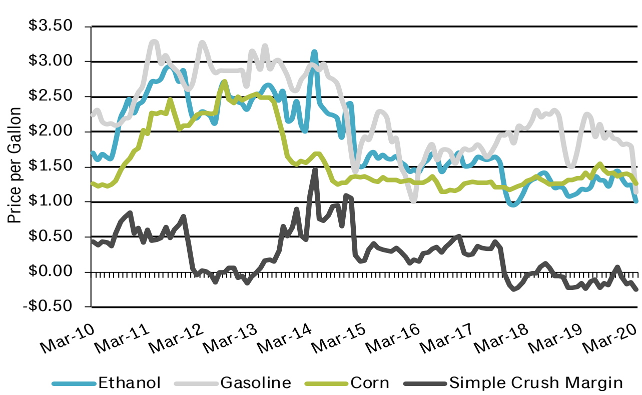
ETHANOL

CURRENT TRENDS

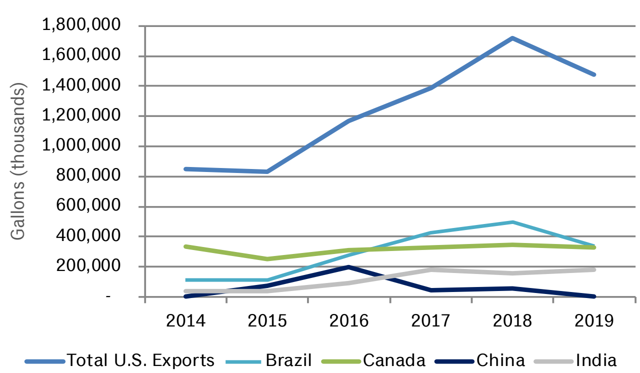
- The U.S. ethanol industry, which was facing challenges before the coronavirus pandemic, has been reeling since the virus' outbreak, largely because of the total destruction of gasoline demand that followed as most states adopted shelter-in-place orders.
- Despite being classified as an essential industry, several dozen facilities have idled production since March 2020. It is estimated that two to three billion gallons of ethanol production have already come off line with more to follow.
- Three countries – Brazil, Canada, and India – account for 58% of total exports. Exports to China, the third-largest importer of U.S. ethanol as recently as 2016, were zero in 2019.
- The value of equipment assets will be materially impaired at current fuel price levels.

PROJECTED VALUES
(12-MONTH OUTLOOK)

ETHANOL PRICING AND CRUSH MARGIN



U.S. ETHANOL EXPORT TOTALS



REFERENCE SOURCES: ENERGY INFORMATION ADMINISTRATION, ENVIRONMENTAL PROTECTION AGENCY, REUTERS, BIOFUELS DIGEST, DTN, HOOSIER AG TODAY, INDIANA PUBLIC MEDIA, FEEDSTUFFS, SEEKING ALPHA

1903 Gordon Brothers
GORDONBROTHERS.COM
+1.617.426.3233

ANOTHER CHALLENGING YEAR: Ongoing factors that adversely affected domestic demand and exports in 2018 continued into 2019, which proved to be one of the most challenging years for the ethanol industry in decades. The Renewable Fuel Program (RFP) mandates that refiners blend ethanol into gasoline at a mixture of 10 percent ethanol and 90 percent gasoline. However, the Trump administration has roughly quadrupled the number of waivers the Environmental Protection Agency (EPA) grants to small refiners freeing them from the obligation to blend biofuels into gasoline or to buy credits from others that do, suppressing domestic ethanol demand. On August 9, 2019, the EPA granted 31 additional small refinery exemptions just as some producers were contemplating production cutbacks in the throes of flat demand, rising inventories, and higher corn prices.

Under the RFP, 15 billion gallons of ethanol are required to be blended into the nation's fuel supply each year. Researchers at the University of Illinois estimate that the hardship waivers granted to small refiners reduce domestic demand for biofuels by 1.6 billion gallons, of which ethanol is estimated to account for 1.2 billion gallons. Therefore, waivers effectively reduced the mandate from 15 billion gallons of ethanol to 13.8 billion gallons. Other sources estimate that the small refinery exemptions granted by the EPA reduced aggregate domestic demand by nearly three billion gallons since 2016.

In addition to the waivers, the Trump Administration's protectionist trade policies coupled with growing nationalism around the globe have had a dampening effect on exports. In 2016, China was the third-largest importer of U.S. ethanol behind Canada and Brazil, accounting for 17 percent of exports. However, when the trade war with the United States erupted, China imposed a series of retaliatory tariffs on U.S. ethanol that by April 2018 amounted to a tariff of 70 percent and all but closed off the Chinese market to U.S. ethanol producers by 2019.

In addition to the evaporation of the Chinese market, exports to Brazil, the largest importer of U.S. ethanol, decreased approximately 32 percent year over year from 499.7 thousand gallons in 2018 to 340.0 thousand gallons in 2019. According to the Renewable Fuel Association, a number of factors contributed to the drop in exports to Brazil including sizable inventories early in the year, higher ethanol production, the continued implementation of a tariff rate quota, and the restriction of quota volumes during the September 2019 through February 2020 period. The decrease in shipments to Brazil was the primary reason U.S. exports declined in 2019. As a whole, U.S. ethanol exports declined approximately 14 percent in 2019, marking the first drop in exports since 2015.

For 2019 in total, U.S. ethanol production declined 1.8 percent to 15.78 gallons from 16.06 billion gallons in 2018. The drop in production in 2019 ended six consecutive years of increased output dating back to 2013. Despite the troublesome market conditions, there were a few positive developments in 2019 and into early 2020. First, in late May 2019 the EPA lifted the summer ban on the sale of E15, a gasoline blend containing up to 15 percent corn-based ethanol, allowing for year-round sales of E15. While this was viewed by many industry participants as a favorable development, others doubted whether the ruling would have a material impact on domestic demand since much of the United States lacks the infrastructure to deliver E15 to consumers.

The Expert: Patrick Millar

Patrick Millar has valued businesses in a variety of industries including advertising, aerospace, apparel, automobile, chemical, computer, construction, consumer electronics, food service, film and television post-production, furniture manufacturing, gaming, import/export distribution, insurance, legal, liquor, metal processing, paper, petroleum, pest control, specialty chemical, transportation and retail. In addition, he has broad experience analyzing accounting, economic and valuation issues and providing litigation support in those areas. Read his full bio here

On January 24, 2020, the Tenth Circuit Court of Appeals ruled the EPA had wrongly granted small refinery exemptions to three refineries. The three refineries claimed that they could not afford to comply with the biofuel blending obligations under RFS. The plaintiffs, the Renewable Fuel Association, the National Corn Growers Association, the American Coalition for Ethanol, and the National Farmers Union, challenged the exemptions arguing that one refiner undertook a $1 billion stock repurchase program during the exemption period and another refiner reported a $24 million profit in the biofuels credit market in the first quarter of 2018 due to lower RFS obligations. The court ruled that the EPA had violated its authority in granting the waivers to the three refiners. The Trump administration had until March 24, 2020, to file a challenge, but failed to meet the deadline to appeal the ruling. Administration officials have hinted that the Administration will apply the ruling nationally, thereby limiting exemptions to refineries that have routinely met the requirements for exemption extensions.

CORONAVIRUS MEETS OIL PRICE WAR: In early 2020, the outlook for the ethanol industry appeared to be improving following the lifting of E15 restrictions, the favorable ruling in the Tenth Circuit Court of Appeals case, and the January 2020 signing of the phase one U.S.-China trade deal, which secured China's commitment to purchase agricultural products from the United States including ethanol and distillers grains, a by-product of ethanol production. However, as market conditions began to look slightly more promising, the ethanol industry was rocked by the Covid-19 pandemic and the ensuing oil price war between Saudi Arabia and Russia.

The Covid-19 pandemic and the related "stay-at-home" orders covering much of the nation decimated gasoline and ethanol demand, leaving ethanol producers with nowhere to sell their products. In addition, on March 8, 2020, Saudi Arabia initiated an oil price war with Russia over Russia's failure to agree to cut oil production in response to falling global oil demand. While the war was essentially settled on April 12, oil markets did not react positively and global oil prices remain at levels way off of 2020 highs, with gasoline and ethanol prices near multi-year lows.

Despite being classified as an essential industry, several dozen ethanol facilities have idled production since March 2020. It is estimated that two to three billion gallons of ethanol production have already come off line with more to follow. Many of the producers that are still operating are expected to idle production once their feedstock inventories are exhausted. According to the Renewable Fuels Association, several billion gallons of production have been idled in response to the pandemic and the collapse of demand. While smaller producers are expected to receive aid under the U.S. government stimulus package, larger producers may not. Consequently, the industry is looking to the next round of stimulus for more focused aid for the sector. Even with the stimulus aid, the consensus is that a large number of ethanol producers will need grants to stay in business over the long run. Given these extraordinary events and heightened level of economic uncertainty, the future for many in the ethanol industry is uncertain at best.

COMPLEX NATURE OF EQUIPMENT NECESSITATES SPECIAL VALUATION APPROACH: Given the increased level of uncertainty in the market, a "business overlay" approach is critical when valuing ethanol facilities to capture the full income-generating value of the equipment. It considers the overall cash flows and value of a company as a whole. An income approach or cash flow approach, is a common method to value entire companies. The value of company assets that are known, such as working capital and real estate, are subtracted from the company value to derive a value available to the remaining assets. The residual value essentially determines whether the residual assets are providing an adequate return for the company. If they are not, economic obsolescence exists. In general, this Fair Market Value in continued use needs to be supported by the going concern earnings capacity of the business that the machinery and equipment supports. In deriving the residual value (or available return on) the remaining assets, Gordon Brothers' appraisers will consider all information available concerning the company, its assets, and industry trends affecting the company's cash-generation ability.

VALUATION OUTLOOK: Inventory appraisal values for ethanol will be impacted from a pricing perspective but should remain stable on a mark-to-market basis. Equipment assets will be materially impaired at current fuel price levels.

Gordon Brothers
1903

GORDONBROTHERS.COM
+1.617.426.3233