ABF Economics
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CONTRIBUTION OF THE ETHANOL INDUSTRY TO THE ECONOMY OF THE UNITED STATES IN 2016

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January 30, 2017

The U.S. ethanol industry experienced another record-breaking year in 2016 despite a challenging economic and regulatory environment. Industry output through October 2016 was 3.5 percent above 2015 levels and was poised to set a new record of 15.2 billion gallons for the year. American corn growers also posted a record crop in 2016, which pushed feedstock prices lower throughout the year to the benefit of ethanol producers. Average cash market corn prices during 2016 were 5.1 percent lower than a year earlier. World oil prices also declined for all of 2016 leading to lower gasoline and ethanol prices. Ethanol prices (Omaha Rack) were 3.2 percent lower for the full year.[1]

On the demand side, consumers responded to sharply lower retail gasoline prices by increasing consumption of finished motor gasoline. Reflecting this, domestic ethanol use increased 2.9 percent during 2016 to record levels. Meanwhile, export markets proved to be one of the brightest elements of demand. While still small relative to domestic use, ethanol exports posted a 28 percent increase in 2016 and were expected to top one billion gallons, the largest level of exports in six years.

However, the ethanol industry continued to face both economic, regulatory, and trade challenges in 2016. The economic challenges included falling world crude oil and refined product prices. West Texas Intermediate crude oil prices bottomed out at $30 per barrel in February, the lowest monthly average price in more than a decade. Prices strengthened during the year but averaged an 11.4 percent decline for the year. During this same period, ethanol prices (Omaha Rack) were down 3.2 percent. As pointed out, feedstock (corn) prices fell in 2016, but co-product prices were mixed. DDGS prices (10 percent moisture, Iowa) fell 18.6 percent while corn distiller's oil prices posted an 8.7 percent gain for 2016. The impact of these price changes were unsettling for ethanol profitability. According to Iowa State University,

[1] No. 2 Yellow Corn, Central Illinois; ethanol FOB Iowa Plant and Ethanol Omaha Rack. Source USDA

net returns over variable costs for a typical Iowa dry mill ethanol plant declined sharply in the first few months of 2016 but recovered during the second half of the year so that returns for the year posted a small increase over depressed 2015 levels. [2]

The regulatory and trade environment also provided challenges for the industry. In November 2015, the EPA released the final volume requirements for 2016 under the Renewable Fuel Standard (RFS) program. The volumes required by the final rule for all biofuels remained well below the statutory requirements set forth by the 2007 law establishing the RFS. Specifically, EPA set the "renewable fuel" portion of the RFS (the category in which corn ethanol qualifies) 500 million gallons below the statutory level in 2016; that's roughly equivalent to the annual output of six average-sized ethanol plants. Further, certain regulatory barriers, including EPA's disparate application of volatility regulations to E10 and E15, also constrained domestic demand for ethanol.

As pointed out above, ethanol exports expanded significantly in 2016. However, the trade environment for both U.S. ethanol and co-products, notably DDGS, was hampered by restrictive trade barriers in key markets. China, the top market for DDGS exports in recent years, implemented anti-dumping and countervailing duties against U.S. DDGS. The duties imposed by China sharply reduced U.S. exports to that market, resulting in lower DDGS prices across the board. China's actions are likely to continue to depress the export market for DDGS, as Chinese officials announced earlier this month that the anti-dumping duty would be raised from the preliminary rate of 33.8 percent to a range of 42.2 to 53.7 percent. In addition, the anti-subsidy tariff will range from 11.2 to 12 percent over the next five years.[3] U.S. ethanol exports faced challenges as well, with the European Union continuing to enforce a 9.5 percent anti-dumping duty on ethanol imported from the United States. Before the duty was implemented in 2012, the EU served as a top market for ethanol exports. In June, the EU General Court annulled the duty, but the European Commission appealed the decision in August and the issue remains unresolved.

According to the Renewable Fuels Association (RFA), at year's end the ethanol industry was comprised of approximately 213 plants in 28 states with nameplate capacity of 15.9 billion gallons. Conventional

[2] Iowa State University AgDecision Maker Ethanol Profitability and Biodiesel Profitability available at http://www.extension.iastate.edu/agdm/energy/xls/d1-10ethanolprofitability.xlsx and http://www.agmrc.org/renewable_energy/biodiesel/biodiesel-profitability accessed Jan. 18, 2017

[3] "China to raise anti-dumping tax on US distillers grains" Chinadaily.com 2017-01/11

feedstocks (e.g., corn and sorghum) accounted for the majority of ethanol production. The industry included six plants designed to use cellulosic biomass totaling capacity of 126 million gallons. At year's end, 237 million gallons of capacity was under expansion or construction.

This study estimates the contribution of the ethanol industry to the American economy in 2016 in terms of the employment, income, and Gross Domestic Product (GDP) directly and indirectly supported by the industry.

Expenditures by the Ethanol Industry in 2016

Ethanol producers are part of a manufacturing sector that adds substantial value to agricultural commodities produced in the United States and makes a significant contribution to the American economy.

Expenditures by the ethanol industry for raw materials, other goods, and services represent the purchase of output of other industries. The spending for these purchases circulates through the local and national economy, generating additional value-added output, household income, and employment in all sectors of the economy.[4] Ethanol industry expenditures can be broken into three major categories: construction of new production facilities, ongoing production operations, and research and development.

1. Construction

   Industry capacity increased an estimated 300 million gallons during 2016 with much of this accounted for by expansion of conventional ethanol and second generation (cellulose and advanced biofuels) production facilities. At year's end, RFA reported 237 million gallons of new capacity was under construction. The EPA's Final Rule for the 2017 RFS blending requirements brings the "renewable fuel" volume obligation in line with statutory level of 15 billion gallons and provides for a 6 percent increase over 2016 levels. Importantly, the RFS advanced biofuel target has increased 700 million gallons in 2017. This will likely restore a regulatory incentive for new capital expenditures in 2017.

[4] Expenditures for feedstock and energy were estimated using 2016 calendar year average prices. Revenues were estimated using 2016 calendar year average prices for ethanol (Omaha Rack); Distiller's grains, and corn distillers oil. Prices were sourced from USDA/ERS and AMS, and EIA.

2. <u>Ongoing production operations</u>

The industry spent an estimated $25.1 billion on raw materials, other inputs, and goods and services to produce ethanol during 2016, 1.4 percent less than in 2015. Even though industry output increased 3.5 percent for all of 2016, lower prices for corn feedstock and natural gas, the two largest components of variable costs, largely accounted for the decline in total production expenditures. Production costs were based on a model of dry mill ethanol production maintained by the author of this report. These estimates are consistent with generic dry mill ethanol costs, such as those published by Iowa State University.[5] Table 1 details the expenditures by the ethanol industry in 2016.

Table 1
Estimated Ethanol Production Expenditures 2016

	2016 Mil $	2016 $/gal	Change From 2015
Feedstock (corn)	$18,729	$1.23	-1.5%
Enzymes, yeast and chemicals	$1,016	$0.07	1.8%
Denaturant	$707	$0.05	-18.2%
Natural Gas	$1,518	$0.10	-14.3%
Electricity	$710	$0.05	1.5%
Water	$283	$0.02	14.5%
Direct labor	$1,037	$0.07	14.5%
Maintenance & Repairs	$453	$0.03	14.5%
Transportation	$131	$0.01	14.5%
GS&A	$540	$0.04	14.5%
Total Operating Costs	$25,124	$1.65	-1.4%

The largest share of spending was for corn and other feedstocks used as raw material to make ethanol. The ethanol industry used 5.43 billion bushels of corn on a gross basis in 2016, valued at $18.8 billion. Reflecting this, the ethanol industry is a major source of support for agricultural output and farm income.

[5] See the Ethanol profitability spreadsheet maintained by Don Hofstrand "AgDecision Maker D1-10 Ethanol Profitability" available at http://www.extension.iastate.edu/agdm/energy/xls/d1-10ethanolprofitability.xlsx

This analysis estimates both the total production effect and the crop price (farm income) effects of ethanol production on agriculture based on a structural model of U.S. agriculture maintained by the author. The impact of demand for corn to produce ethanol on farm income was adjusted so as to not overstate the impact of ethanol demand on revenue for the corn sector. This was accomplished by applying estimates of the effect of ethanol on corn prices taken from the literature to the share of corn demand accounted for by ethanol and actual change in corn prices.

The remainder of spending by the ethanol industry for ongoing operations is for a range of inputs such as enzymes, yeast and chemicals; electricity, natural gas, and water; labor; transportation; and services such as maintenance, insurance, and general overhead.

3. Research and Development

The renewable fuels industry is a significant engine for research and development (R&D) both in the public and private sectors. Much of the R&D activity in the biofuels industry is aimed at discovering and developing advanced biofuels feedstock and the technology needed to meet RFS2 targets for cellulosic and advanced biofuels. The primary public sector agencies underwriting R&D in biofuels are the U.S. Departments of Energy (USDOE), Agriculture (USDA), and Defense (DOD). In addition to the federal government, many states are funding R&D in feedstock development as well as infrastructure. These public funds are being leveraged significantly by private sector firms undertaking research in a wide range of biofuels activities. We have assumed that R&D spending on biofuels continued to expand during 2016 as the need for new feedstocks grows. Reflecting this we assumed that industry R&D expenditures grew at the overall rate of inflation and totaled an estimated $865 million in 2016.[6]

[6] Estimates of the amount of R&D spending on biomass and biofuels vary substantially. For a discussion of R&D spending on biofuels see “Agricultural Preparedness and the Agriculture Research Enterprise”. President’s Council of Advisors on Science and Technology. Washington DC, December 2012. A 2013 study prepared by Mary Solecki, Anna Scodel and Bob Epstein at E2 Environmental Entrepreneurs. “Advanced Biofuel Market Report 2013” suggests that R&D spending on biofuels approaches $1.7 billion. A (relatively) new report on federal spending on R&D in energy published by EIA (“Direct Federal Financial Interventions and Subsidies in Energy in Fiscal year 2013”, March 2015) estimates Federal R&D expenditures for biomass of $300 million in FY 2013. This study does not include estimates for corporate (private sector) R&D.

4. Co-product value

   Most ethanol is produced by dry mills that also produce valuable co-products in the form of distillers dried grains (DDGS) and (industrial) corn distillers' oil.[7] The ethanol industry produced an estimated 47.4 million short tons of DDGS and 3.2 billion pounds of industrial corn distillers oil in 2016 with an aggregate market value of $7.2 billion. It is notable that these co-products are produced with little additional expenditure.

Spending associated with current ethanol production, new and expansion construction, and R&D circulates and re-circulates throughout the entire economy several-fold, stimulating aggregate demand, and supporting jobs and household income. The economic activity associated with export activity adds to this impact. In addition, expanded economic activity generates tax revenue for government at all levels.

Methodology

We estimate the impact of the ethanol industry on the American economy by applying expenditures by the relevant supplying industry to the appropriate final demand multipliers for value added output, earnings, and employment.

To understand how the economy is affected by an industry such as ethanol production, it is necessary to understand how different sectors or industries in the economy are linked. For example, in the renewable fuels production sector, the ethanol industry buys corn from the agriculture sector; which in turn, buys inputs from other suppliers such as fertilizer and pesticide producers that also purchase products from a range of other industries. These are referred to as backward linkages. Use by other sectors of natural gas as an input, such as manufacturing operations, is a forward linkage. Natural gas production and transmission industries are linked through both forward and backward linkages to other economic sectors in each state's economy.

The household sector is linked to all sectors as it provides the labor and management resources. In turn, changes that affect incomes of the household sector typically have significant impacts compared to a

[7] DDGS and corn distillers oil production is reported monthly in the USDA Grain Crushings and Co-Products Production report. http://usda.mannlib.cornell.edu/MannUsda/viewDocumentInfo.do?documentID=1899

change in the sales of other sectors. This is because households typically spend most of their income on both retail and service goods and this is a critical component of the national economy

This study uses an economic model known as IMPLAN (Impact Analysis for Planning) to develop a model of the national economy, including sectors that support the ethanol industry, the links between them, and the level of national economic activity. IMPLAN is a commonly used economic input-output (I-O) model. I-O models are constructed based on the concept that all industries in an economy are linked together; and the output (i.e., sales) of one industry becomes the input of another industry until all final goods and services are produced. I-O models can be used both to analyze the structure of the economy and to estimate the total economic impact of projects or policies. For this analysis, a model for the U.S. economy was constructed using current IMPLAN software and the most recent data available.

As in the past we continue to treat the share of industry earnings accounted for by locally owned firms as an addition to the household sector since the income is paid to local owners. The result of this is that their impact is estimated using multipliers for the household sector rather than those for conventional corporate income.

IMPLAN models provide three economic measures that describe the economy: value added, income, and employment.

- Value added is the total value of the goods and services produced by businesses in the country and is generally referred to as gross domestic product (GDP). It is equivalent to the sum of labor income, taxes paid by the industry, and other property income or profit.

- Labor income is the sum of employee compensation (including all payroll and benefits) and proprietor income (income for self-employed work). In the case of this analysis, demand for corn and other feedstock to produce ethanol supports farm income through higher crop receipts than would be the case without ethanol production.

- Employment represents the annual average number of employees, whether full or part-time, of businesses producing output. Value added including labor income and employment represent the net economic benefits that accrue to the nation as a result of increased economic output.

There are three types of effects measured with a multiplier: direct, indirect, and induced effects. Direct effects are the known or predicted changes in the economy. Indirect effects are the business-to-business transactions required to produce direct effects (i.e., increased output from businesses providing intermediate inputs). Finally, induced effects are derived from spending on goods and services by people working to satisfy direct and indirect effects (i.e., increased household spending resulting from higher personal income).

We also continue to reflect the additional value of output of co-products (DDG and industrial corn distillers' oil) in the analysis. Since these are co-products, and the backward linkages for their production is accounted for in the expenditures for ethanol production, the value for DDG and corn distillers oil was treated as income and value added only, and we applied income multipliers to the employee compensation portion to avoid double counting.

Changes to the Analysis

The major change to this year's analysis is the incorporation of the explicit impact of ethanol and DDGS exports. The methodology for estimating the impact of trade differs from that used for industry output.[8] We have estimated the impact of ethanol and DDGS exports by applying USDA Agricultural Trade multipliers for output and employment to the estimated value of exports for 2016. Since ethanol and DDGS are outputs of the chemical industry we used the USDA trade multipliers for the other organic chemicals industry. The USDA multipliers have three major components (or margins): production, transportation and warehousing, and wholesale/retail trade. Since IMPLAN already incorporates the impact of ethanol and DDGS production, to avoid double counting impacts we only applied the margins for transportation and trade to the value of exports. This represents the post-production (or ex-plant) impacts from exports. These results were added to the IMPLAN results and are detailed below.

Results

The impact of ethanol industry production and exports on the U.S. economy in 2016 is summarized in Table 2. The full impact of the spending for annual operations of ethanol production, co-product output, exports, and R&D is estimated to have contributed more than $42 billion to the nation's GDP in 2016,

[8] https://www.ers.usda.gov/data-products/agricultural-trade-multipliers.aspx

slightly lower than that provided in 2015. A significant component of this is from agriculture, reflecting the importance of ethanol demand to total corn utilization, the aggregate value of crop production, and crop receipts and farm income. The manufacturing activity of ethanol production contributed nearly $14.5 billion to the U.S. economy.

Table 2
Economic Impact of the Ethanol Industry: 2016

	GDP (Mil 2016$)	Employment FTEs	Income (Mil 2016$)
Ethanol Production	**$14,450**	**70,911**	**$6,530**
Direct	$6,432	10,529	$2,386
Indirect	$4,702	24,216	$2,254
Induced	$3,316	36,165	$1,890
Construction	**$634**	**6,491**	**$430**
Direct	$219	2,402	$186
Indirect	$189	1,630	$115
Induced	$227	2,459	$129
Agriculture	**$22,591**	**234,964**	**$12,767**
Direct	$1,172	57,904	$873
Indirect	$14,673	103,769	$8,058
Induced	$6,746	73,291	$3,836
R&D Expenditures	**$1,364**	**11,869**	**$1,105**
Direct	$543	3,585	$543
Indirect	$383	3,534	$231
Induced	$438	4,750	$331
Exports (Total)	**$3,159**	**14,940**	**$1,674**
Total Ethanol	**$42,198**	**339,175**	**$22,506**
Direct	$8,365	74,420	$3,987
Indirect	$23,106	148,090	$12,333
Induced	$10,726	116,666	$6,186

Employment

Jobs are created from the economic activity supported by ethanol production. While ethanol production is not a labor-intensive industry (accounting for about 10,500 full time equivalent direct jobs nation-wide)[9], the economic activity of supporting industries generates a substantial number of jobs in the nation.

[9] The Census Bureau does not report employment in ethanol production. This analysis conservatively assumes the average ethanol plant employs approximately 50 full-time equivalent employees.

When the direct, indirect and induced jobs supported by ethanol production, construction activity, agriculture, exports, and R&D are included, the ethanol industry supported nearly 340,000 jobs in 2016.

Since ethanol production is more capital intensive rather than labor intensive, the number of direct jobs supported by the ethanol industry is relatively small and is concentrated primarily in manufacturing and agriculture. Most agriculture jobs supported by the ethanol industry are jobs in support activities related to crop production, ranging from farm managers and bookkeepers to farm equipment operators. In addition, jobs supported by income generated and spent by employees supports a significant number of jobs in seemingly unrelated sectors such as retailers and service sectors. In general, as the impact of the direct spending by the ethanol industry expands throughout the economy, the employment impact expands significantly and is spread over a large number of sectors. The number of jobs supported by ethanol and DDGS exports is estimated at nearly15,000. Most of these jobs are concentrated in transportation and export trade related administrative and financial industries.

Income

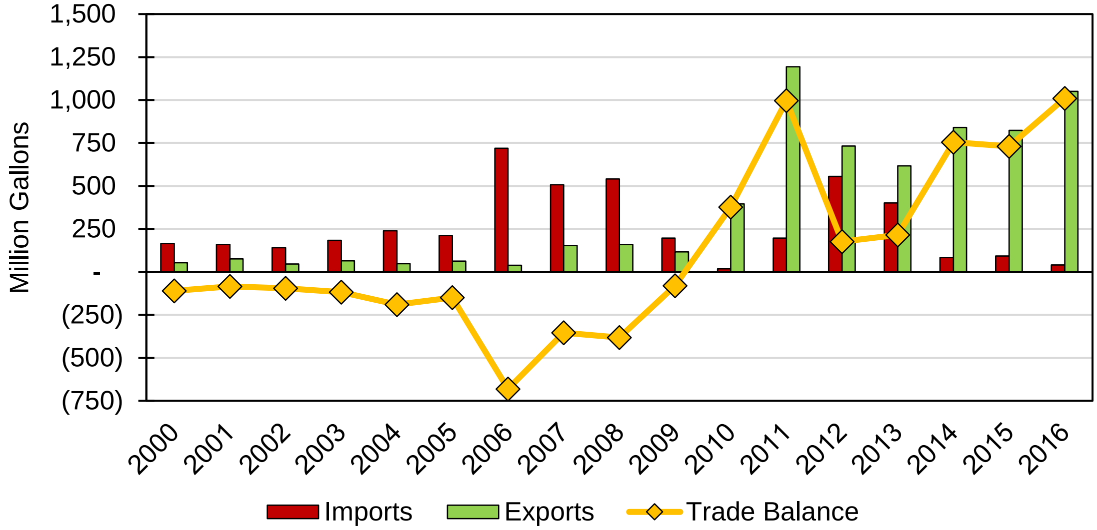
Economic activity and associated jobs produce income for American households. The economic activities of the ethanol industry put more than $22.5 billion into the pockets of Americans in 2016. As is the case with employment, the direct impact on income by the ethanol industry is largely concentrated in manufacturing and services. In many respects this mirrors the employment structure of the American economy. The most significant impact of the ethanol industry continues to be increased income to farmers who benefit from the demand for feedstock, which leads to both increased production and increased prices as well as earnings from locally-owned ethanol plants.

Exports

As pointed out earlier, U.S. ethanol exports have expanded significantly over the last decade and are projected to near 1.1 billion gallons for all of 2016 with an export value of $2.2 billion. Exportable supplies of ethanol have grown over the past seven years as production exceeded domestic use. Moreover, the ethanol industry is generating a trade surplus and helping to reduce the nation’s trade deficit. Figure 1 illustrates the growth in ethanol exports, imports and trade balance.

Ethanol exports generate economic activity largely through the requirements to transport ethanol from plants to ports and final destinations. This largely involves rail, barge, and ocean shipping. Additional impacts are generated by labor, administrative (document) and financial requirements necessary to support export activity. These impacts are categorized as indirect since they are subordinate to production. Using the USDA Trade Multipliers suggests that the $2.2 billion of export value added $3.2 billion to GDP and supported nearly 15,000 jobs in all sectors of the economy.

Figure 1
U.S. Ethanol Trade



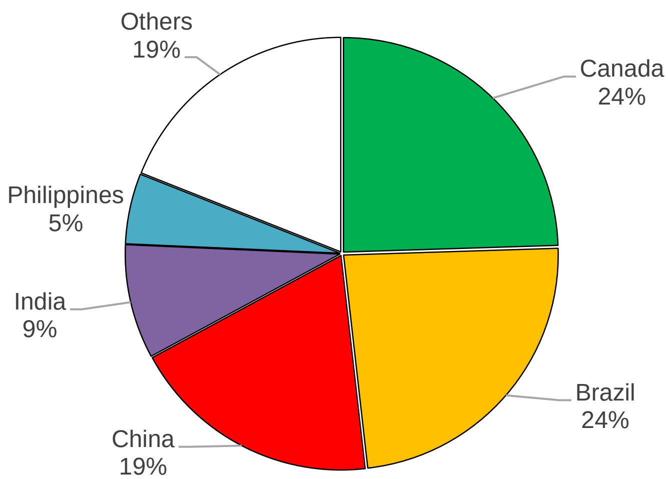
Source: USITC Trade Database

The growth in U.S. ethanol exports reflects not only larger exportable supplies but global expansion of renewable fuel use. A recent FAPRI forecast indicates that world ethanol production fell 0.7 percent in 2016 while use increased 0.6 percent. Considering that production in the U.S., the world's largest producer, increased 3.5 percent the decline in global output largely reflected an 8 percent decline in Brazilian production.[10] As the world's two largest producers and exporters, this created a market opportunity for the U.S. One of the most significant developments for the U.S. industry has been the emergence of China and India as export markets. Through November 2016, China imported 179 million gallons of U.S. ethanol and currently is challenging Canada and Brazil as the leading export market.

[10] International Biofuels 12_2016. FAPRI- University of Missouri Baseline Review 2016. December 2016. https://www.fapri.missouri.edu/baseline-review-2016/

Exports to India totaled 81 million gallons in 2016. As recently as 2012 neither of these countries imported ethanol from the U.S. As shown in Figure 2, five markets account for 81 percent of total U.S. ethanol exports.

Figure 2
U.S. Ethanol Exports, Jan-Nov 2016



Source: USITC Trade Database

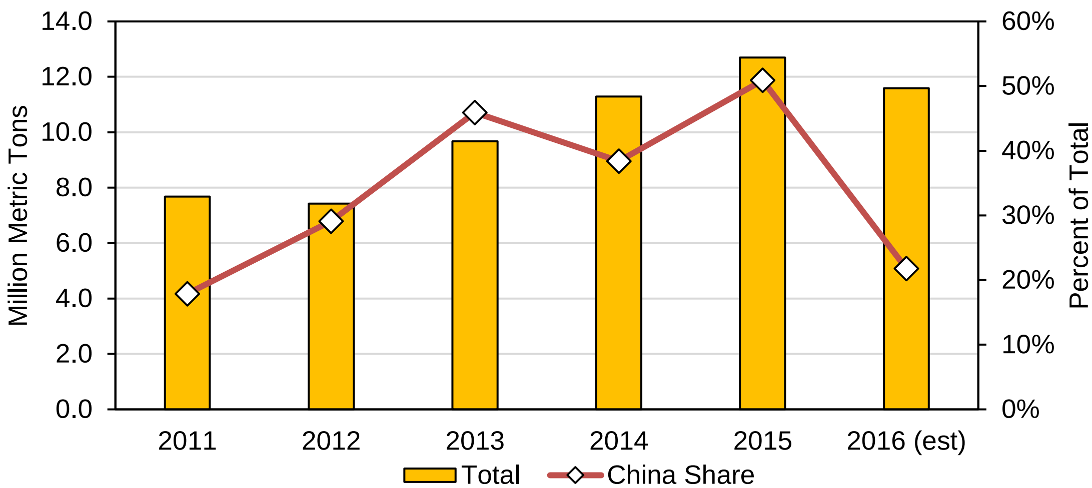
DDGS exports also have grown significantly increasing more than 56 percent over the past five years. Exports of DDGS are expected to total 11.5 million metric tons valued at $2.1 billion in 2016. By comparison DDGS exports amounted to 7.7 million metric tons in 2011 and just 2.4 million metric tons in 2007. As is the case with ethanol, the biggest recent story for DDGS export markets has been China. As shown in Figure 3, China's share of U.S. exports increased from 1.37 million metric tons in 2011 (17.9 percent of total) to nearly 6.5 million metric tons in 2015, or 51 percent of total.

However, the U.S. export relationship with China suffered significantly in 2016 as China's Ministry of Commerce renewed charges of dumping against the U.S. and imposed preliminary anti-dumping duties of 33.8 percent. The trade environment for DDGS between China and the U.S. has been rocky since China announced its first anti-dumping charges against the U.S. in December 2010.[11] The investigation

[11] Mary Kennedy. "China Decides U.S. Guilty of Dumping DDG". The Progressive Farmer Ethanol Blog. September 26, 2016.

was terminated by China in June 2012 and exports to China jumped to 6.5 million metric tons by 2015. The 2016 re-institution of anti-dumping and imposition of anti-dumping duties sharply reduced exports. Exports of DDGS to China for all of 2016 are estimated at about 2.5 million metric tons, 61 percent less than 2015 levels. This trade dispute is likely to continue to depress the export market for DDGS reflecting China's announcement earlier this month of the imposition of a 42.2 to 53.7 percent anti-dumping tax and an 11.2 to 12 percent anti-subsidy tax over the next five years.[12]

Figure 3
U.S. DDGS Exports



Source: USDA Foreign Agricultural Service Global Agricultural Trade System (GATS).

Tax revenue

The combination of GDP and household income supported by the ethanol industry contributed an estimated $4.9 billion in tax revenue to the Federal Treasury in 2016. State and local governments also benefit from the economic activity supported by the ethanol industry, earning $3.6 billion in 2016.

[12] "China to raise anti-dumping tax on US distillers grains" Chinadaily.com January 11, 2017

Crude oil displacement

Ethanol also plays a positive role in reducing our dependence on imported oil, expands the supply of motor gasoline, reduces the U.S. trade deficit, and reduces greenhouse gas emissions relative to conventional gasoline.

The production and use of ethanol displaces crude oil needed to manufacture gasoline and expands the volume of motor gasoline available to consumers. According to the Energy Information Administration (EIA), U.S. dependence on imported oil and refined products has dramatically declined since peaking in 2005. The use of domestic biofuels (ethanol and biodiesel) is a contributor to the steady decline in oil import dependence. EIA reports that in 2015 about 45 percent of the crude oil processed in U.S. refineries was imported, and in total 24 percent of all petroleum products consumed in the U.S. were imported from foreign sources.[13] The recent sharp declines in world oil prices has had a dramatic impact on U.S. oil production. EIA reports that U.S. field oil production which had a recent peak of nearly 296 million barrels in March 2015 declined steadily to 273 million barrels in October 2016—an 8 percent drop in 19 months. This is reflected in the sharp drop in drilling activity. The number of operating rotary oil rigs, which peaked at 1,596 in mid-2014, dropped to 510 in January 2016 and 330 in October 2016. The production of 15.2 billion gallons of ethanol displaced 510 million barrels of crude oil needed to produce gasoline in 2016. If applied to imports, the value of the crude oil displaced by ethanol declined to $20.1 billion in 2016.[14] This is money that stays in the American economy.

Conclusion

The ethanol industry continues to make a significant contribution to the economy in terms of job creation, generation of tax revenue, and displacement of imported crude oil and petroleum products. The importance of the ethanol industry to agriculture and rural economies is particularly notable. Continued growth and expansion of the ethanol industry through new technologies and feedstocks will enhance the

[13] EIA. *Frequently Asked Questions. "How much oil consumed by the United States comes from foreign countries?"* http://www.eia.gov/tools/faqs/faq.cfm?id=32&t=6. Accessed Jan 18, 2017.

[14] Ethanol directly competes with and displaces gasoline as a motor fuel. According to the EIA, one 42 gallon barrel of crude oil produced 19.7 gallons of gasoline in 2016. Ethanol has a lower energy content (76,700 btu per gallon LHV) than gasoline (114,000 btu per gallon LHV), and thus it takes 1.48 gallons of ethanol to provide the same energy as one gallon of gasoline. Therefore, 15.2 billion gallons of ethanol are the equivalent of 10 billion gallons of gasoline. Since one barrel of crude produces 19.7 gallons of gasoline, it takes 510 million barrels of crude to produce 10 billion gallons of gasoline, the amount displaced by ethanol. This oil was valued at the 2016 year-to-date average composite acquisition cost of crude oil by refiners of $39.44/bbl.

industry's position as the original creator of green jobs, and will enable America to make further strides toward energy independence.