



Agricultural Finance
Spring 2018

Ag Quarterly Newsletter

Agricultural Economy

Solid economic conditions in the U.S. persisted in Q1 2018 causing a noticeable rise in long term interest rates. U.S. GDP grew 2.2%, which is a solid reading considering Q1 growth rates have tended to be weak in recent years.¹ These developments were overshadowed, though, by an increase in trade tensions between the U.S. and China. Both nations have since demonstrated a willingness to negotiate and we are optimistic an eventual settlement will be reached.

Globally, economic conditions also remained strong and provided a favorable backdrop for strengthening agricultural product demand. In the latest World Economic Outlook,² the International Monetary Fund (IMF) reaffirmed its outlook for a continued improvement in macroeconomic conditions, citing the upswing in advanced economies which began in mid-2016. The coordinated growth in economic activity bodes well for agricultural demand as rising incomes are closely tied to the consumption of protein and other high value foods.

Since September of 2017, the 10-year U.S. Treasury Note (10-yr) increased roughly 0.80%, raising concerns that higher long-term interest rates could weigh on farmland values. While this is certainly a concern, it is important to recognize that farmland valuations are subject to a myriad of factors that could offset the impact of higher interest rates. This is evident by simply examining history.

Since 1924, the 10-yr increased 48 times (approximately half of the time), but farmland values were much more likely to rise than fall, increasing between 72% and 84% of the time depending on the region.³ While the likelihood of farmland values falling during this period was already low, the likelihood of a decline in farmland values coinciding with an increase in the 10-yr was extremely low, ranging from 5% to 9% of the time, depending on the region.⁴ Furthermore, farmland values were actually more likely to increase in value in the three years following a rise in interest rates.⁵ In our view, this suggests that other factors such as expectations for income growth and inflation influence farmland values to a greater degree than interest rates.

We do not believe the outlook for income growth is as dire as the 7% decline in Net Farm Income projected by the USDA in February 2018. A recent publication⁶ by researchers at the University of Illinois reveals the USDA's February forecast has historically had a conservative bias. In their revised forecast released in August, the USDA has raised their projection 68% of the time since 1975. In addition, downward revisions to their estimates have mainly occurred near the peaks in commodity price cycles and we believe we have reached a bottom. While it is possible Net Farm Income could decline again in 2018, the USDA's February forecast has not been a reliable predictor.

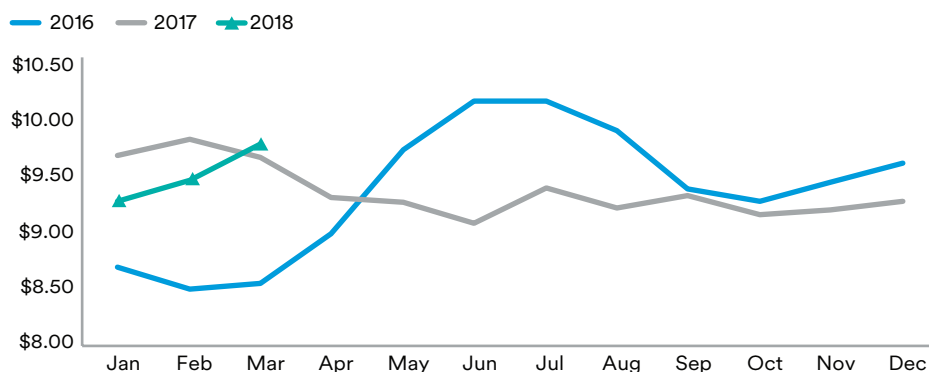
Finally, rising inflation expectations could mitigate the impact of higher interest rates. Farmland values and commodity prices have historically moved in sync with inflation.⁷ If this relationship holds, it is possible inflationary pressures could offset the impact of higher capital costs for the sector.



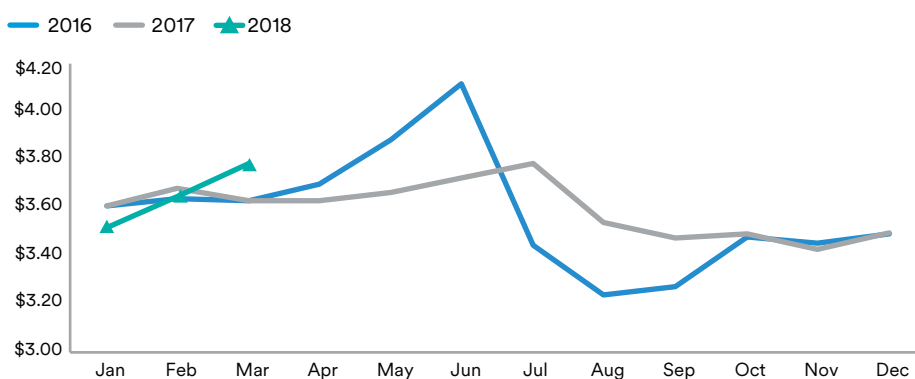
Annual Crops

The tone in annual crop markets shifted to mildly bullish in Q1 2018 amid a projected reduction in U.S. planted acreage and production concerns in South America. Although concerns over trade tensions between the U.S. and China continue to loom over the annual crop market, corn and soybean prices have remained relatively strong compared to the previous two years, reflecting tightening supply and demand conditions globally.

The USDA released their Prospective Plantings report on March 29. As many expected, the report showed planted soybean acres surpassing corn acres in 2018 for the first time in 25 years. Unexpectedly, though, total acreage estimates for the three major annual crops (corn/soybeans/wheat) point to a 2 million acre decline in 2018 compared to 2017. If realized, planted acreage for these crops would be the lowest since 2011, suggesting lower production this year could cause a reduction in domestic annual crop inventories.

Figure 1 | Soybean Price (\$ per bu)

Source: USDA & Haver Analytics

Figure 2 | Corn Price (\$ per bu)

Source: USDA & Haver Analytics

South American production concerns added additional optimism to annual crop markets. A drought across key growing regions of Argentina worsened in Q1 2018, decreasing soybean yields in the world's third largest producer. Current projections show 2018 soybean production in Argentina declining 38% year-over-year which could cause global supplies to tighten further.⁸

These developments motivated the International Grains Council to reduce their projections for global inventories in their March report.⁹ The global stocks-to-use ratio, which measures global inventories of corn, soybeans, and wheat as a percentage of global demand, declined for the first time in five growing seasons last year and is expected to decline an additional 3% in 2018. This may boost margins for annual crop farmers as the global stocks-to-use ratio tends to be negatively correlated with annual crop prices.

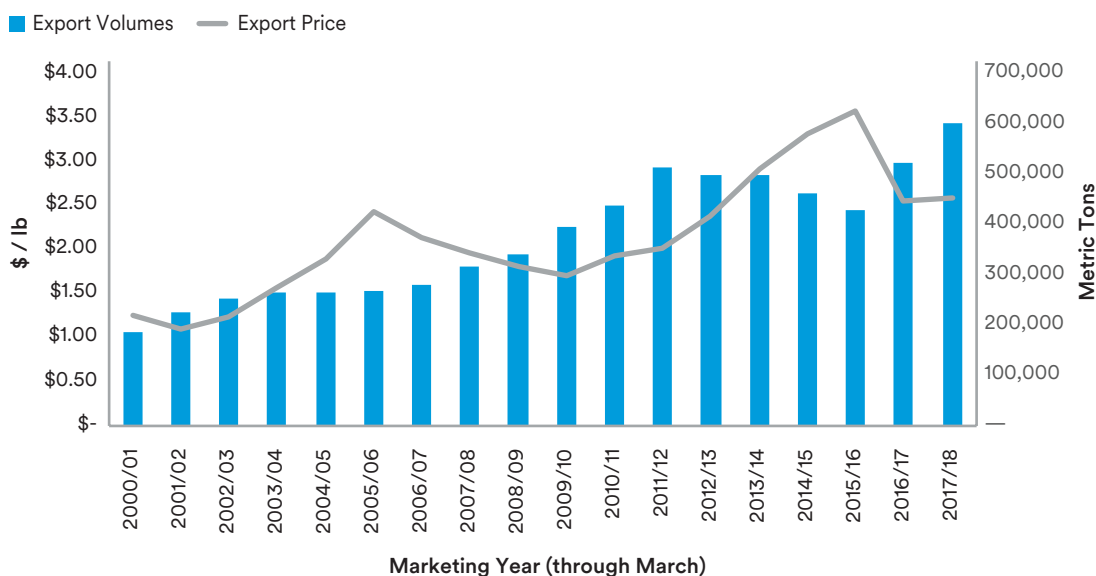
Permanent Crops

Permanent crop prices started off 2018 on a positive note due to strong global demand. The USDA's Price Received by Farmers index for fruit and tree nuts increased 12% in Q1 2018, year-over-year, to its highest level since Q1 2016.¹⁰ Exports continue to be the driving force behind the increase, led by an 11% year-over-year increase in Q1 tree nut export volumes.

Almonds specifically benefitted from growing global demand for fruits and tree nuts. Following the record 2.25-billion-pound harvest last fall, 2017/18 almond export volumes were record large through March (See Figure 3). Exports in Q1 alone increased an impressive 21% year-over-year.¹¹ Asia and Europe continued to be the largest markets for U.S. almonds, constituting 49% and 43% of exports, respectively, through Q1. Almond prices, although

lower than recent peaks, have received support from record exports and have appreciated marginally this marketing year, increasing 3% in Q1 2018 year-over-year.¹²

Figure 3 | Almond Exports



Source: USDA, FAS, MIM

Production concerns and strong global demand will likely provide support to almond prices in 2018. In February, freezing temperatures during the almond bloom in California's Central Valley led many producers to reduce their expectations for 2018's harvest. Despite the 7% increase in bearing almond acres, initial forecasts by the USDA show U.S. almond production will increase only a modest 1% in 2018 as a 5% decline in crop yields is expected to offset higher acreage.¹³

While the full extent of the damage is yet to be realized, frosts during the almond bloom are not unprecedented. In 2009, freezing temperatures during the bloom, among other pollination issues, caused an 18% year-over-year decline in almond production.¹⁴ We believe a significant decline in this year's almond production is unlikely due to the increased adoption of frost protection, however, any reduction in yields should help reduce inventories and support prices.

Livestock

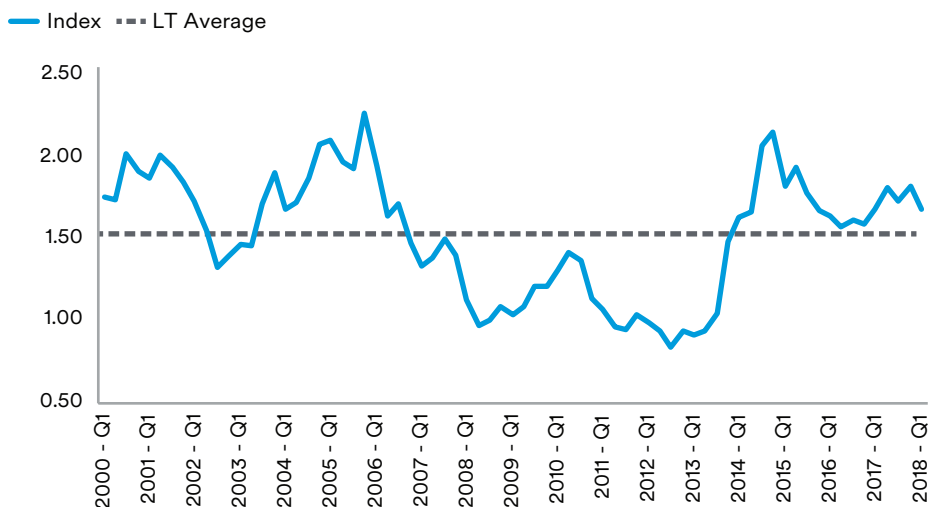
Despite strong exports, increasing livestock supplies pressured prices and producer margins in Q1 2018. Total red meat and poultry production increased for the 13th consecutive quarter by 2% year-over-year in Q1, led by a 4% increase in pork production.¹⁵

Exports of livestock and livestock products in Q1 increased 5% and 11%, year-over-year, by volume and value respectively.¹⁶ However, the USDA's livestock price index¹⁷ posted a 2% year-over-year decline, indicating robust exports were not enough to fully mitigate the impact of higher production on prices.

Feed costs,¹⁸ which represent the largest and most volatile input cost for livestock farmers, also declined, but at a slower pace than livestock prices (1.4% year-over-year), driving the livestock price-to-feed ratio¹⁹ lower for the quarter. This ratio, which represents a proxy for profitability in the livestock sector, declined 2% in Q1 2018 and is approaching its long-term average (See Figure 4).

We currently expect red meat and poultry production to increase 3% in 2018. Given the prospects for higher meat production, continued strength in exports will be needed to support prices and profitability.

Figure 4 | Livestock Sector: Price-to-Feed Ratio



Source: USDA, MIM



Agribusiness

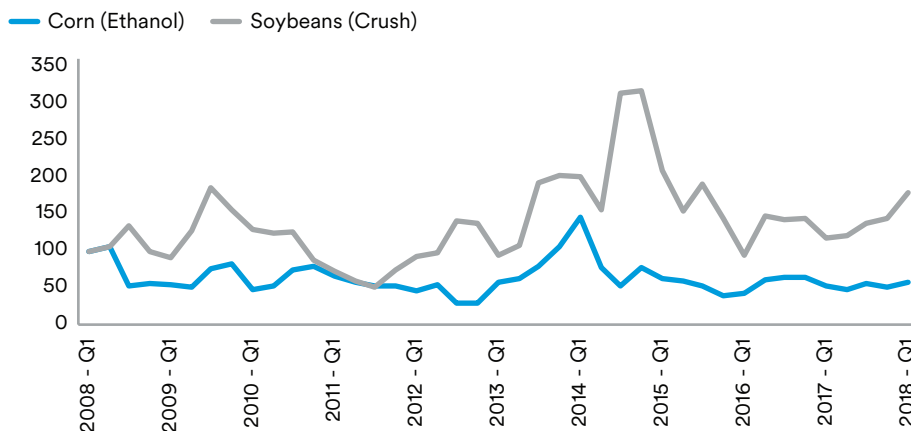
The agribusiness sector continued to benefit from a strong global economy in Q1 2018. Profit margins for soybean and ethanol processors, specifically, were aided by rising product prices and low input costs.

Diverging soybean and soy meal prices caused gross processing margins to increase 53% year-over-year in Q1 2018.²⁰ Soybeans are generally processed into two products: soy meal, which is typically used for livestock feed, and soy oil, which is used in a variety of foods. A shift in the price of either soy meal or soy oil generally results in a corresponding shift in the price of soybeans. This was not the case in Q1 2018, when soybean prices declined 2% year-over-year despite a coinciding 8% increase in spot soy meal prices.²¹ Strong feed demand and reduced inventories in Argentina (the world's largest soy meal exporter)²² sparked the rally in soy meal prices, while the decline in soybean prices was caused by a record large soybean harvest in Brazil and previously mentioned trade tensions with China, the largest importer of U.S. soybeans.

Gross ethanol processing margins were also strong in Q1 2018, aided by strong prices of ethanol and dry distillers grains (DDG). After ethanol processing margins declined

approximately 20% in 2017, strong ethanol and DDG prices led to a 14% year-over-year increase in ethanol crush margins in Q1 2018. DDG prices benefited from feed demand growth in the expanding livestock sector while ethanol exports increased 35% Q1 2018 year-over-year. Exports play a crucial role in ethanol markets as growth in domestic production has outpaced growth in domestic demand in recent years. Interestingly, exports to Brazil increased 64% year-over-year in Q1 despite tariffs and quotas ratified by Brazil last September.²³ High gasoline prices in Q1 2018 likely caused the increased demand for ethanol as the majority of vehicles in Brazil can run on both gasoline and ethanol.

Figure 5 | Annual Crop Processor Margins (Quarterly Margins, indexed to 2008)



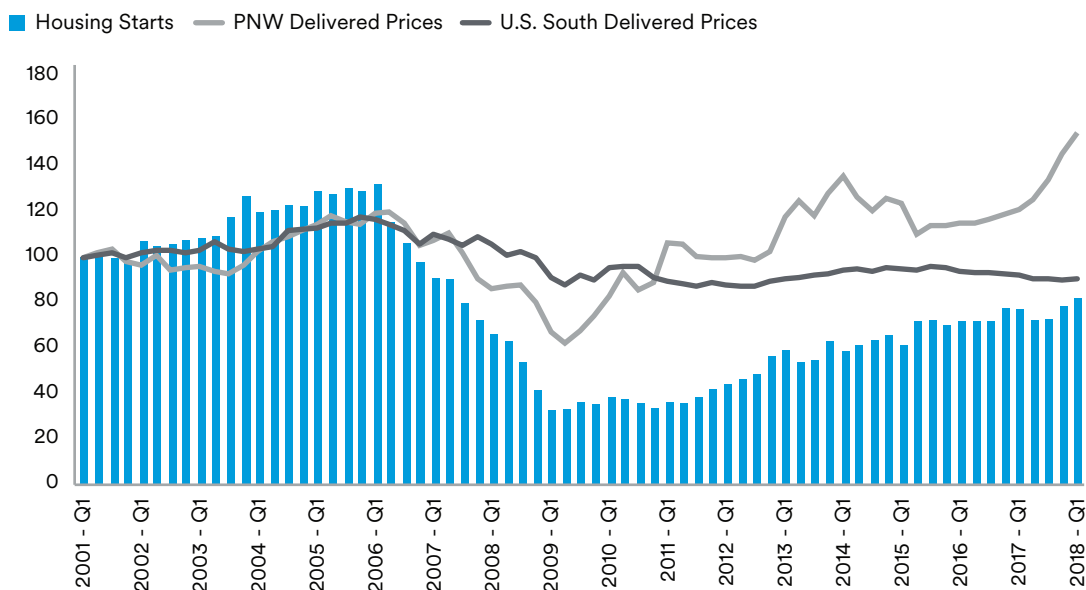
Source: WSJ, Haver Analytics, MIM

Timber

The forest products sector benefitted from robust demand for lumber in Q1 2018. Domestic lumber prices²⁴ surged 30% year-over-year in Q1 aided by a strong U.S. housing market and tariffs placed on imports of Canadian timber. However, regional market nuances continued to persist due to differences in timber inventories. As Figure 6 shows, housing starts increased 6% year-over-year in Q1 2018²⁵ and contributed to the sharp increase in delivered log prices in the Pacific Northwest (PNW). However, these developments had little effect on prices in the U.S. South due to burdensome log inventories.

Strong domestic and export demand coupled with tight timber inventories in the PNW led to record log prices in Q1 2018. Although log exports have been an increasingly important demand source for the PNW, domestic mills established themselves as high bidders in Q1. Delivered log prices in Q1 rose 30% year-over-year²⁶ at mills in the PNW. Strong demand from Asia led to a 15% increase in export prices over the same period, but a significant proportion of logs were still diverted away from export markets to capitalize on higher prices at domestic mills. As a result, softwood log export volumes declined 1% in Q1 2018.²⁷

In the U.S. South, however, log price appreciation continues to be limited by the large and growing inventory of timber caused by a decade of deferred harvests. The burdensome timber inventories are projected to grow an additional 1% in 2018²⁸ and will likely continue to constrain log prices. Log prices declined 2% in Q1 2018, year-over-year, despite the 30% increase in domestic lumber prices over the same period. However, the divergence in log and lumber prices in the U.S. South has led to record profit margins for lumber mills in the region and has attracted a significant amount of investment in wood processing facilities. According to Timber Mart South, mill capacity in the region is expected to reach approximately 20 billion board feet in 2018, representing a 9% increase compared to 2017.²⁹

Figure 6 | Timber Industry Indicators Index (2001 = 100)

Source: Haver Analytics, MIM

Endnotes

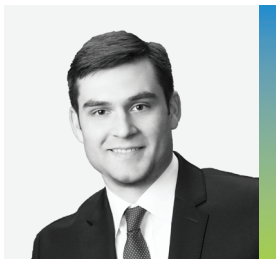
- ¹ Bureau of Economic Analysis. Accessed via Haver Analytics, May 11, 2018.
- ² IMF World Economic Outlook. April 2018
- ³ MIM internal estimates using USDA data. Number of times land values increased on a year-over-year basis as a percentage of total observations. Midwest – 76%, Upper Plains – 72%, Southeast – 84%, Mountain – 83%, West – 78%.
- ⁴ MIM internal estimates using USDA data. Number of times the 10 year Treasury Note increased on a year-over-year basis and farmland values declined as a percentage of total observations. Midwest – 8%, Upper Plains – 9%, Southeast – 5%, Mountain – 5%, West – 5%.
- ⁵ MIM internal estimates using USDA data. Number of times farmland values decreased within three years of an increase in the 10 year Treasury Note as a percentage of total observations. Midwest – 31%, Upper Plains – 28%, Southeast – 22%, Mountain – 25%, West – 24%.
- ⁶ Kuethe, T. "Will Farm Income Really Drop to a 12-Year Low in 2018?" farmdoc daily (8):30, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, February 21, 2018.
- ⁷ The correlation between year-over-year changes in the Consumer Price Index and the USDA's national farmland value series from 1950 to 2016 is 0.56.
- ⁸ Buenos Aires Grain Exchange. Department of Agricultural Estimates, May 17, 2018.
- ⁹ Grain Market Report. International Grains Council, May 8, 2018.
- ¹⁰ Prices Received Surveys and Indexes. USDA National Agricultural Statistics Service, April 27, 2018.
- ¹¹ USDA Foreign Agricultural Service Global Agricultural Trade System, May 3, 2018.
- ¹² USDA Foreign Agricultural Service Global Agricultural Trade System, May 3, 2018.
- ¹³ 2018 California Almond Forecast. USDA National Agricultural Statistics Service, May 10, 2018.
- ¹⁴ USDA NASS Quick Stats, May 4, 2018.
- ¹⁵ Livestock Marketing Information Center, April 2018.
- ¹⁶ USDA Foreign Agricultural Service Global Agricultural Trade System, May 3, 2018.
- ¹⁷ USDA Prices Received by Farmers Index, April 2018.
- ¹⁸ USDA Prices Received by Farmers Index, April 2018.
- ¹⁹ This ratio is calculated by dividing the USDA's Livestock Prices Received by Farmers Index by the Feed Grains Prices Received by Farmers Index.
- ²⁰ Soybean gross processing margin assumes 10.7 pounds of oil and 47.5 pounds of meal per bushel of soybeans.
- ²¹ Market Data Center. Wall Street Journal and Haver Analytics, May 8, 2018.
- ²² Market Data Center. Wall Street Journal and Haver Analytics, May 8, 2018.
- ²³ USDA Foreign Agricultural Service Global Agricultural Trade System, May 3, 2018.
- ²⁴ Quarterly average of Random Lengths composite prices, May 2, 2018.
- ²⁵ FRED Economic Data. Federal Reserve Bank of St. Louis, May 15, 2018.
- ²⁶ RISI Log Lines, April 2018.
- ²⁷ USDA Foreign Agricultural Service Global Agricultural Trade System, May 3, 2018.
- ²⁸ Timber Mart-South Market News Quarterly. 1st Quarter 2018. April 2018.
- ²⁹ Timber Mart-South Market News Quarterly. 1st Quarter 2018. April 2018.

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