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U.S. Packing Capacity Sufficient for Expanding Cattle Herd

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Key Points:

- The U.S. cattle industry will remain in expansion mode through the end of the decade. We project total beef production to increase 3-5 percent annually in 2017, 2018 and 2019.
- Strong beef exports will keep supplies in check and support prices. Exports are on pace to increase 7-9 percent in 2017 and 5-7 percent in 2018.
- Saturday slaughter hours will continue to rise to support larger slaughter numbers. Current slaughter capacity, however, will be sufficient to handle the increase. The industry has the capability to adjust and meet capacity needs without reopening shuttered plants or constructing additional facilities.
- Labor availability will be a persistent concern. Therefore, processors will increase investment in automation and robotics.

Introduction

The U.S. beef cattle herd is still in the expansion phase of the current beef cattle cycle. This expansion will lead to steady growth in beef production through 2019. However, following the most aggressive 3 year start to any expansion on record, inventory growth appears to be decelerating. (See Exhibit 1.) The USDA estimates the 2017 calf crop at 36.3 million head, 2.9 percent above last year and an 8.3 percent increase compared to the cyclical low calf crop in 2014.

Recent profitability and several years of excellent pasture and range conditions provided the catalysts for this record pace of expansion. Strong demand, both domestically and internationally, has also been supportive of cattle and beef prices, further supporting recent herd expansion efforts. Exports will remain a critical factor for both prices and sector profitability moving forward.

While several economic factors determine the beef cattle cycle, the cow-calf sector is the most influential in determining the pace and duration of expansion/contraction phases. (See Exhibit 2.) Cow-calf producer profitability was record high in 2014 and 2015, bolstering balance sheets and fueling female retention efforts. Recent slaughter numbers and the cattle on feed mix indicate, however, that the expansion is slowing. Historically, average profitability at the cow-calf level must dip

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below breakeven to trigger a transition from expansion into contraction. This transition is expected to occur at the end of this decade; until then, beef production will expand through 2019. We project total beef production to increase 3-5 percent annually in 2017, 2018 and 2019. The two leading factors that could alter this outlook are export demand and Mother Nature.

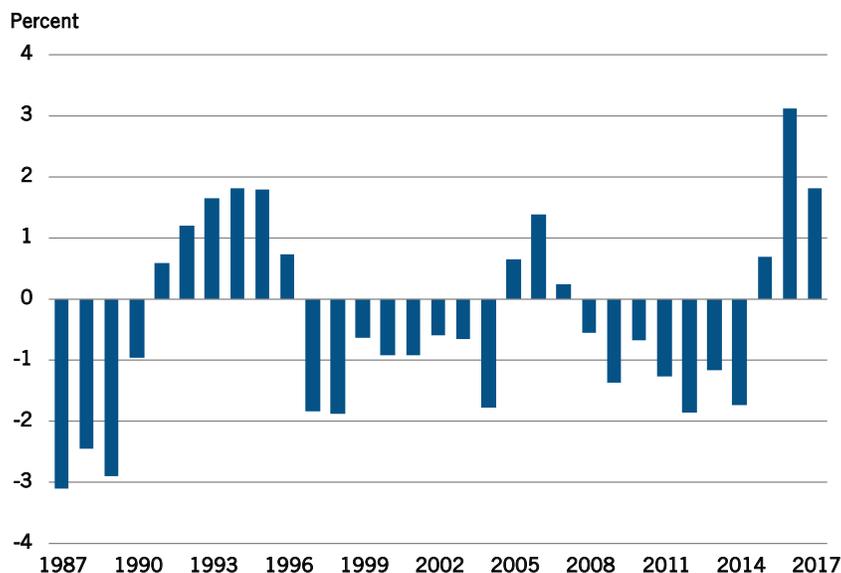
With increasing supplies comes downward price pressure and increased capacity utilization in the feedyard and packing sectors. Both feedyard and packing capacity were severely underutilized during the drought-induced herd liquidation of 2011-12, causing some feedyards and packers to close their doors. Fast forward to today, feeders are experiencing much better profitability while fully utilizing available bunk space. Packer profitability has also been excellent over the past two years, driven by strong demand pull through and increased supplies. (See Exhibit 3.) Increased Saturday hours and an increase in fringe regional packing capacity has eased the risks of reaching max capacity for market ready steer and heifer slaughter. But the industry will need to assess expansion needs as cattle numbers continue to grow. Expanding packing capacity or optimizing existing infrastructure to support growing cattle numbers will be a key discussion for the U.S. beef industry for the next several years.

Cattle Slaughter Mix & Heifer Retention

Females are gaining in the slaughter mix. The ratio of female slaughter (cow and heifer) relative to steer slaughter has been above year ago for most of 2017.

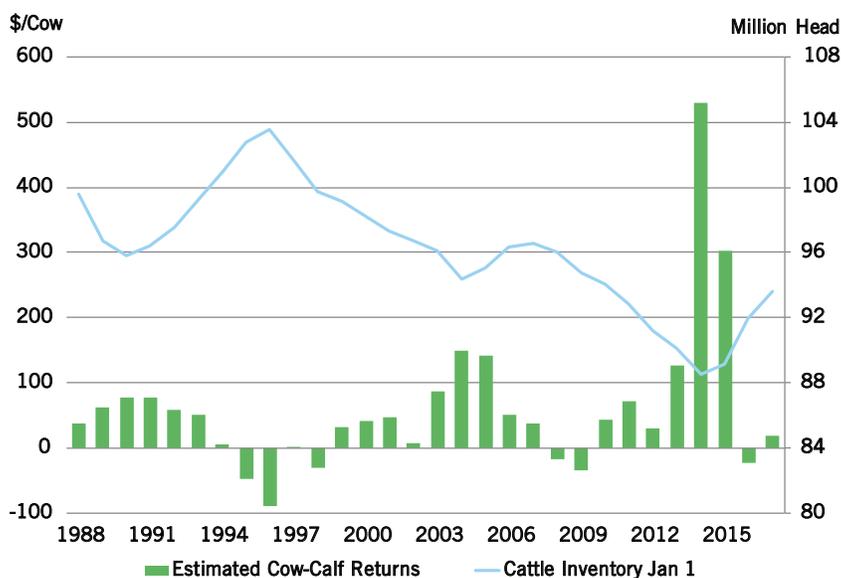
June beef production was 3.9 percent higher than a year ago. Steer slaughter only increased 1 percent compared to last year, while beef cow slaughter numbers increased

Exhibit 1: Annual U.S. Cattle Inventory, Percent Change



Sources: USDA-NASS, Livestock Marketing Information Center

Exhibit 2: Cow-Calf Returns and Cattle Inventory



Sources: USDA-AMS, USDA-NASS, Livestock Marketing Information Center



10.3 percent and the number of heifers increased 13.4 percent. More heifers in the mix will drag weights down and impact the overall level of beef production. Monthly slaughter numbers have increased an average of 6 percent in the second quarter of 2017, while total production has increased 3.5 percent.

The USDA July Cattle Inventory Report indicated that the number of beef heifers held back as replacements was 2 percent lower than the 2015 figure, suggesting a slowing pace of female retention. Heifers as a percent of beef cows are at 14.5 percent in the third quarter of 2017, whereas, during recent years of rapid expansion, this ratio topped 15 percent.

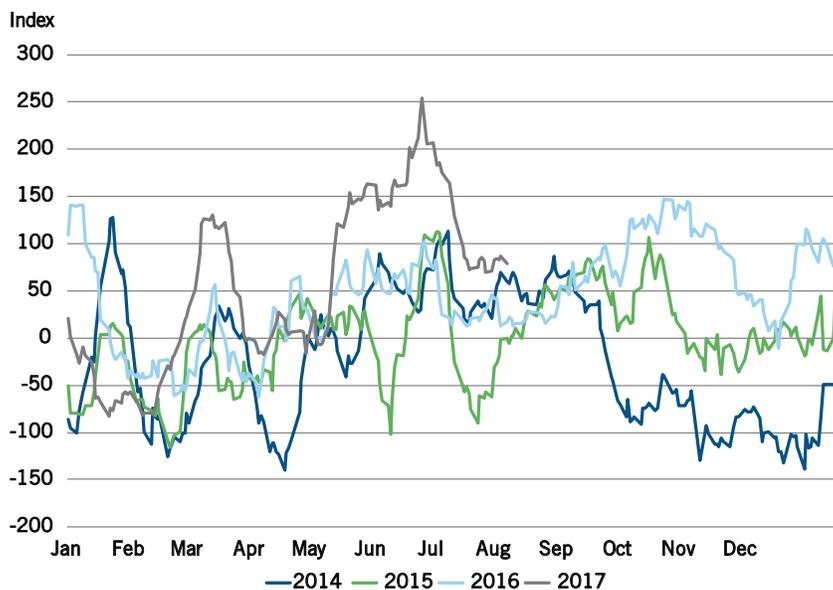
Mother Nature can quickly change producer decisions regarding the level of heifer retention out of each year's calf crop. Deteriorating pasture and range conditions in the Northern Plains region during the summer of 2017 are shifting cows geographically and creating an increased flow of feeder cattle into feedyards from the affected areas. As of now, the Northern Plains drought isn't expected to dramatically affect the national cow herd or the beef cattle cycle outlook. However, if drought conditions worsen, more cows could enter the slaughter mix. If that occurs, beef prices would fall further and accelerate the time line for entering the contraction phase.

Demand Remains Critical

Beef demand has exceeded expectations during the first seven months of 2017. A price rally and favorable spreads for feeders and packers have bolstered overall

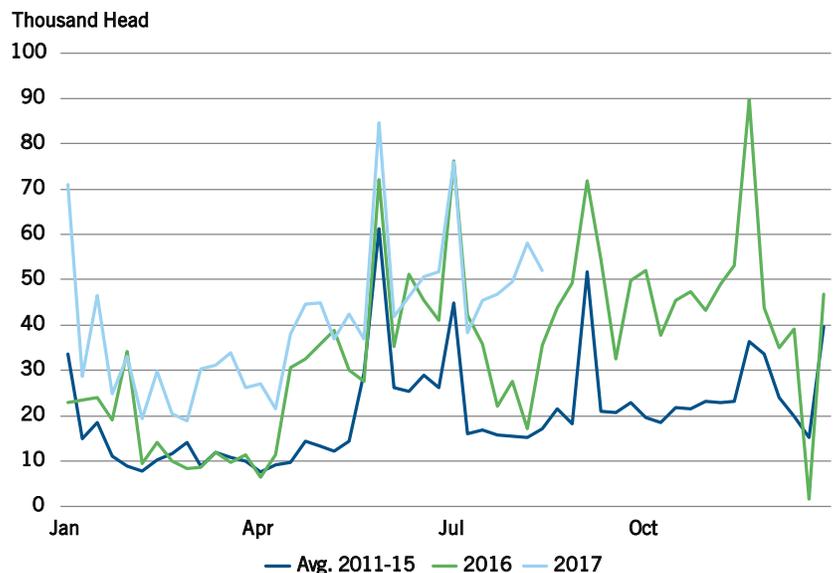
industry profitability. Stronger than expected calf prices, in comparison to depressed prices in the fall of 2016, have improved the profitability outlook for cow-calf producers. This may have slightly increased the magnitude of this year's expansion efforts and potentially

Exhibit 3: Weekly Beef Packer Margins



Sources: Bloomberg, HedgersEdge

Exhibit 4: Saturday Cattle Slaughter



Sources: USDA-AMS, USDA-NASS, Livestock Marketing Information Center



extended the duration of this current phase. Profitability and abundant feed and forage resources point to continued expansion. The former can be dramatically improved by robust demand, while the latter remains an ever changing and unpredictable factor.

Export demand has been strong, with momentum building from July 2016 to today. Forecasts continue to adjust upward for the second half of 2017. Longer term, a growing middle class outside of the U.S. will support demand growth. Beef Exports are on pace to increase 7-9 percent in 2017, followed by another 5-7 percent in 2018. Stronger exports and decreased imports are creating a more favorable net trade balance, keeping domestic per capita supplies in check and supporting price levels. Greater export dependence does, however, heighten the risk of a domestic glut if foreign demand subsides.

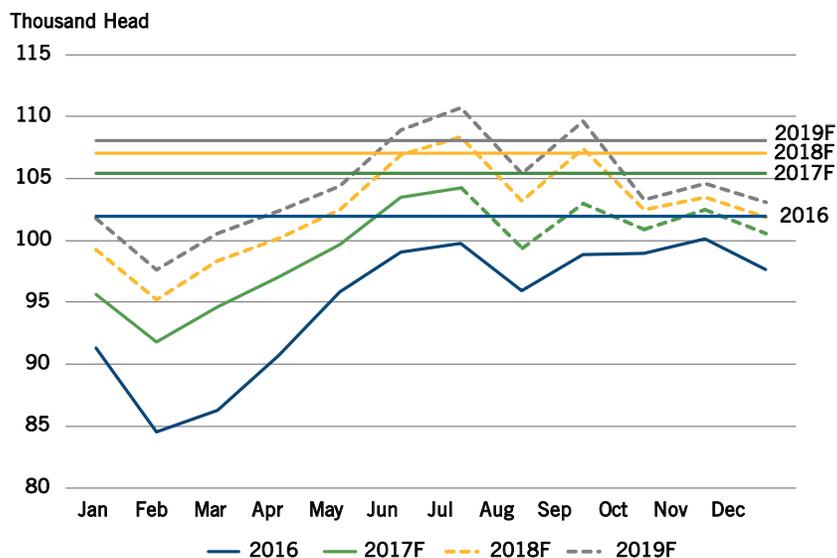
Packing Capacity

Since mid-2016, Saturday slaughter hours have been steadily increasing to support larger slaughter numbers. (See Exhibit 4.) With market ready cattle numbers expected to be up for at least two more years, the industry will work to optimize the utilization of existing packing infrastructure and/or consider additional packing capacity.

The seasonal peak for steer and heifer slaughter is during the summer months, and is the time of year with the most potential for packing capacity constraints. (See Exhibit 5.) Increased overall packing hours will be the single most important variable to absorb increasing cattle numbers. Packing capacity forecasts are based on the assumption that Saturday slaughter will steadily increase through 2019.

Facilities may face slaughter hour constraints such as age of the facility, double shifting capability, regional market ready cattle supplies, and labor availability. The

Exhibit 5: Estimated Daily Fed Slaughter & Packing Capacity



Sources: Livestock Marketing Information Center, CattleFax, CoBank ACB

risk of unforeseen plant closures (i.e. fires, maintenance issues, etc.) will be an increasing concern as the industry drifts closer to maximum packing capacity into 2019.

Investments in automation systems are also expected to ease the mounting concerns about potential shortages of skilled labor. The modernization and increasing efficiency of plants will equip the industry to meet the most advanced food safety protocols, an imperative to keep the U.S. competitive in the global beef market.

Conclusion

The U.S. beef cow herd expansion will continue through 2017, but at a more subdued pace than the last two years. A bigger 2017 calf crop implies larger feeder supplies into 2018 and increased beef production until at least 2019.

We do not expect significant constraints on packing capacity during this expansion. Plants will sufficiently increase slaughter hours to manage the extra supply, and increase throughput. Some plants will find it easier to increase hours than others, and labor could be a



challenge for some plants as well. But the industry has the capability and flexibility to adjust and meet capacity needs without reopening shuttered plants or constructing additional facilities.

The industry will be squarely focused on maintaining export growth and strong domestic consumption in the face of growing supplies. Increasing dependence on export markets offers the industry significant growth opportunities, but also increases uncertainty and the risk of domestic oversupply. ■

¹Steiner Consulting Group, DLR Division, Inc. "Vol. 15, No. 142." *Daily Livestock Report*, July 21, 2017.

²Mintert, J. "Weekly Outlook: Increase in U.S. Calf Crop Points Toward Larger Beef Supplies in 2018-19." *farmdocdaily* (7):133, July 24, 2017.

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