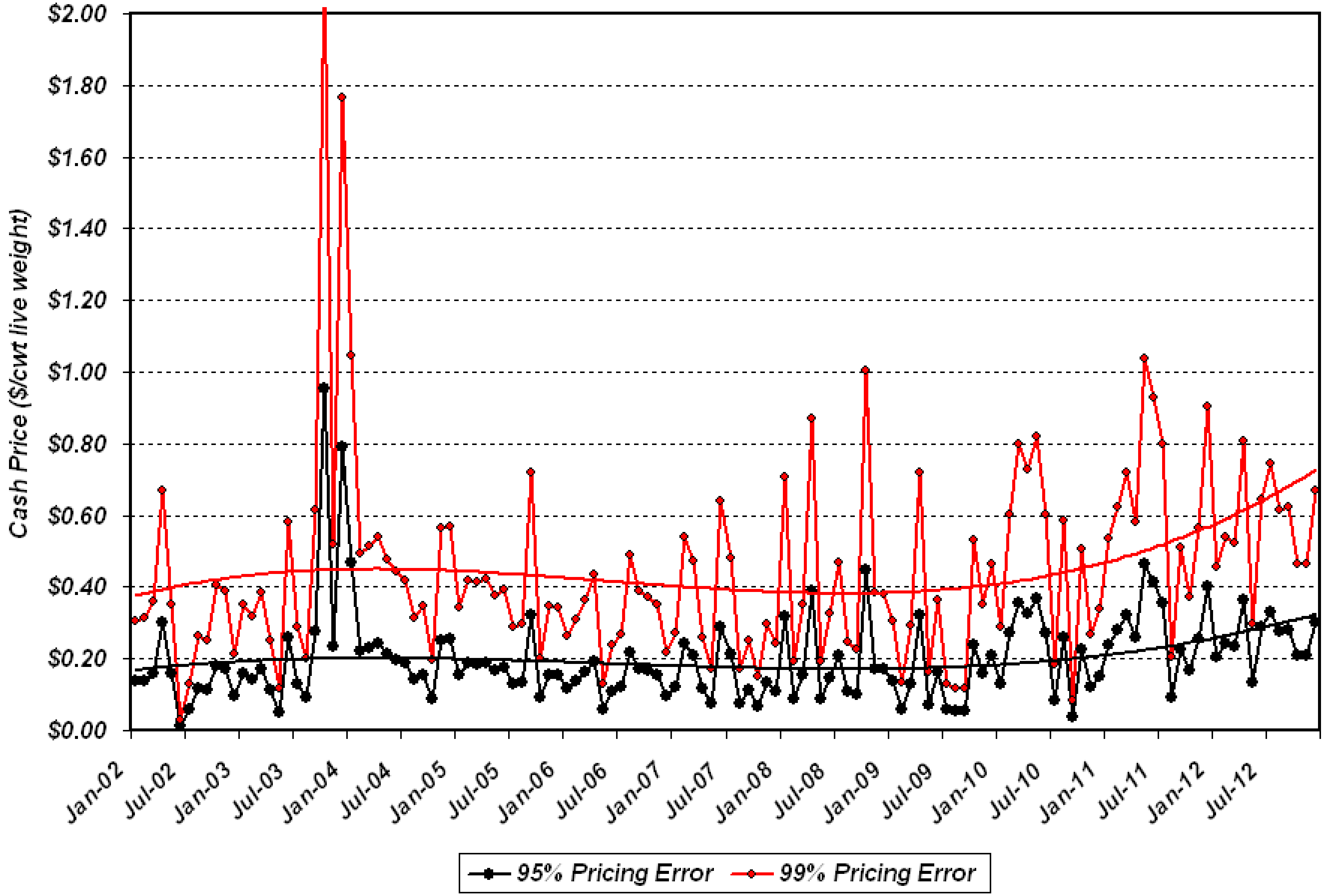
Nebraska Cash Prices & Volume



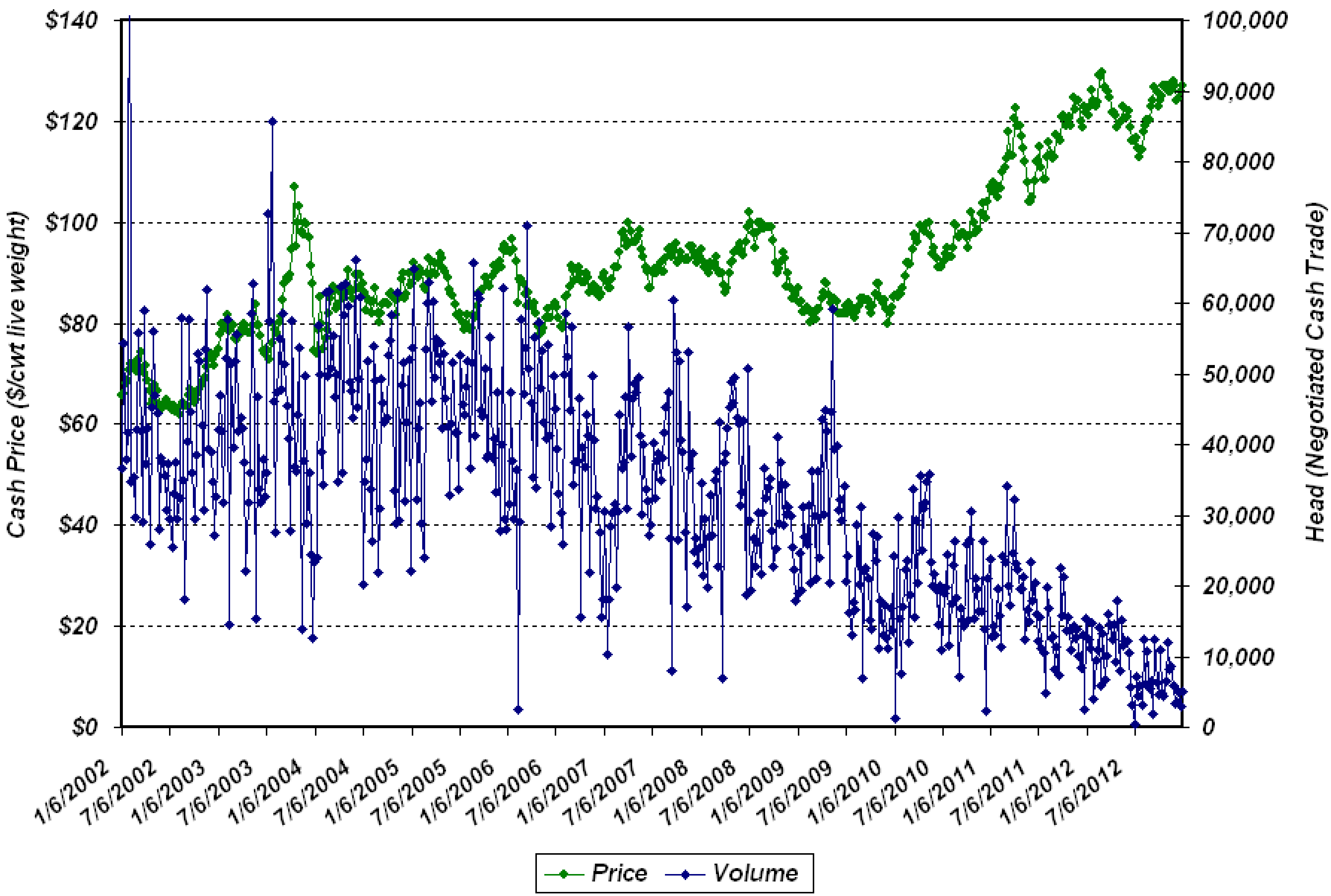
Transactions: to achieve <$1/cwt pricing error with 95% certainty



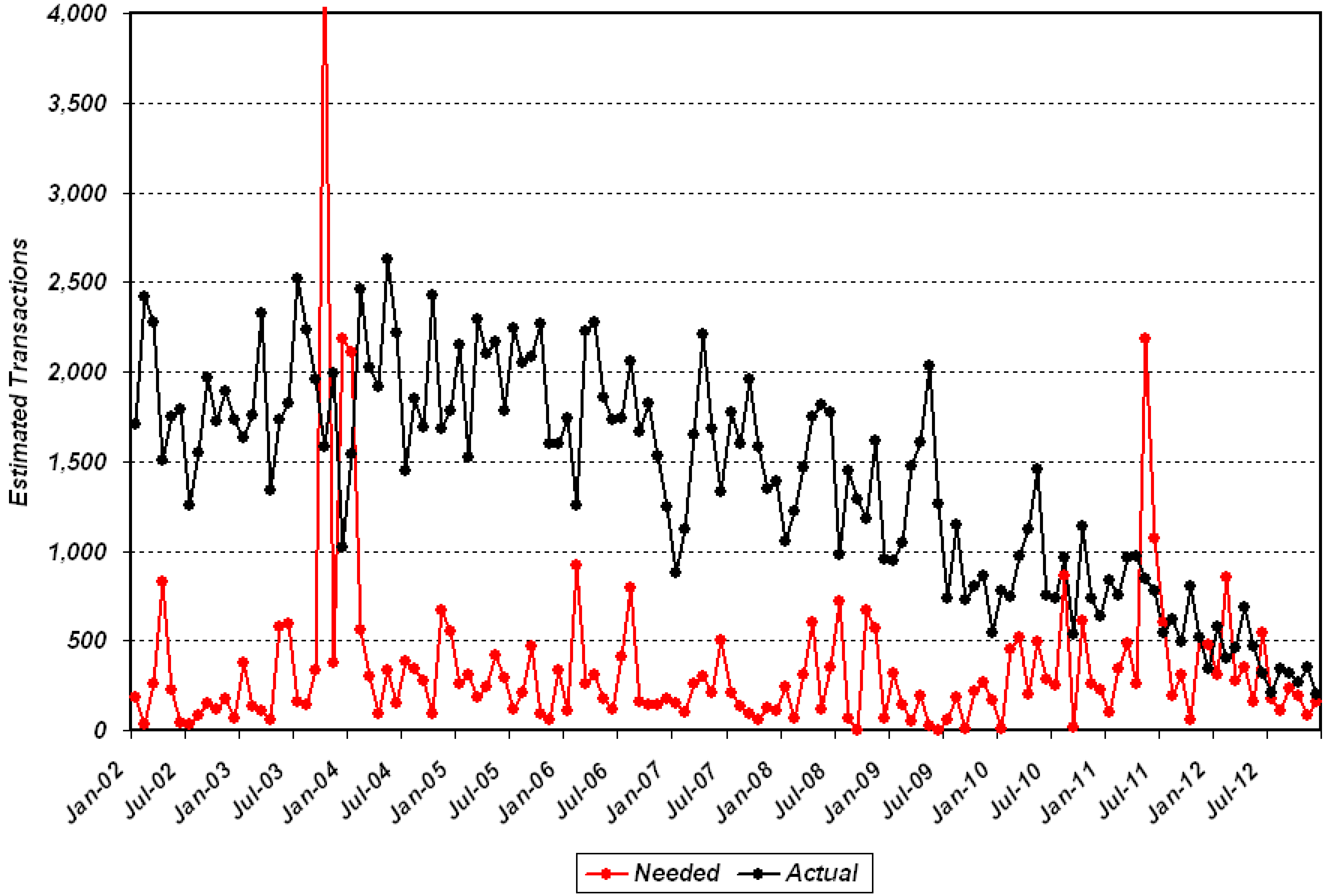
Pricing Error at 95% & 99% Needed Confidence



Texas Cash Prices & Volume



Transactions: to achieve <$1/cwt pricing error with 95% certainty



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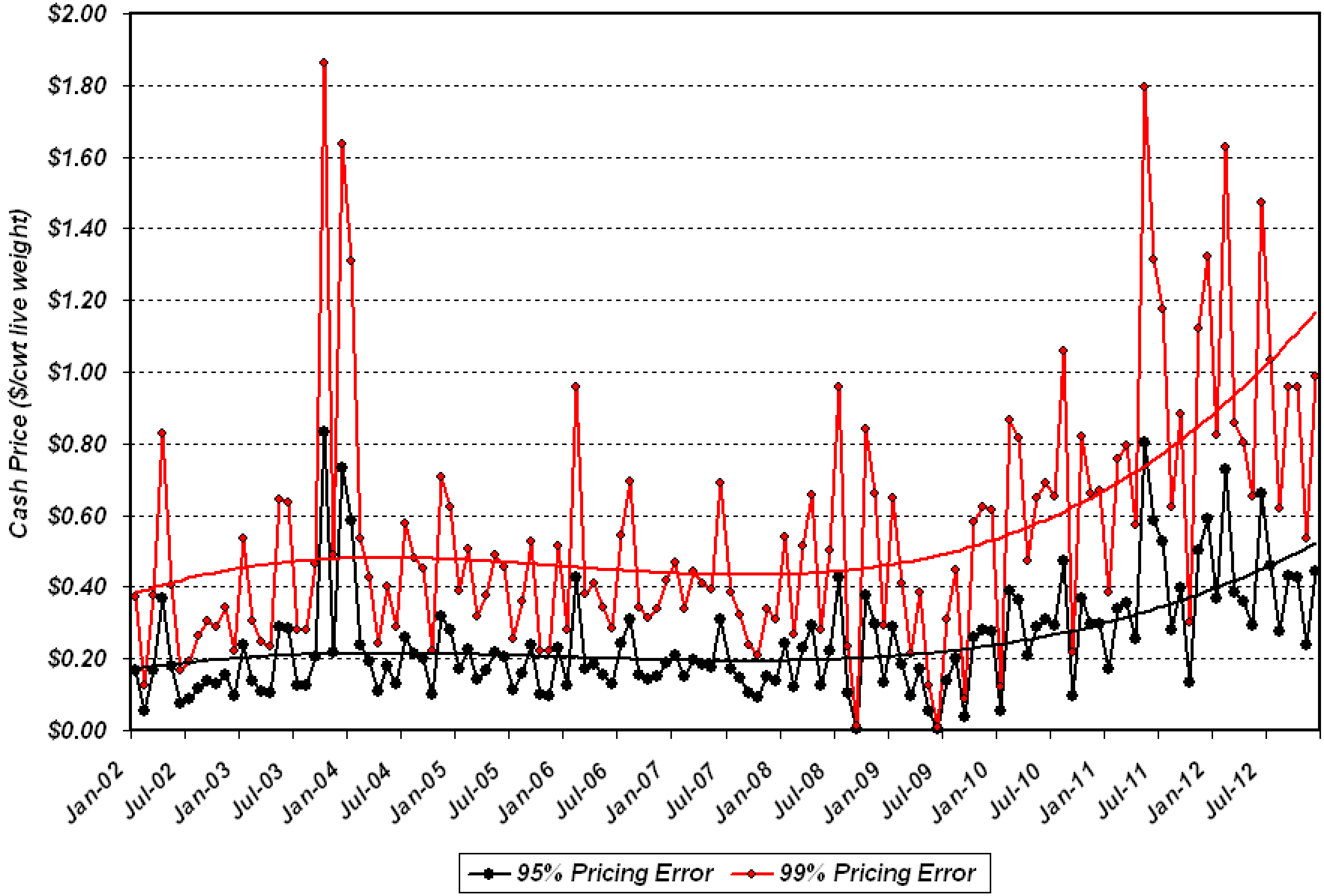

So How Thin Is Too Thin?

- *For Nebraska:*
  - *Will suspect impacts on price at the negotiated volume being 5-10% of total.*
  - *Currently, at 20-50% or 30-40% .*
- *All other southern & western regions will see problems beforehand.*
  - *Texas/Oklahoma/New Mexico – there now*
  - *Kansas*
  - *Colorado*
- *Midwest regions are thickest – and will be center of negotiated cash market price discovery?*
  - *Iowa/Southern Minnesota*

So How Thin Is Too Thin?

- *Mean price impacts*
  - *Preliminary evidence of small negative impacts from AMA volumes.*
  - *Not worsening with very high AMA volumes.*
- *Volatility price impacts*
  - *Preliminary evidence of fairly big volatility impacts.*
  - *Worsening with very high AMA volumes.*
  - *But it takes very small cash volumes and something else to produce the volatility.*
- *Proposal with National Cattlemen's Beef Association to examine USDA AMS data to find ways to thicken reporting and also interview formula enterprises.*

Colorado State University
Extension

Contact and Link Information

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http://dare.agsci.colostate.edu/skoontz/