

Beef Premiums and Discounts

An Update of 5-Area Cattle and Beef Quality Premiums and Discounts

March 2012

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This fact sheet provides an updated overview of how premiums and discounts for US fed cattle vary over time. This update is especially relevant since most existing fact sheets were posted prior to imposition of the Mandatory Price Reporting Act (MPR) in April of 2001. Multiple facets of the overall market complex for US fed cattle may have been altered over this past decade, leading to possible changes in the variation of beef premium and discount levels.

Premiums and discounts are critically important to beef producers who market cattle under systems where grid pricing is used¹. Grid pricing seeks to reward production of certain carcass traits while discouraging others, rather than simply aligning payments solely with quantity of production assumed to be homogeneous in quality. Knowledge of grid pricing systems and their associated premiums and discounts aids producers in marketing cattle that fit current demand specifications and maximizing revenues from cattle sales.

Premiums and Discounts

Premium and discount levels are heterogeneous across packers at any given point in time. This fact sheet uses weighted average of the weekly high and low prices reported for a given premium or discount. The data used for beef premium and discount analysis was from USDA AMS 5-Area Weekly Direct Slaughter reports, from October 2003 to January 2012, courtesy of the Livestock Marketing Information Center. Data regarding steer and heifer slaughter weights was from monthly NASS livestock slaughter reports, also provided by the Livestock Marketing Information Center, from January 1980 to January 2012.

Figure 1 shows the average premiums given for beef carcasses grading Prime, Select, and Standard, and meeting various certified programs (for instance, Certified Angus Beef). The Choice grade does not appear on the chart as it is considered the base from which premiums (discounts) are added

¹ An alternative pricing method, formula pricing, is discussed in the [Grid and Formula Pricing in the Beef Industry](#) fact sheet, available from Ag-Manager.info.

(subtracted). For Prime carcasses, the premiums follow a slightly cyclical pattern, reversing the trend approximately every three years. Most recently, the premium for Prime grade cattle has been increasing and reaching record-high levels while discounts for Select and Standard grade animals have been steadily increasing. Combined, this leads to widening gaps between “premium cattle” and “discounted cattle” compared to historic relationships.

The Choice/Select spread is a highly watched measure and often provides some measure of packer’s interest levels in buying higher quality cattle. Table 1 gives summary statistics for the spread since 2003, as measured with yearly data. Both Table 1 and Figure 2 illustrate that, following a seasonally cyclical pattern, the discount for Select beef narrowed since 2003 but began to widen in 2009. 2011 was an anomalous year as the spread was unusually tight during the spring and saw significant widening in the fall. Late 2011 and early 2012, however, saw a tightening that brought the spread back to ‘normal’ levels. The volatility of the spread, as measured by standard deviation, decreased from 2003 to 2008 and has seen a steady increase from 2009 to 2012. However, when variability is measured by the Coefficient of Variation (COV)², the variability in the spread shows a much less consistent pattern. Thus, producers should not necessarily expect the volatility of the Choice/Select spread to have a close correlation with the spread’s current level.

The highly seasonal nature of the Choice/Select spread is highlighted in Figure 3. For producers seeking to minimize discounts, it appears that marketing Select grade cattle in February or March will offer the lowest discount relative to the Choice cattle price. Select cattle are typically discounted the most in October and November, according to the 5 year seasonal index. The 2011/2012 index exhibits an even stronger change from February to November in Select cattle discounts.

Beyond carcass quality, many additional factors influence beef premiums and discounts. Yield Grade (YG) and fat thickness premiums and discounts are used by packers to encourage production of certain types of cattle. Over the past decade, it appears that packers have been revealing a consistent preference for lean cattle; offering premiums for YG 1 and 2 cattle while discounting YG 4 and 5 cattle. However, discount levels for YG 4 and 5 cattle have been easing slightly since 2003.

Carcass weights are another area where fed cattle producers can realize substantial premiums and discounts. With the average carcass weight for steers hovering at 850 lbs., packers are applying heavier discounts to light carcasses than heavy carcasses. Discounts for 900-950 lb. carcasses have decreased from over \$5.00 in 2003 to near zero in recent years, while discounts for light carcasses, especially in the

² The COV divides the data series’ standard deviation by its’ mean, allowing variation in the data to be explained relative to the mean.

400-500 lb. range, have increased in the past decade (Figure 5). When viewed in light of the increasing carcass weights shown in Figure 6, it seems packers are becoming accustomed to dealing with heavier weights and are reducing discounts on heavy carcasses accordingly. Cost structures faced by beef packing companies could offer additional insight into discounts for light weight carcasses. Packers may prefer processing heavier carcasses as they gain more pound of saleable product from a heavier carcass. The 450 lb. carcass raises the packer's marginal cost relative to pounds of saleable product with this marginal cost increase being transmitted to fed cattle producers in the form of light carcass discounts.

In addition to carcass quality and weight, carcasses are discounted for undesirable traits. These “out” cattle carcasses are often heavily discounted and can be very costly to producers. As shown in Figure 7, bulls or cattle with “stag” characteristics are the most heavily penalized. Since 2007, bullock cattle have been discounted an average of \$40.52/cwt. Second to bullocks, cattle with dark cutting characteristics receive the next heaviest discounts from packers. Dark cutting meat has been proven to have significant detrimental impacts on meat quality and, accordingly, packers apply heavy discounts. Over the past five years, dark cutters have been slightly less discounted than bullock cattle, receiving an average discount of \$37.64/cwt. Producers need to be aware of the economic impacts of dark cutters on their bottom line and should adjust management practices accordingly. Much of the literature suggesting methods to reduce the incidence of dark cutting cattle focuses on animal handling, minimizing cattle stress at critical points (e.g., shipping from feedlots and receiving at slaughter plants), and improving genetic traits.

The final two “out” cattle discounts examined in this fact sheet are hardbone cattle and cattle over 30 months of age. Hardbone cattle (cattle with advanced maturity and ossification of bone, such as cull cows) are slightly less penalized than bullocks or dark cutters, with a five-year average discount of \$32.80/cwt. Cattle observed to be over 30 months of age (as judged by post-mortem evaluation of tooth characteristics, bone ossification, and other criteria) have received the mildest discounts of all “out” cattle, receiving a five-year average discount of \$13.65/cwt. However, these discounts have been steadily increasing since 2008, showing increasing reluctance by packers to buy cattle over 30 months old.

Cattle less than 30 months of age are critical to the rapidly increasing US beef trade with Asian countries. Largely in response to the 2003 BSE outbreak, most Asian countries to which the US exports beef prefer cattle under 30 months of age. Indeed, there exists an inverse correlation between the discount for older cattle and US beef exports to Japan and South Korea. Combined beef exports to Japan and South Korea are negatively correlated with the 30 months of age discount with a -0.85 correlation coefficient. Packers, as they depend more upon international markets to buy beef, appear to be

encouraging the production of young cattle by discounting those over 30 months of age. Practically, this suggests that (absent a policy change), as Asia imports more US beef, packers will likely increase the discounts for cattle over 30 months of age.

Conclusion

Grid pricing is a common method of determining the value of slaughter cattle in the US. The grid's base price is the initial price from which multiple premiums or discounts are applied according to carcass attributes. The introduction of MPR in April of 2001 likely changed several aspects of the fed cattle market complex, including grid pricing premiums and discounts. Following these changes will help producers market cattle desired by slaughter plants and minimize lost revenue from poor quality cattle which garner heavy discounts. Cattle producers should carefully examine available premiums and discounts, compare this to costs of changing production systems, and seek to produce the most economically efficient type of cattle for their operation.

References:

Ward, C.E., T.C. Schroeder, and D.M. Feuz. 2002 “Grid Base Prices and Premiums-Discounts Over Time.” www.agmanager.info/livestock/marketing/bulletins.../Grid_Base_Prices.pdf. Accessed 11/10/11.

Figures and Tables

Figure 1. 5-Area Quality Premiums

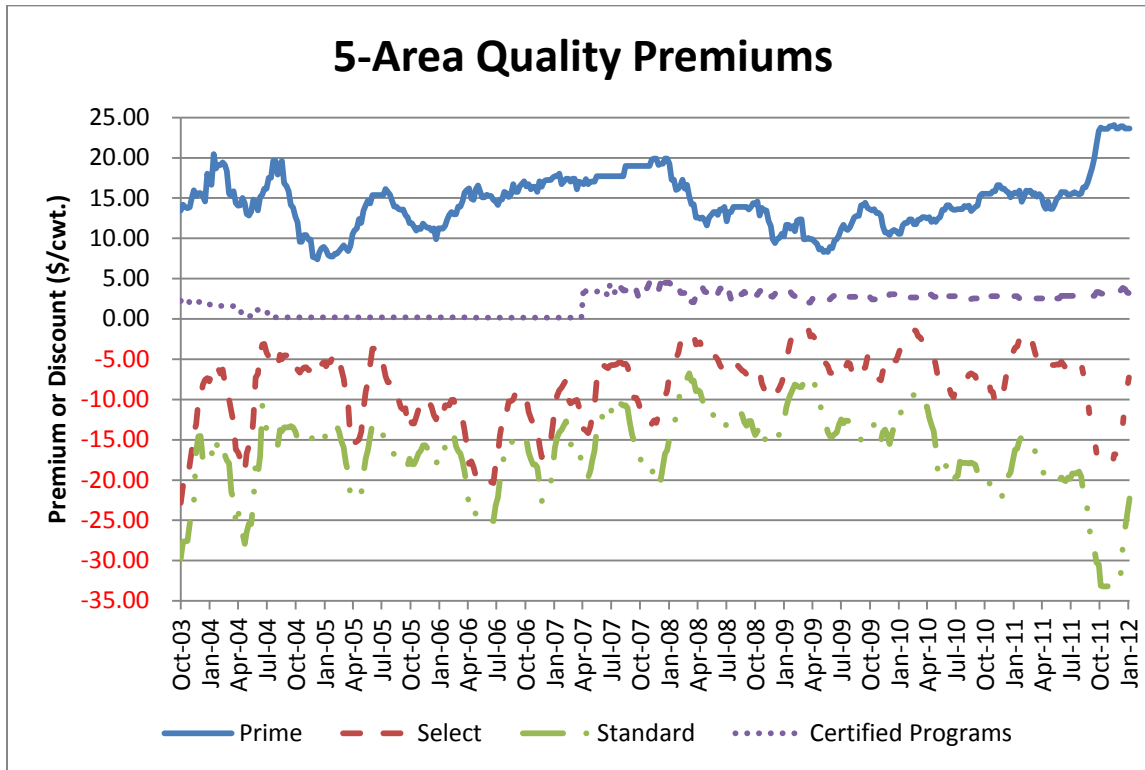


Figure 2. 5-Area Choice-Select Spread

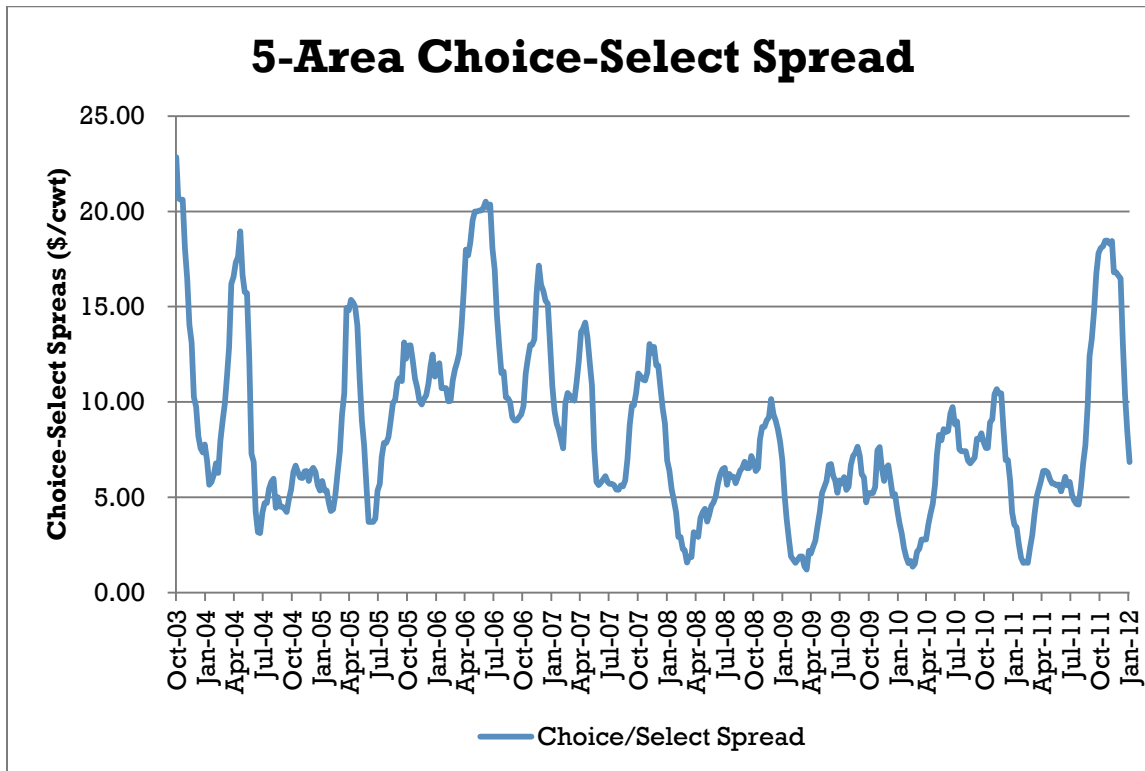


Table 1. Yearly Choice/Select Spread Statistics

Yearly Choice/Select Spread Statistics			
Year	Average	Std Dev	COV
2003	17.26	1.99	0.12
2004	7.85	1.06	0.13
2005	8.87	1.18	0.13
2006	13.84	0.96	0.07
2007	9.56	0.97	0.10
2008	5.74	0.62	0.11
2009	5.03	0.72	0.14
2010	6.34	0.72	0.11
2011	8.38	0.80	0.10
2012	9.67	2.69	0.28
9 Year Avg.	9.25	1.17	0.13

Figure 3. 5-Area Choice/Select Spread Seasonal Index

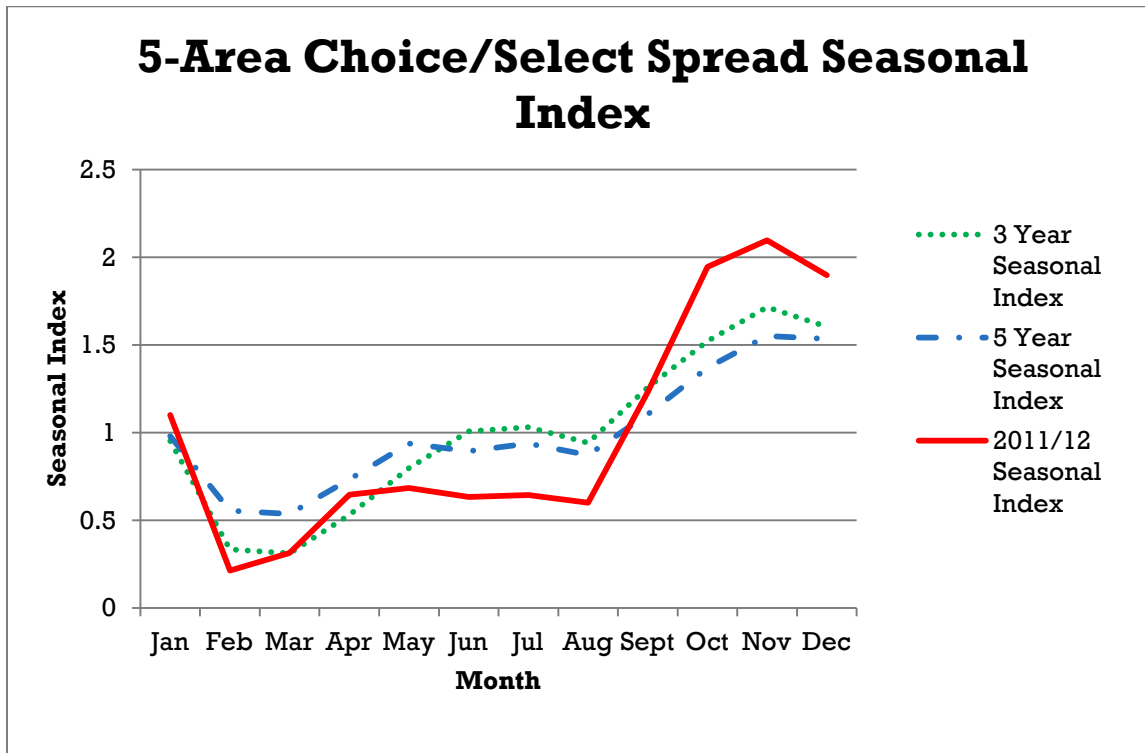


Figure 4. 5-Area Yield Grade Premiums

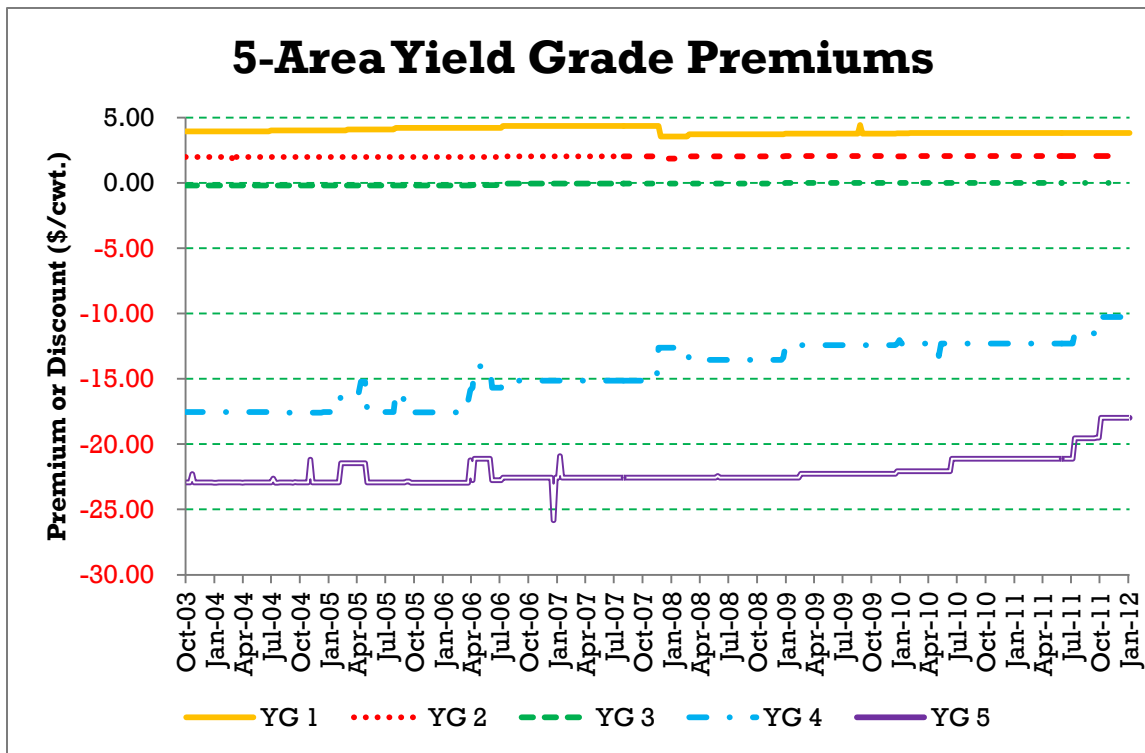


Figure 5. 5-Area Carcass Light and Heavy Carcass Discounts

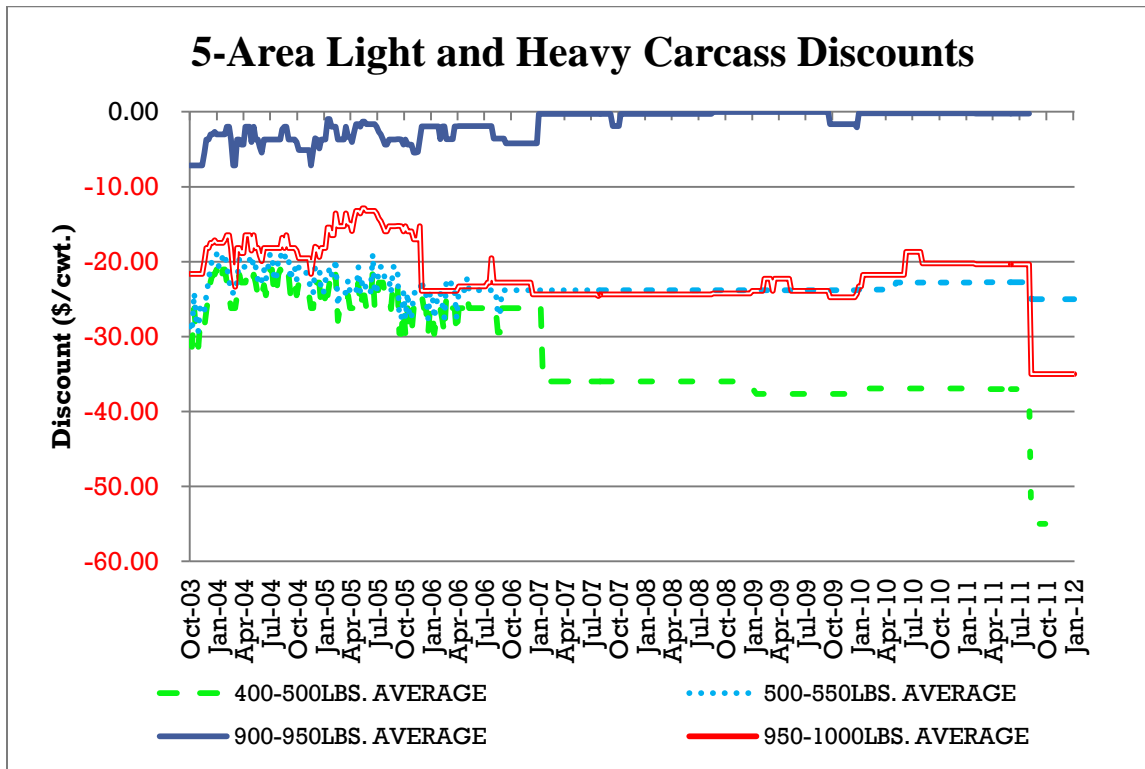
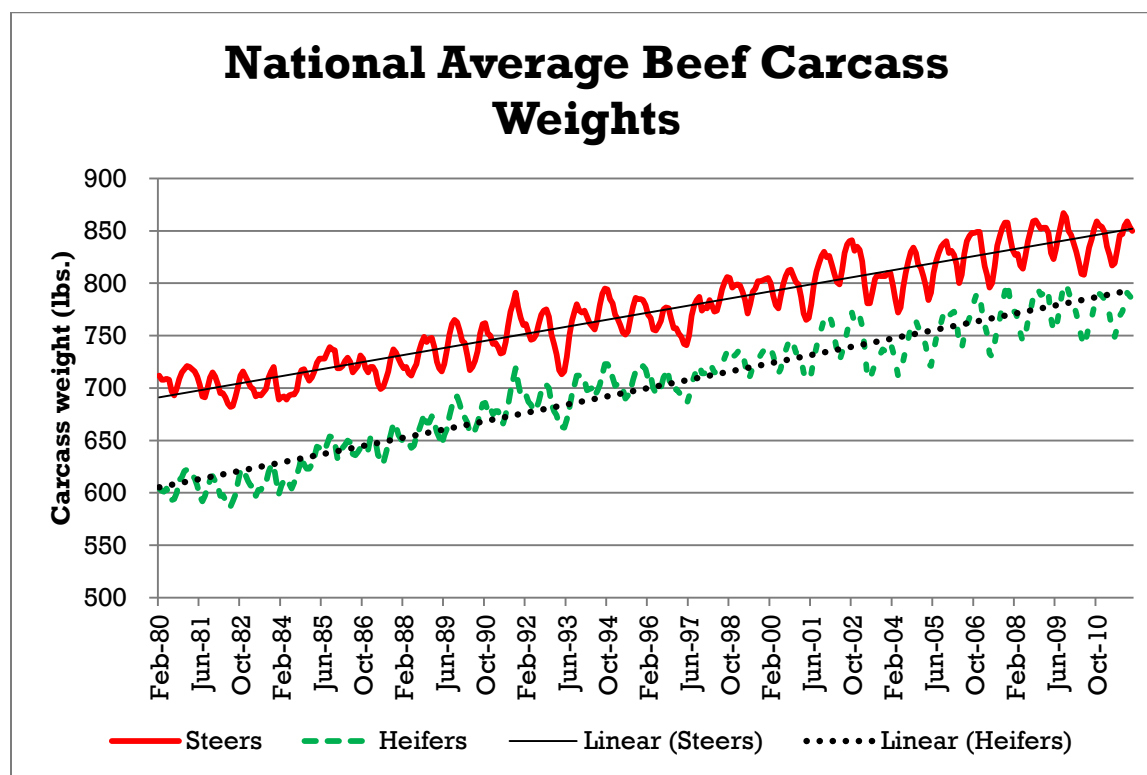


Figure 6. National Average Beef Carcass Weights



Regression coefficients for Steer and Heifer weights linear trend lines:

$Steer\ weight = 688.97 + 4.9889(Year\ trend\ variable) + error$	$R-square: 0.96611$
$Heifer\ weight = 602.20 + 5.8709(Year\ trend\ variable) + error$	$R-square: 0.96726$

Figure 7. 5-Area "Out" Cattle Discounts

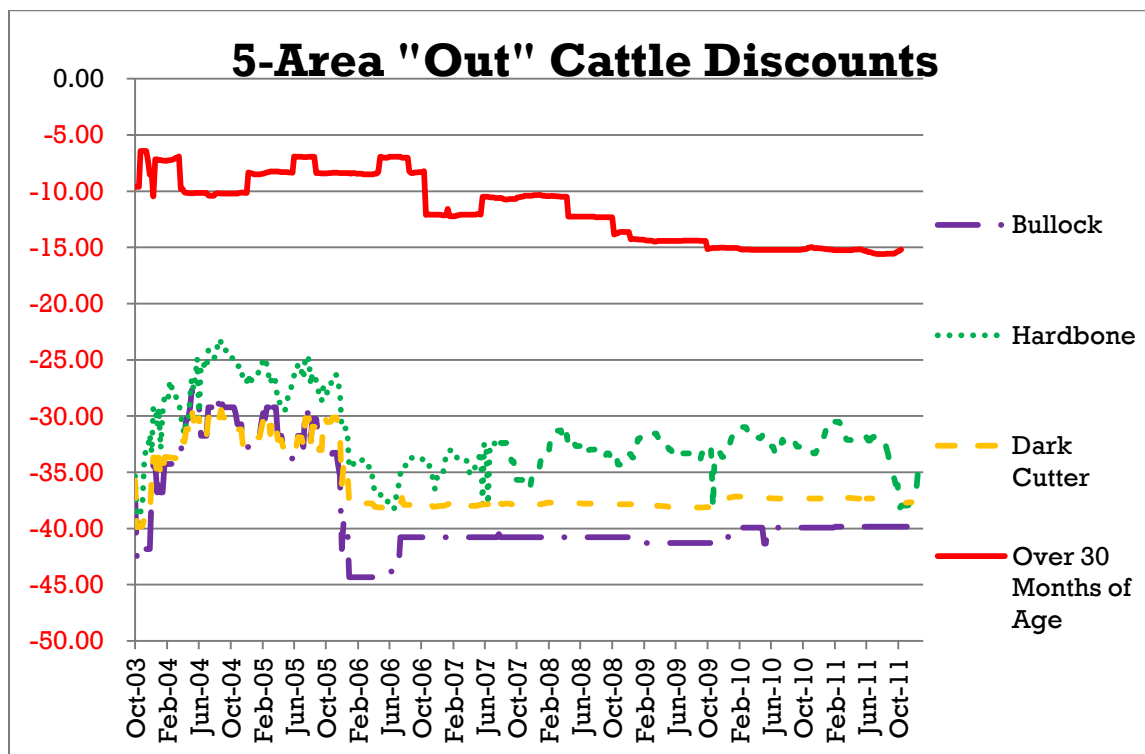


Figure 8. 30 Months of Age Discount vs. Beef Exports to Japan and S. Korea (combined)

