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About AgIS

AgIS Capital acquires and manages high-quality, investment-grade farmland assets. When opportunities exist to create and capture additional value for clients, we also invest in related operating companies involved in agricultural commodity processing. At present, AgIS is emphasizing investments in U.S. permanent croplands because we believe their value proposition is more consistent with the risk and return objectives of institutional investors. We also strategically review offshore opportunities that complement our investment operations in the United States.

Uncertainty Abounds in US Agriculture

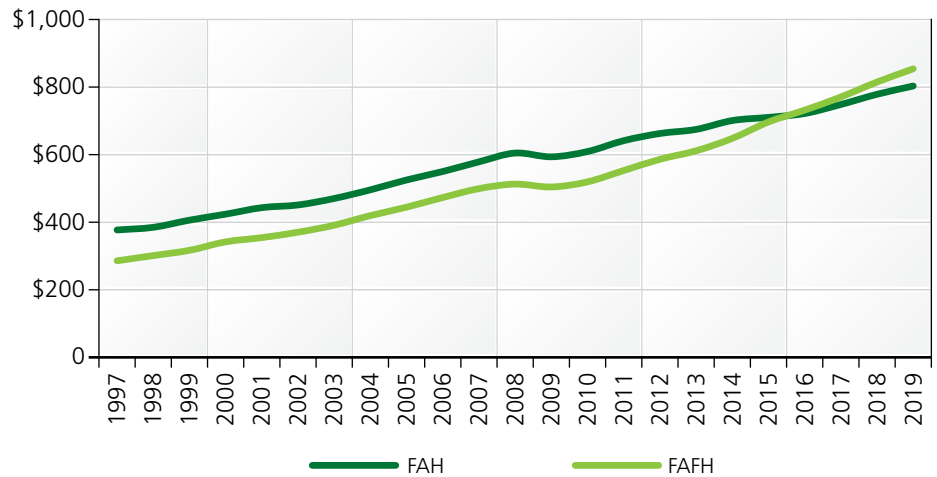
On March 13, 2020, President Donald J. Trump declared a national emergency because of the novel coronavirus (COVID-19) pandemic. To control the spread of the virus, people in the United States and across the world were asked to practice various forms of sheltering in place and social distancing. In response, travel was restricted, and many businesses and schools were closed.

More than two months later the preliminary economic impacts of the “Great Lockdown” have been sudden and severe. The U.S. Bureau of Economic Analysis (BEA) estimated that disposable personal income fell two percent in March and real gross domestic product contracted 5.0 percent on an annualized basis during the first quarter of 2020. The Economist Intelligent Unit (EIU) forecasts GDP will fall 32.3 percent



The shock to employment has been even more dramatic, with total nonfarm payroll employment falling 20.5 million in April.

Graph 1 - Annual Sales of Food at Home (FAH) and Food Away from Home (FAFH) in the US: 1997 to 2019
billion dollars



Source: ERS.

Note: Estimates are sales only and exclude food furnished, donated, home produced and served at educational institutions

during the second quarter on a quarter on quarter basis.^{1,2,3,4} The shock to employment has been even more dramatic, with total nonfarm payroll employment falling 20.5 million in April and rising 2.5 million in May. This whipsawed unemployment from a 50-year low of 3.5 percent in February to 14.7 percent in April, before falling to 13.3 percent in May. The EIU forecasts unemployment will reach 11 percent on an annual basis in 2020, before falling to 8.4 percent in 2021. Additionally, the World Trade Organization (WTO) expects world trade to fall between 13 and 32 percent in 2020.⁵

COVID-19 affected every corner of the US economy, but the US food service sector was particularly hard hit. Increasing affluence, labor force participation by women, accessibility to commercial food establishments, and availability of highly processed foods have increased consumer demand for food away from home. In fact, 2016 expenditures on food for consumption away from home exceeded expenditures on food for consumption at home for the first time in US history – and was creeping higher until COVID-19 broke the trend in a dramatic way.

First quarter consumer spending on food services and accommodations — now the primary channels through which food is purchased in the US — fell 29.7 percent, while quarterly consumer spending on at-home food and beverages surged 25.1 percent.⁶ These changes are having a substantial impact on demand for a large number of agricultural products, and thus, the performance of agriculture investments.

¹ Personal Income and Outlays: March 2020, BEA
https://www.bea.gov/system/files/2020-04/pi0320_0_0.pdf

² Gross Domestic Product, 1st Quarter 2020 (Second Estimate), May 28, 2020, BEA
<https://www.bea.gov/news/2020/gross-domestic-product-1st-quarter-2020-second-estimate-corporate-profits-1st-quarter>

³ Employment Situation Summary, May 8, 2020, BEA
<https://www.bls.gov/news.release/empsit.nr0.htm>

⁴ Economist Intelligence Unit
<https://www.eiu.com>

⁵ Trade set to plunge as COVID-19 pandemic upends global economy
https://www.wto.org/english/news_e/pr855_e.pdf

⁶ An In-Depth Look at COVID-19's Early Effects on Consumer Spending and GDP, White House Council of Economic Advisers
<https://www.whitehouse.gov/articles/depth-look-covid-19s-early-effects-consumer-spending-gdp/>

Welcome to Our Third Annual State of the Market Report

Our State of the Market Report provides an overview of the trends and forces that drive farmland returns. In this issue, we review recent estimates of US farm income and farm balance sheet statistics. 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 future performance of the asset class. Finally, we examine how the COVID-19 pandemic is affecting permanent crop industries and discuss the near-term and long-term implications.

Trends

The USDA released its 2020 baseline estimates of farm income and balance sheet indicators on February 5, 2020, which was before the impacts of COVID-19 were known. The Food and Agriculture Policy Research Institute at the University of Missouri (FAPRI) forecasts farm income and balance sheet components, and FAPRI updated its first estimates for 2020 to account for the effects of the pandemic. This report uses FAPRI's 2020 estimates. While the latter estimates incorporate more preliminary impacts from COVID-19, AgIS believes direct government payments are underestimated, and cash receipts from crops and livestock and products are likely over estimated.

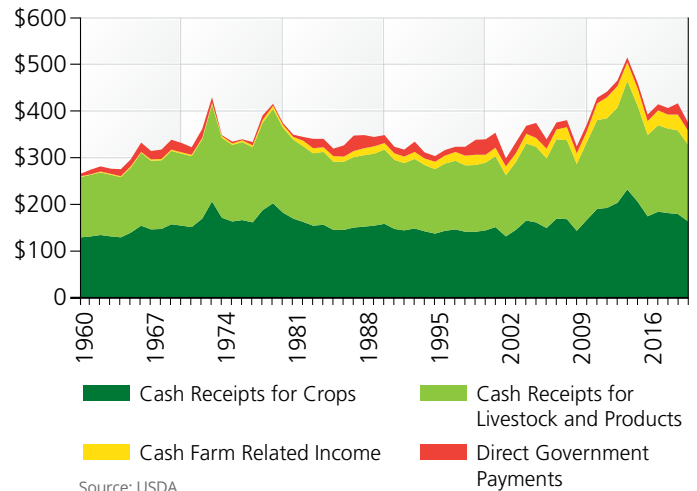
The USDA's baseline forecast of 2020 net farm income (NFI) was \$96.7 billion. The revised estimate by FAPRI forecasts NFI to be 18.8 percent lower at \$78.8 billion. The \$17.8 billion reduction is attributable to COVID-19.

FAPRI's 2020 estimate of cash receipts for crops is revised downward to \$186.5 billion, which is 6.1 percent lower than the February USDA baseline estimate of \$198.6 billion. Cash receipts for livestock and products are estimated to be 11.8 percent lower at \$163.8 billion, while direct government payments were 14.8 percent higher at \$17.3 billion. The latter number reflects traditional agriculture support payments and does not include substantial ad-hoc payments.

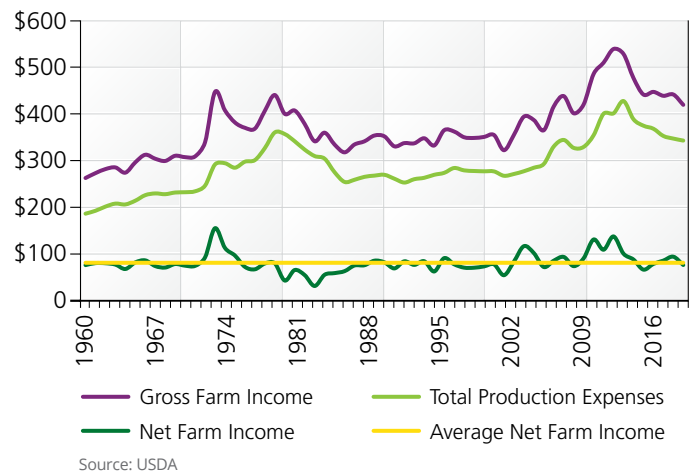
After adjusting for inflation, the 2020 gross farm income estimate of \$421.0 billion by FAPRI would be the lowest since 2010 and is \$30.3 billion lower than the February baseline estimate by the USDA. The FAPRI gross farm income estimate is \$16.8 billion lower than gross farm income in 2019, while the total production expenses estimate of \$342.2 billion is \$2.0 billion lower than total production expenses in 2019.

The February baseline estimate by the USDA forecasts farm asset values increasing 1.3 percent to \$3.1 trillion, while farm debt is estimated to increase 2.3 percent to \$425.3 billion.

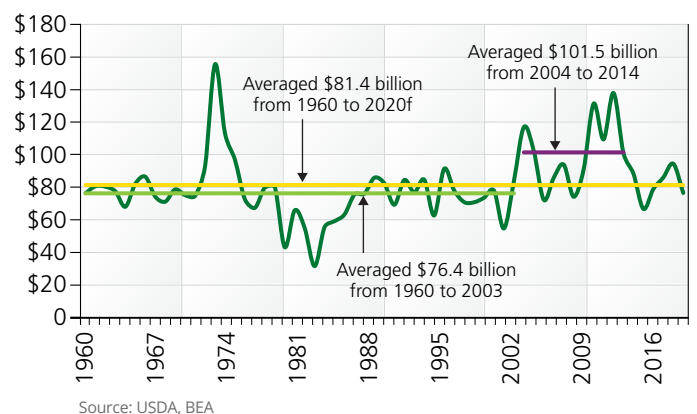
Graph 2 - Real Gross Cash Income
Components: 1960 to 2020f, billions, 2020 dollars



Graph 3 - Real Gross Farm Income
Components: 1960 to 2020f, billions, 2020 dollars



Graph 4 - Real US Net Farm Income
1960 to 2020f, billions, 2020 dollars



These estimates, however, were made in February and do not reflect the impact of the pandemic. Nevertheless, the early estimates by the USDA portray how farm debt in the agriculture sector is expected to continue rising. Real estate debt is estimated to increase 3.2 percent to \$264.7 billion, which would account for 62.2 percent of total farm debt.

Given farm debt is expected to increase more than farm assets, the aggregate farm debt to farm asset and farm debt to farm equity ratios are both expected to increase in 2020. The debt-to-equity and debt-to-asset ratios are expected to be 15.7 and 13.6 percent, respectively, which would be the highest levels posted since 2009 for both ratios.

Average farmland price estimates from August 2019 by the USDA show values rose 1.9 percent to \$3,160 an acre in 2019. While this is the highest nominal price recorded, it is still 1.8 percent lower than the record \$3,217 an acre amount posted in 2015 on an inflation-adjusted basis.

Overall, the forecasts indicate the agriculture economy is expected to experience a reduction of farm income and an increased use of debt. AgIS expects ad-hoc government payments will be large, which will help buffer the impact of COVID-19, but investment returns this year will suffer.

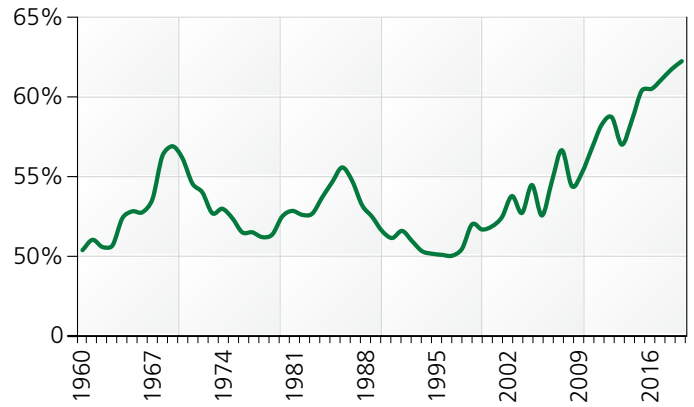
Farmland Index

The NCREIF Farmland Index reports the performance of eight institutional farmland investment managers and is comprised of 1,152 properties, which had a market value of just over \$11.4 billion as of December 31, 2019. NCREIF measures the performance of annual cropland and permanent plantings. The returns for both crop types were relatively weak in 2019. Notably, permanent plantings notched negative capital returns making the total return its second lowest since inception.

The aggregate index posted a total return of 4.81 percent in 2019, which was comprised of an income return of 4.41 percent and a capital return of 0.39 percent. The 2019 total return was the second lowest annual return since inception of the index in 1992, while the income return was the lowest since inception.

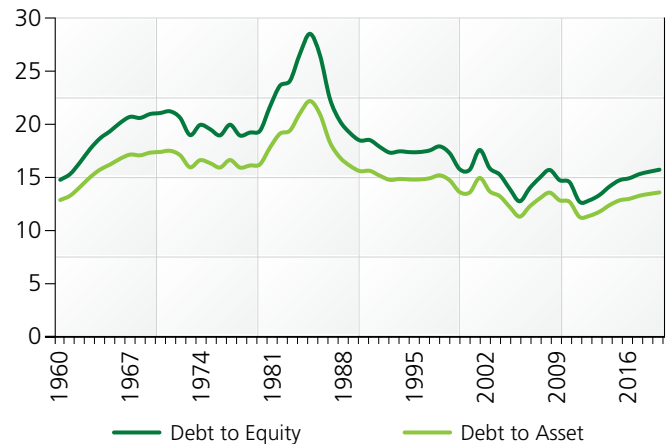
NCREIF's Annual Cropland Index consists of 897 properties, which were worth \$7.2 billion in 2019 — an average of \$8.0 million per property. The annual index posted a total return of 4.45 percent in 2019, with income returns of 3.31 percent and capital returns of 1.10 percent. The NCREIF Permanent Cropland Index consists of 255 properties worth \$4.2 billion in 2017 — an average of \$16.7 million per property. The permanent index posted a total return of 5.48 percent, with income returns of 6.27 percent and capital returns of -0.77 percent.

Graph 5 - The Proportion of Total Farm Debt in Real Estate: 1960 to 2020f



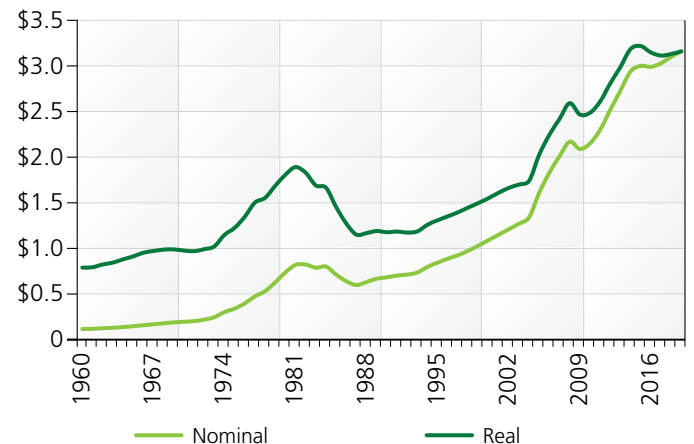
Source: USDA

Graph 6 - US Farm Sector Debt Ratios: 1960 to 2020f



Source: USDA

Graph 7 - Real and Nominal Average US Farmland Prices: 1960 to 2019, thousand dollars per acre



Source: USDA

Notable returns in 2019 included the higher performance of row cropland in the Pacific Northwest over permanent cropland in that region. Row cropland in the Pacific Northwest posted a total return of 3.40 percent, consisting of 0.23 percent capital and 3.18 percent income returns. Permanent cropland in the Pacific Northwest posted a total return of 0.51 percent for the period, with 1.96 percent capital and -1.43 percent income returns. The five-year annualized total return of row cropland in the Pacific Northwest was 10.20 percent, while permanent cropland in the region generated a total return of 2.68 percent during the same period. The underperformance of permanent cropland is largely attributable to the performance of apple investments, which generated a total return of 0.48 percent in 2019 and a five-year annualized return of -0.19 percent.

The poor performance of the NCREIF apple return index is attributable to three primary factors. First, relatively new technological advances brought about high-density production systems that generate higher yields per acre than conventional plantings. These higher yielding plantings led to an increase in the supply of fresh apples, which placed downward pressure on apple prices and in turn made conventional, lower yielding plantings less profitable. The high-density production systems also typically consisted of newer, more desirable apple varieties, which further compressed the margins of conventional plantings. Production from high density apple orchards is expected to continue to erode the profitability of conventional plantings going forward, which may cause growers to eventually pull out or replant older orchards.

Second, minimum wage legislation approved by Washington State voters in 2016 has increased minimum wages from \$9.47 in 2016 to \$13.50 in 2020. Apple production is highly labor intensive and the 42.6 percent increase in the minimum wage rate has compressed net margins for apple producers. Lastly, higher tariffs imposed by important export markets such as China, India, and Mexico also impacted profitability.

The 2.15-percent total return posted by the wine grape index is also noteworthy. In 2018, California vineyards generated a record 4.3 million tons of wine grapes, placing downward pressure on wine grape prices and investment performance. Despite lower production in 2019, there still exists a surplus of grapes on the bulk market, and barring a significant reduction of supply in 2020, AgIS believes it will take another two years to work through existing inventories, or longer if COVID-19 continues to erode disposable income in 2020 and 2021.

The figure to the right provides an overview of annual and five-year annualized returns by region, management type, and crop type sub-indexes.

Annual Cropland by Region

	One Year Return			Five Year Annualized Return		
	Income	Capital	Total	Income	Capital	Total
Pacific West	3.71%	0.16%	3.88%	3.65%	3.88%	7.64%
Pacific Northwest	3.18%	0.23%	3.40%	3.78%	6.25%	10.21%
Cornbelt	2.79%	0.97%	3.78%	2.95%	-2.12%	0.79%
Delta	2.94%	0.71%	3.67%	3.20%	0.92%	4.14%
Southeast	4.03%	4.81%	8.99%	4.23%	3.98%	8.34%
Mountain	3.95%	0.70%	4.67%	3.99%	2.51%	6.57%
Southern Plains	4.65%	1.79%	6.50%	4.93%	1.66%	6.66%
Lake States	3.14%	1.96%	5.15%	3.81%	-1.14%	2.65%
Annual Cropland	3.31%	1.03%	4.40%	3.55%	1.40%	4.99%

Permanent Cropland by Region

	One Year Return			Five Year Annualized Return		
	Income	Capital	Total	Income	Capital	Total
Pacific West	6.71%	-0.91%	5.79%	7.32%	3.34%	10.84%
Pacific Northwest	-1.43%	1.96%	0.51%	-0.16%	2.83%	2.68%
Lake States	9.26%	-6.90%	1.95%	6.54%	-7.36%	-1.14%
Permanent Cropland	6.27%	-0.77%	5.48%	6.72%	2.87%	9.73%

Management Type Subindexes

	One Year Return			Five Year Annualized Return		
	Income	Capital	Total	Income	Capital	Total
Directly Operated Permanent	6.53%	-0.97%	5.55%	6.98%	2.94%	10.06%
Leased - Annual	3.32%	1.00%	4.34%	3.58%	1.41%	5.02%
Leased - Permanent	5.77%	-0.07%	5.70%	5.52%	2.57%	8.19%

Crop Type Subindexes

	One Year Return			Five Year Annualized Return		
	Income	Capital	Total	Income	Capital	Total
Annual Commodity	2.88%	1.46%	4.37%	3.17%	0.08%	3.25%
Annual Fresh Produce	3.66%	-0.21%	3.45%	4.01%	3.66%	7.77%
Annual All Others	3.91%	0.82%	4.75%	4.01%	2.78%	6.88%
Almonds	8.61%	1.33%	10.08%	8.36%	2.37%	10.88%
Apples	-1.95%	2.47%	0.48%	-1.88%	1.71%	-0.19%
Pistachios	9.54%	1.14%	10.77%	11.88%	-1.37%	10.48%
Wine Grapes	5.05%	-2.86%	2.15%	5.26%	5.87%	11.33%
Citrus	6.39%	1.24%	7.69%	8.15%	2.36%	10.69%
Other Permanent Crops	4.65%	-3.56%	0.96%	5.22%	0.09%	5.31%

Source: NCREIF. Returns are for the period ending 12/31/2019

Response of Consumer Behavior to the Pandemic

The onset of COVID-19 brought with it a high degree of risk and consumers were forced to adapt to a new set of social restrictions and potentially new economic circumstances. At the beginning of March — a period known as the ‘Surge’ — consumers began stockpiling food from grocery stores in preparation for mobility constraints. Initial research found US consumer spending increased significantly between February 26 and March 10, which corresponds to rising rates of COVID-19 infections in the US.⁷

Since the Surge, grocery stores have shortened hours of operations to enhance their ability to restock shelves and clean stores. Many outlets also have reduced product offerings and set purchase limits on some items. Sales of many items are lower than before the surge, while some are higher.

At present, the “equilibrium state” of food consumption during and after the pandemic is unknown because there are still many questions left to be answered about the virus and its potential impact and longevity. What is known is that, on average, consumers experienced an estimated two percent reduction in disposable income in March – and expectations of rising unemployment and shrinking GDP have led to a rapid reduction in consumer confidence. During the “Great Recession,” inflation-adjusted food expenditures by U.S. households fell five percent — from \$726 billion in 2006 to \$690 billion in 2009, which was the largest decrease in at least 25 years.⁸ During this period, consumers cut back on dining out and reduced their purchasing of groceries. Consumers are expected to respond similarly during the “Great Lockdown” – spending less on food for consumption away from home, and food in general, in 2020. The losses from expenditures on food services will outstrip the significant increases in grocery store purchases.



Since the surge, grocery stores have shortened hours of operations to enhance their ability to restock shelves and clean stores.

To understand how COVID-19 is affecting permanent crops, it is important to examine characteristics of the crop itself, how and when it is produced, and the ways in which it makes its way to market. AgIS sees four broad characteristics that have the potential to influence investment outcomes this year. Here is how these trends and variables change the risk and return expectations for permanent crop investors in the wake of COVID-19.

1. Foodservice Orientation

Demand for food from foodservice outlets has collapsed because of measures put in place to prevent the virus from spreading. Primary producers that intended to sell a higher proportion of their upcoming crop into food service channels are likely to be affected the most by this shock. In extreme instances, entire crops were abandoned. In less extreme cases, farmers forewent picking a field a third or fourth time because of reduced orders. Nearly every crop has at least some exposure because lowly-graded products typically make their way into food service channels and reduced revenues from these ancillary products will impact profitability.

⁷ How Does Household Spending Respond to an Epidemic? Consumption During the 2020 COVID-19 Pandemic <https://www.nber.org/papers/w26949.pdf>

⁸ Food Spending Adjustments During Recessionary Times (2011) Kumcu and Kaufman <http://ageconsearch.umn.edu/record/120969/files/10FoodSpending.pdf>

2. Perishability

Some permanent crops last longer than others after harvest. On one end of the continuum, raspberries are among the most perishable permanent crop and should typically be consumed within ten days of harvest. On the other end, properly stored almonds can last more than two years, and crushed wine grapes held in tanks can be held even longer.

In general, optionality is a decreasing function of perishability, because the more perishable the product, the less time there is to adjust to hiccups in the supply chain.

During the surge, grocery stores reduced the number of products they offered for sale to accelerate shipping and stocking and to expand shelf space for more essential goods. If supply chain disruptions kept farmers from getting their perishable products to market on time, then at a minimum, the delay eroded product quality and reduced their profitability.

Additionally, surveys and sales data show consumers are frequenting grocery stores less often and focusing more on

food durability and storability. Statistics on grocery spending on fresh fruit and vegetables indicate spending increased during and after the surge, but not as much as spending on frozen and shelf-stable fruits and vegetables.^{9,10,11}

Therefore, in the short run, perishable products appeared more susceptible to supply chain disruptions and shelf life also appears to have limited sales growth during and immediately following the surge. In the long run, if the virus causes consumers to shop online more often, then this behavior could negatively affect the ability of marketers to entice impulse purchases for commodities like cherries, table grapes, and berries. If the virus has a prolonged impact on consumption of more shelf-stable products, then accumulating ending stocks will affect pricing of shelf-stable products in the long run.

3. Export Orientation

The WTO expects world trade will fall between 13 and 32 percent in 2020.¹² Highly exported agriculture products faced headwinds from a strong dollar and supply chain disruptions during the initial outbreak of the pandemic. The economic fallout caused by COVID-19 led the U.S. dollar to appreciate significantly, as investors see it as a safe-haven currency. For example, the dollar appreciated 15.8 percent against the Mexican Peso between February 15 and June 7. A strengthening US dollar makes US agriculture exports relatively more expensive for foreign consumers and makes foreign agriculture imports relatively less expensive for US consumers. Graph 8 depicts how agriculture exports have waned during period when the US dollar is relatively strong.

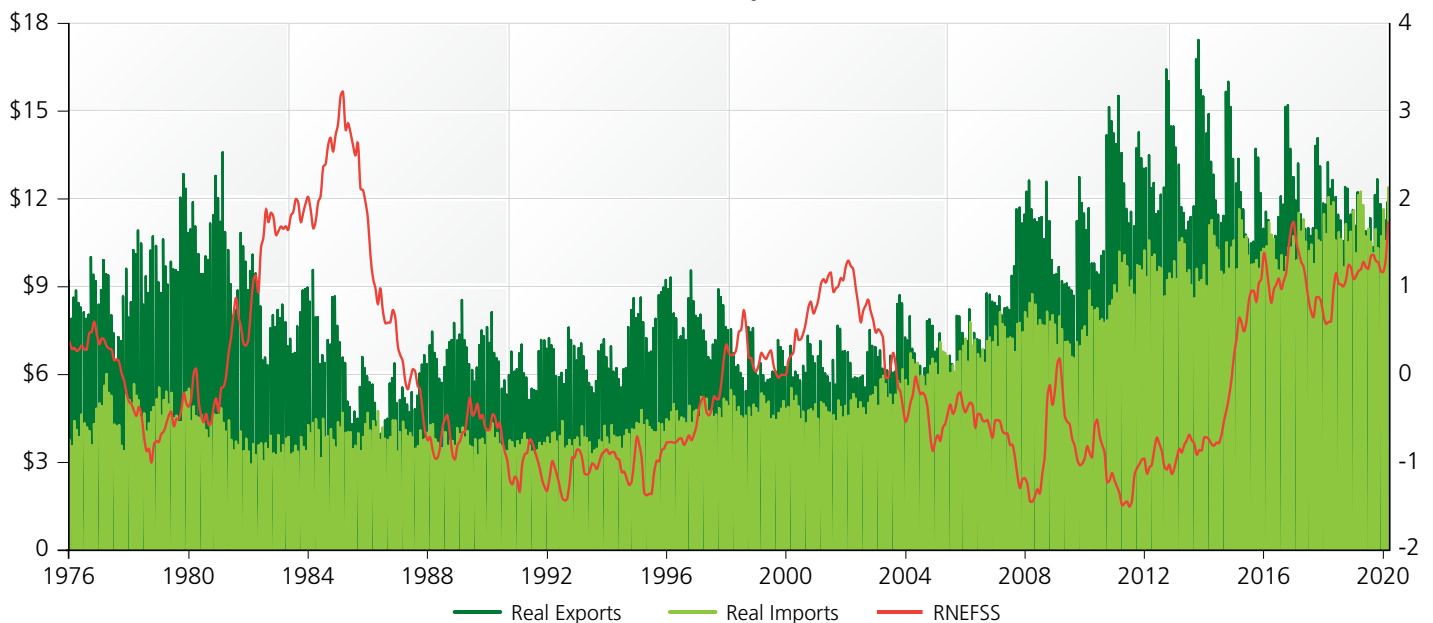
⁹ COVID-19 Impacts on Food Purchasing, Eating Behaviors, and Perceptions of Food Safety, April 2020, IFIC <https://foodinsight.org/wp-content/uploads/2020/04/COVID-19-Consumer-Research.April2020.pdf>

¹⁰ Fresh Produce Sales Up 33.9% Amid Growing Number of COVID-19 Cases <https://www.winsightgrocerybusiness.com/fresh-food/fresh-produce-sales-339-amid-growing-number-covid-19-cases>

¹¹ Pantries Padded with Produce as North Americans Prepare for the COVID-19 Long Haul <https://www.nielsen.com/us/en/insights/article/2020/pantries-padded-with-produce-as-north-americans-prepare-for-the-covid-19-long-haul/>

¹² Trade set to plunge as COVID-19 pandemic upends global economy https://www.wto.org/english/news_e/pres20_e/pr855_e.pdf

Graph 8 - Real Total Value of US Agriculture Imports and Exports and Real Narrow Effective Exchange Rate (RNEFSS) for the US in Standard Score 1976 to 2020, monthly, billion dollars



Supply chain disruptions include falling shipping cargo and air freight capacity, congestion at receiving ports because of reduced workforce, and the closing of “wet markets”—or markets for fresh perishable goods — across the world.

Almonds, walnuts, and pistachios all have a heavy export orientation. While these crops may have benefited during the surge, foreign buyers will need to continue to purchase nuts to keep pricing up. The weakening of the Mexican peso against the dollar also presents issues for apple exports. Lastly, the Washington cherry industry is concerned decreased freighter capacity may inhibit exports, but there is hope the situation is improving.

4. Labor Intensity

In a fully automated supply chain, COVID-19 would only impact input supplies and output prices. No such agriculture supply chains exist, but agriculture supply chains do exhibit a continuum of labor intensity. Highly labor-intensive crops, such as blueberries and apples, require a

relatively large number of laborers to harvest the crop and sort and package goods for retail consumption. Farming operations are implementing measures to protect workers and stall the spread of the virus. These measures include increasing spacing between field laborers, staggering breaks, increasing hand washing and adding employees to sanitize bathrooms and break areas. In the packinghouse, increasing spacing between sorters requires packing lines to run at a slower speed and some operations have added partitions to separate workers with barriers. These measures are essential to ensuring the safety of workers, but they also may erode productivity and increase costs. Therefore, financial outcomes are a decreasing function of labor intensity, other things equal.

Travel restrictions across the southern border has impacted the availability of foreign labor, but the supply of farm labor appears to be more plentiful given the collapse of the non-farm economy. Localized outbreaks, however, are shutting down farms and regions, which

could significantly affect operations.

Like other sectors of the US economy, the pandemic shocked the agriculture industry. Coupled with existing high tariffs, agriculture exports and farm income are expected to fall in 2020. While the relatively strong US dollar is expected to universally work against the profitability of domestic producers, the impacts of COVID-19 are expected to be felt more in some crop categories than in others. With regard to the performance of permanent cropland assets, AgIS believes profitability is a decreasing function of food service orientation, perishability, export orientation, and labor intensity.

While expectations for farmland performance during 2020 remain tempered the unique characteristics of farmland returns are still intact and will continue to provide investors with attractive risk adjusted returns and an opportunity to diversify their portfolio risk. This year may turn out to provide well capitalized investors with significant opportunities in the farmland asset class.



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