State *of the* Market

AgIS Capital

Agricultural Investment Strategies

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In This Issue

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A Long Slog Ahead for US Agriculture

As was the case last year, the US agricultural sector remains in a state of marginal profitability. Escalating labor costs, uncertain immigration and trade policy, impending interest rate increases, and the threat of a strengthening dollar, are all factors dampening the potential short-term profitability of the sector. Many of these headwinds are not new. However, the one that may pose the greatest near-term threat is rising interest rates. The Federal Reserve (Fed) raised its policy rate three times in 2017, and once so far in 2018, and the target range now stands between 1.50 and 1.75 percent. Higher rates place upward pressure on the opportunity cost of capital, and downward pressure on the present value of farmland. Despite major tax reforms, strong domestic economic data, and a credible commitment by the Fed to continue raising rates, the relative value of the dollar slid slightly during the first quarter of 2018. Agriculture commodity prices generally responded by moving marginally higher, but most prices remain considerably below the highs attained a few years ago. At present, most agricultural markets are basically running in place, neither gaining nor losing considerable ground.

Welcome to Our Second Annual *State of the Market* Report

Our *State of the Market* provides an overview of the trends and forces that drive farmland returns. We review US farm income and wealth statistics compiled by the United States Department of Agriculture (USDA) and discuss how macro trends affect current and future farmland returns at a sector level. We also take a close look at the National Council of Real Estate Investment Fiduciaries (NCREIF) Farmland Index and provide context and commentary on the recent and projected performance of the asset class. Finally, we provide our thoughts on how farmland investors can navigate the current environment and achieve their objectives.

Trends

Income Remains Low

Following a sustained period of profitability between 2003 and 2015, according to the United States Department of Agriculture, US net farm income (NFI) is expected to contract again to $59.5 billion in 2018. If this occurs, after adjusting for inflation, real NFI would be $74.4 billion less than the recent high of $133.9 billion achieved in 2013.[1] The 55.6 percent reduction has taken the wind out of the sector's sails.

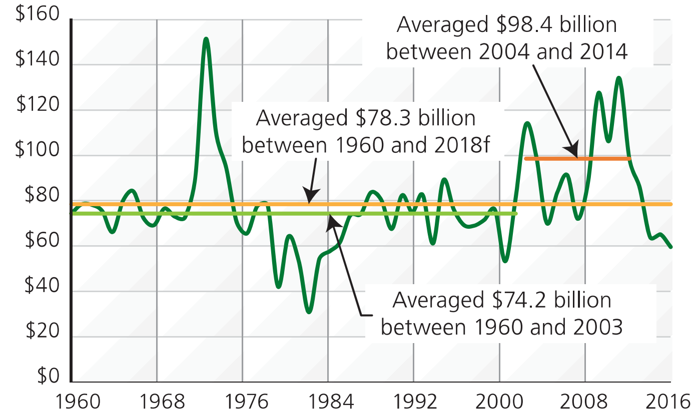
The USDA expects real cash receipts from all crops to fall 2.7 percent, or $5.3 billion, to $188.2 billion, and real cash receipts from livestock to fall 2.2 percent to $174.9 billion. The agency also expects real direct government payments to drop 20.2 percent to $9.3 billion. The real value of farm-related income is forecasted to increase $1.5 billion in 2018.[2]

The real (2018 USD) NFI forecast of $59.5 billion, if realized, would be the seventh lowest value on record since 1960. Excluding observations between 1982 and 1985 when the 'farm financial crisis' occurred, the 2018 NFI forecast is the second lowest since 1960—following behind the $53.3 billion observation posted in 2002.

Assets Show Modest Decline

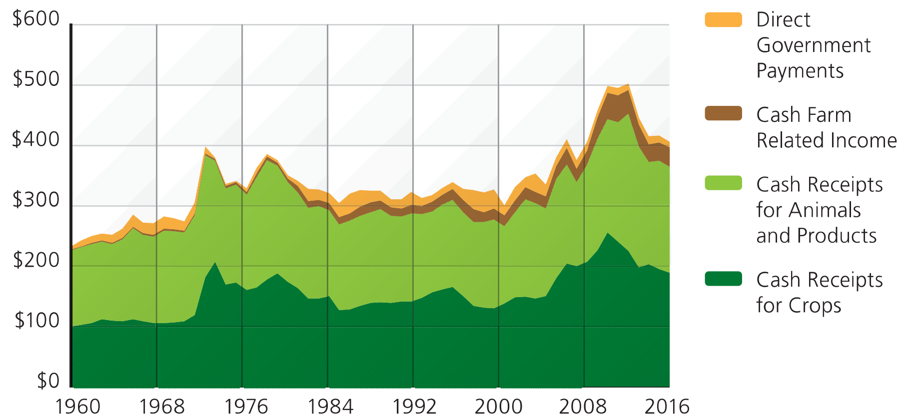
The USDA expects the real value of farm assets to fall 0.4 percent to $3.1 trillion and farm sector equity to fall 0.3 percent to $2.7 trillion (assuming 2 percent inflation in 2018). The real value of farm debt is expected to fall 1 percent to $388.9 billion; nominally, farm debt is expected to increase $3.8 billion in 2018.

Graph 1 - **Real US Net Farm Income: 1960 to 2018F, billions, 2018 dollars**



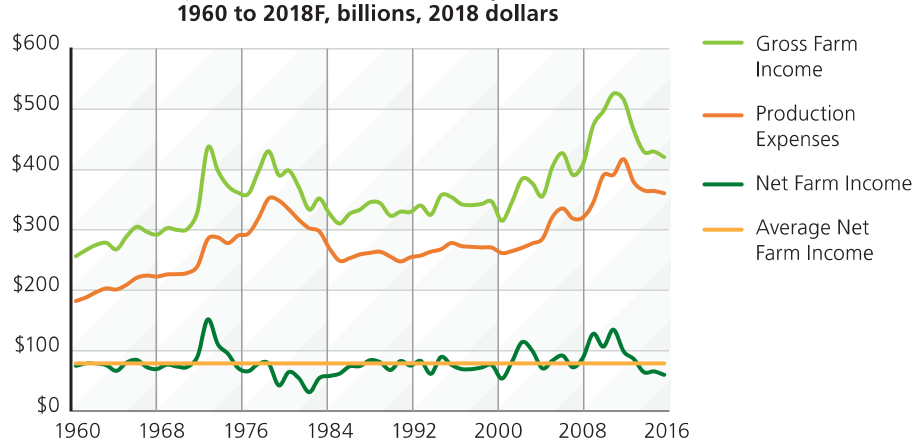
Source: USDA, FRED

Graph 2 - **Real Gross Cash Income Components: 1960 to 2018F, billions, 2018 dollars**



Source: USDA, FRED

Graph 3 - **Real Farm Income Components: 1960 to 2018F, billions, 2018 dollars**



Source: USDA, FRED

[1] Inflation of 2 percent is assumed in 2018, which is used to convert prior values to 2018-dollar terms.

[2] Farm related income includes custom work, machine hire, recreational activities, forest product sales, and other farm sources

Trends continued

US farm sector debt-to-asset (DTA) and debt-to-equity (DTE) ratios in 2018 are expected to move slightly lower to 12.6 and 14.4 percent; indicating a slight improvement in sector level solvency. Lower ratios are attributable to a larger reduction in farm debt than in farm assets and equity. The 2018 debt ratios are the eighth lowest since the USDA began estimating farm sector balance sheet statistics in 1960. The ratios are also highly dependent upon the value of farm real estate, which is expected to account for 83.5 percent of the assets on the farm balance sheet in 2018.

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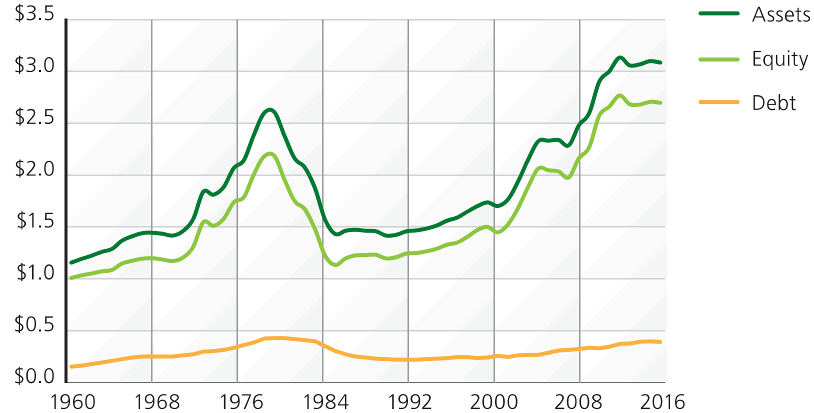
While the sector level solvency ratios remain very strong, some concerns are beginning to emerge about debt service and cash flow. The times interest (TI) and debt-serving (DS) ratios can be used to assess the ability of the sector to cover interest payments and meet debt obligations.

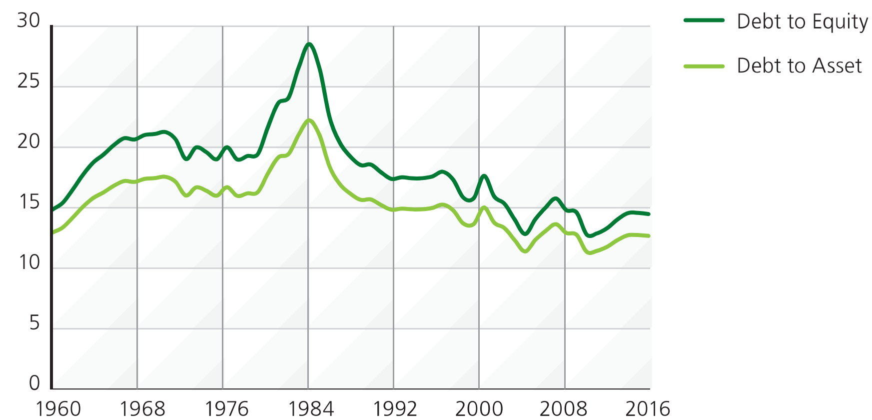
The TI ratio equals the sum of NFI and interest expense, divided by interest expense. The ratio indicates how many interest payments can be made using the sum of NFI and interest expense. The real value of real estate and non-real estate interest rose 4.9 percent (to $20 billion) in 2018, while real NFI fell 8.5 percent. Accordingly, the TI ratio fell 10 percent to 3.98, which is below the first quartile threshold from 1960 to 2018f. This indicates the sector's ability to cover interest payments, despite the current low cost of debt, is relatively weak from a historical perspective. Higher interest rates can be expected to cause further deterioration in the times interest earned ratio.

Graph 4 - **Real Value of US Farm Sector Assets, Debt, and Equity: 1960 to 2018F, trillions, 2018 dollars**



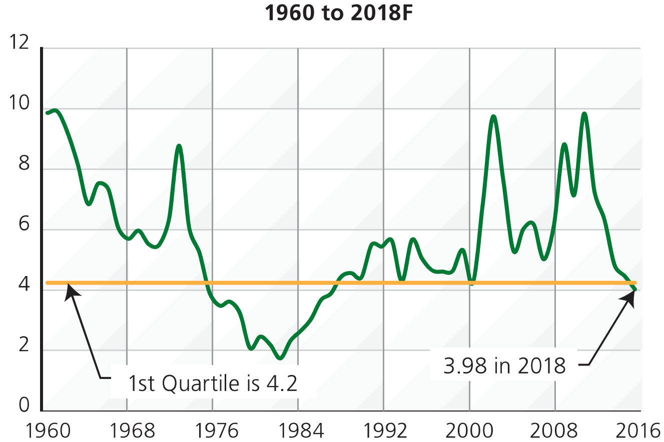
Source: USDA, FRED

Graph 5 - **US Farm Sector Debt Ratios: 1960 to 2018F**



Source: USDA

Graph 6 - **US Farm Sector Times Interest Ratio: 1960 to 2018F**



Source: USDA

Trends continued

The DS ratio equals the sum of interest expense and principal payments, divided by value of farm production. The DS ratio indicates how much of the value of production is used for debt payments. The DS ratio remained flat at 27 percent in 2018, which is also equal to the third quartile threshold. Historically speaking, the farm sector's ability to service debt has weakened in recent years.

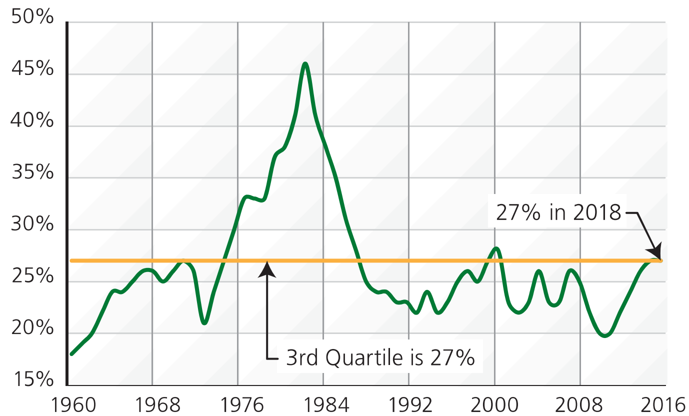
Graph 8 succinctly illustrates the state of the US farm sector. It depicts the real values of NFI, farm real estate, farm debt, and the real value of the 10-year treasury constant maturity rate (TCMR) in standard score. The statistics in Graph 8 were normalized to the same scale, which has a mean of zero and a unit standard deviation.

Real NFI and the 10-year TCMR are both approaching one standard deviations below their mean values between 1960 and 2018f, while the real value of farm real estate is two standard deviations above its mean. To support the historically high value of farmland, NFI will need to revert higher or real interest rates will need to remain low.

In short, the US farm sector is highly solvent but facing liquidity and cash flow challenges. These challenges would be magnified by increases in real interest rates. The degree of the deterioration would depend on the magnitude of the absolute increase in real interest rates and the degree of increase in real interest rates relative to those in other countries. Higher interest rates would have the greatest impact on highly leveraged operators with variable interest rates.

Numerous headwinds are buffeting the agricultural economy, yet there are some bright spots. The rates of decline in net farm income have fallen dramatically, perhaps signaling some stability in the sector's cash flows. Farm producers in many segments of the farm economy also have achieved some reductions in their production costs, which should position them well for any commodity price improvement. Additionally, the global economic expansion provides some hope for further agricultural commodity demand expansion. Still, in many sectors of the agricultural economy, such as row crops, land prices remain high relative income generation. It is important that investors carefully consider and provide realistic estimates of the income generation associated with farmland investments. At present, we are still avoiding passive or leased row crop investments as a result of this assessment.

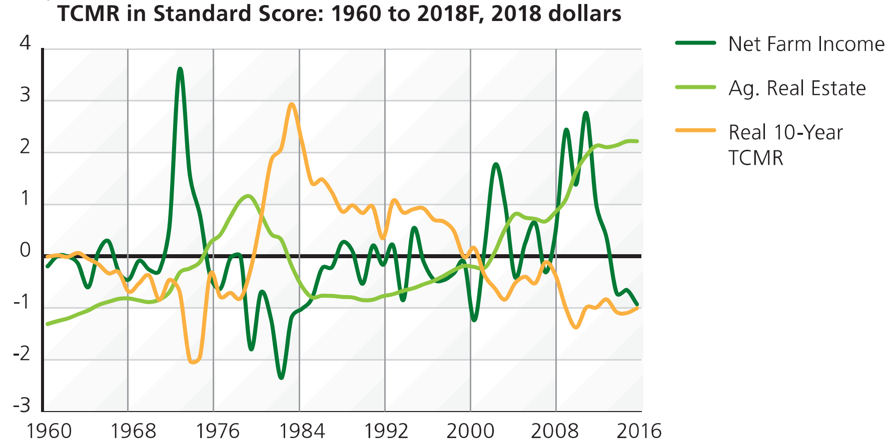
Graph 7 - **US Farm Sector Debt Service Ratio: 1960 to 2018F**



Source: USDA

In short, the US farm sector is highly solvent but facing liquidity and cash flow challenges.

Graph 8 - **Real Value of NFI, Farm Real Estate, and the 10-Year TCMR in Standard Score: 1960 to 2018F, 2018 dollars**



Source: USDA, FRED

Farmland Index

The NCREIF Farmland Index reports the performance of 727 properties that had a market value of slightly more than $8.5 billion as of December 31, 2017. The aggregate index posted a total return of 6.19 percent for the year. This performance was comprised of an income return of 4.61 percent and a capital return of 1.54 percent. The 2017 total return was the second lowest posted since the inception of the index, while the income return was the lowest.

NCREIF's Annual Cropland Index consists of 486 properties, which were worth $4.8 billion in 2017—an average of $9.9 million per property. The annual index posted a total return of 4.75 percent in 2017, with income returns of 3.62 percent and capital returns of 1.1 percent. The NCREIF Permanent Cropland Index consists of 241 properties worth $3.7 billion in 2017—an average of $15.4 million per property. The permanent index posted a total return of 8.14 percent, with income returns of 5.95 percent and capital returns of 2.11 percent.

The 2017 total return was the second lowest posted since the inception of the index, while the income return was the lowest.

The number of properties in the NCREIF Index fell by 16, while the value of properties rose $503 million. Regions exhibiting notable changes included the Corn Belt, which shed 31 assets and the Mountain and Southeast regions, which added 14 and 7 properties, respectively.

Figure 1 provides an overview of annual and five-year annualized returns by region, management type, and crop type sub-indexes. Notable returns in 2017 include the continuation of poor performance in the Corn Belt, which posted a total return of 2.13 percent, consisting of negative 0.83 percent capital and 2.98 percent income returns. The income return stands out, not only because it is the lowest of any annual cropland region, but also because the region posted negative capital returns the past four years and fell more than 11.25 percent in absolute value during the period. Therefore, the Corn Belt posted the lowest, relative income return—even after depreciating more in value than any other region. The five-year annualized total return from Corn Belt cropland is 2.55 percent, which is gross of fees.

Also of note was the 6.08 percent income return from directly operated permanent crops, which was the lowest value in 16 years and the fifth lowest observation since NCREIF began tracking and reporting on the permanent crop segment in 1991. The operated income return was likely brought down by negative income returns from apples (combined operated and leased apples generated a negative 3.40 percent income return) and low returns from other permanent crops, such as cranberries. Despite being generally lower, income returns from individual crop types continue to reflect their individual supply and demand circumstances.

Figure 1 - **NCREIF Farmland Index as of December 31, 2017**

Annual Cropland by Region	One Year Return			Five Year Annualized Return		
	Income	Capital	Total	Income	Capital	Total
Pacific West	3.63%	0.99%	4.65%	3.75%	8.61%	12.59%
Pacific Northwest	3.92%	15.63%	19.99%	4.24%	7.79%	12.26%
Cornbelt	2.98%	-0.83%	2.13%	3.20%	-0.64%	2.55%
Delta	3.24%	0.76%	4.02%	3.48%	2.63%	6.17%
Southeast	4.35%	2.15%	6.57%	4.29%	3.83%	8.24%
Mountain	4.10%	-0.30%	3.79%	3.97%	6.58%	10.74%
Southern Plains	4.80%	2.45%	7.34%	5.07%	2.57%	7.73%
Lake States	3.82%	-4.71%	-1.02%	4.30%	1.52%	5.87%
Annual Cropland	3.62%	1.10%	4.75%	3.77%	3.57%	7.44%

Permanent Cropland by Region	One Year Return			Five Year Annualized Return		
	Income	Capital	Total	Income	Capital	Total
Pacific West	6.75%	2.00%	8.83%	11.73%	7.46%	19.65%
Pacific Northwest	-1.22%	7.87%	6.69%	3.09%	4.36%	7.58%
Lake States	0.74%	-8.73%	-8.01%	7.14%	-7.29%	-0.48%
Permanent Cropland	5.95%	2.11%	8.14%	10.53%	6.10%	16.97%

Management Type Subindexes	One Year Return			Five Year Annualized Return		
	Income	Capital	Total	Income	Capital	Total
Directly Operated – Permanent	6.08%	1.62%	7.77%	11.31%	6.28%	17.94%
Leased – Annual	3.62%	1.10%	4.75%	3.79%	3.40%	7.29%
Leased – Permanent	5.00%	5.53%	10.72%	6.23%	5.19%	11.65%

Crop Type Subindexes	One Year Return			Five Year Annualized Return		
	Income	Capital	Total	Income	Capital	Total
Annual Commodity	3.22%	-0.21%	3.00%	3.47%	1.86%	5.37%
Annual Fresh Produce	4.05%	2.23%	6.35%	4.28%	8.19%	12.72%
Annual All Others	4.08%	2.67%	6.83%	4.11%	4.96%	9.21%
Almonds	6.36%	-1.90%	4.51%	15.63%	8.08%	24.36%
Apples	-3.40%	3.38%	-0.04%	2.57%	4.90%	7.52%
Pistachios	8.58%	-5.20%	3.16%	17.61%	3.56%	21.47%
Wine Grapes	5.96%	7.72%	13.92%	6.43%	7.47%	14.16%
Citrus	8.85%	1.55%	10.50%	9.83%	2.54%	12.63%
Other Permanent Crops	3.99%	2.19%	6.18%	9.24%	3.64%	12.95%

Our Thoughts

The value of agricultural land is beginning to soften in a number of locations across the US as many sellers begin capitalizing lower income expectations into their asking prices.

With regard to US row cropland, our analysis of the markets indicate the asking prices of the vast majority of these assets remain too high to enable us to generate compelling risk-adjusted returns. Given the likelihood of rising interest rates, row cropland should generate minimal capital appreciation in the coming years. Sufficient increases in real interest rates may cause slim cap rates to decompress, in which case, farmland prices may rebase lower as cap rates equilibrate with a higher opportunity cost of capital. Higher relative real interest rates also could strengthen the relative value of the dollar, which would further suppress the price of row crops.

Given the likelihood of rising interest rates, row cropland should generate minimal capital appreciation in the coming years.

For investors to achieve nominal returns of eight percent over the next 5 years, given current cap rates and the high entry prices of land, we believe they must expect some favorable combination of low interest rates, robust exports or trade, and commodity price improvement. While individual assets could certainly generate 8 percent annualized returns over the next 5 years, we do not expect a large, multi-property portfolio of row cropland assets to be capable of achieving such a threshold. The prospect of a higher opportunity cost of capital is a risk – one that outweighs the potential benefit of obtaining, low, but stable levels of current income from passive row cropland investments. Therefore, AgIS Capital will continue to wait on the sideline, as we have since 2014.

We also believe permanent cropland investments are vulnerable to rising interest rates and a relative strengthening of the dollar. However, unlike row crop assets, we continue to find permanent crop opportunities that we believe have the capacity to generate sufficient income returns – despite recent global trade developments, which we continue to closely monitor.

The types of crops we are targeting, and the strategy we are employing to invest in farmland and associated companies, remains relatively unchanged in 2018. We continue to focus on food crops and products that are primarily destined for US consumers, rather than on feed, fiber and fuel crops. We also continue to seek opportunities to invest in firms downstream of our production assets. Pairing our expertise, throughput, and capital with trustworthy, creative, and financially disciplined companies that are involved in commodity processing and marketing has proven to be a successful, near-term strategy for our clients and we at AgIS Capital continue to believe that investing in integrated platforms is the key to maximizing the risk-adjusted returns of agricultural investments.

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Disclaimer: Our belief of future market performance is based on expectations that may or may not come true. Investors should perform their own due diligence before undertaking farmland investments.