Removal of Ethanol Import Tariff

PREPARED BY
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The U.S. ethanol industry has been supported by various government policies, such as the ethanol tax credit and a tariff on imports of ethanol for fuel. Recently, the future of some of these policies has been put in doubt. The ethanol tax credit, which had been at 51 cents per gallon for many years, was lowered to 45 cents per gallon. This change was part of the 2008 Farm Bill, which was crafted and enacted at a time of record-high prices for many energy products, including gasoline.

The 2008 Farm Bill included a continuation of the tariff on imports of ethanol, but that provision expires at the end of 2010, and continuation of the import tariff beyond that point is in question. In the absence of the import tariff, the question is not whether ethanol imports will occur, but how much the import volume will be. Although imported ethanol could come from several countries and be made from several feedstocks, ethanol made in Brazil from sugar cane is most likely to be imported in large quantities. Under the proposed RFS 2 rules, sugar-based ethanol from Brazil could compete not only with corn-based ethanol in the United States, but also in the "advanced" biofuels portion of the mandate.

Several factors would influence the potential amount of ethanol imported by the United States if the import tariff was dropped in 2011. The price of gasoline, which is mostly a function of crude oil prices, certainly has a big impact. Higher gasoline prices would result in more demand for ethanol.

A major issue facing the U.S. ethanol industry is the regulatory cap on the amount of ethanol that can be blended with gasoline to be used in fuels in cars that are not specifically flex-fuel vehicles. Flex-fuel vehicles are designed to use many different fuel blends, such as E-85 (85% ethanol), but for most vehicles currently on the road, the maximum amount of ethanol allowed is 10%. The regulatory cap places a practical limit on the total amount of fuel ethanol that can be used. Until the number of flex-fuel vehicles on the road increases significantly, it will be difficult to increase the total amount of fuel ethanol that can be utilized without increasing the regulatory cap. Despite auto industry claims that more than 10% of ethanol in gasoline will cause maintenance problems in (non-flex-fuel) cars, some studies

indicate that the percentage of ethanol blended into gasoline can be safely increased to !5%, 20%, or more.

Mandates regarding the use of biofuels in the United States may affect the level of potential imports beyond the issue of the blend wall. Ethanol mandates are broken out by the feedstock used to produce the fuel. At present, starch-based ethanol, made almost entirely from corn, is the predominant form of ethanol being blended with gasoline in the United States. New technology is being developed to produce biofuels commercially from other feedstocks. These so-called advanced biofuels include those made from cellulosic feedstocks, such as grasses or wood, and from non-cellulosic feedstocks. Since many of these biofuels are not yet available on a commercially viable scale, the final details of some of the mandates are not fully formed.

It is possible that sugar-based ethanol imported from Brazil could qualify as a non-cellulosic advanced biofuel under the 2007 energy bill. If so, it could qualify for use under a mandated category that corn-based ethanol does not qualify for. If other non-cellulosic advanced biofuels are not available in sufficient quantities in the United States by the time the mandate levels ramp up, then imported sugar-based ethanol would not necessarily be competing with corn-based ethanol under the mandate for starch-based ethanol, which falls into a category sometimes known as "first-generation biofuels."

Outside of the policy-related considerations, the quantity of sugar-based ethanol imported from Brazil would mostly depend on how price competitive it is with corn-based ethanol produced in the United States. If sugar-based ethanol is cheaper to produce than corn-based ethanol, in the long run, its price would be lower and imports would displace U.S.-produced ethanol made from corn in the starch-based ethanol market. If the cost of producing sugar-based ethanol were higher than the cost of corn-based ethanol, then imports would be relatively low and would mostly occur only if U.S. production of corn-based ethanol fell below total demand for ethanol.

The cost of producing biofuels depends on the cost of processing the feedstock into fuel, which is a function of how much energy the process requires and the yield of fuel produced per unit of input,

among other things. Probably the main determinant of the cost of producing biofuels, though, is the cost of the feedstock being used. The cost of producing corn-based ethanol is largely a function of the price of corn, and the price of producing sugar-based ethanol is the price of sugar cane. In the short run, the price of each crop is a function of its supply/demand balance, while in the long run it is a function of its cost of production. The quantities of the feedstock being used also mean that their production levels can influence the price of the underlying feedstock.

Forecast Assumptions

In order to analyze the impact of removing the U.S. ethanol import tariff, IHS Global Insight used its global forecast for agriculture as the baseline. The baseline forecast used assumptions about policy, productivity, etc. that reflect current conditions and certain assumptions about future conditions. Notably, this baseline forecast assumed that the current U.S. ethanol import tariff would remain in place at its current level. IHS Global Insight then ran an alternative scenario in which the ethanol import tariff is removed at the beginning of 2011. Most forecast assumptions are held constant between the baseline and the alternate scenario, so the differences between the forecasts are caused by the removal of the ethanol tariff.

Crop Yields

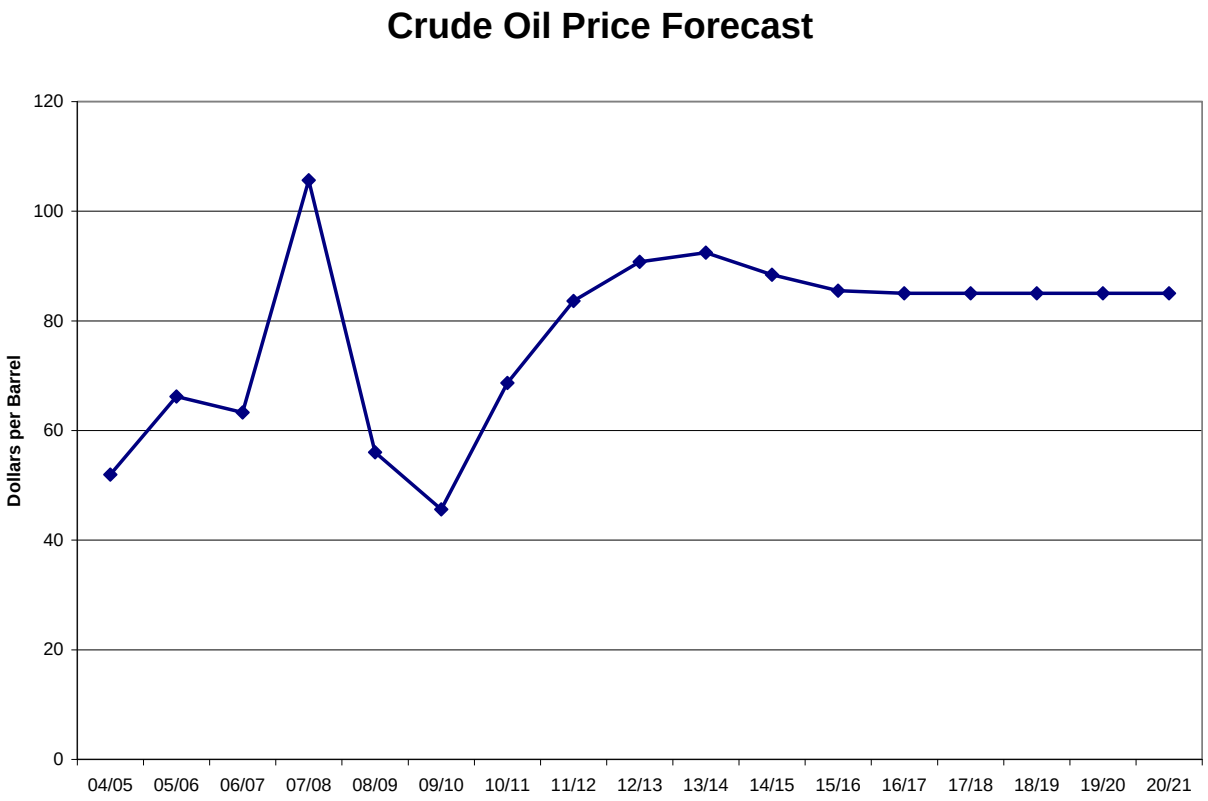
Although the global agriculture forecast features many assumptions about the present and future, a few are especially notable in the context of the forecast. First, much consideration was given to expected crop yields in the future. As previously mentioned, the cost of producing biofuels is largely a function of the cost of producing the underlying feedstock. The cost of producing the feedstock is heavily influenced by its average annual yield, and higher yield per acre translates into lower per-unit costs of production.

Expected yield in the long run is typically estimated as a function of observed growth trends over a period of years. A linear trend is usually calculated, then extended out. This approach is often the best

that can be done, but in times of rapid technological advancement, the linear trend is likely to understate actual yield growth. Based on information provided by major seed companies about technology that is becoming available in the very near future, IHS Global Insight is assuming yield growth over the next five years that is higher than implied by a simple linear trend. Specifically, corn and soybean yields are expected to increase over the next five years by 7.5% and 10.0%, respectively, beyond the amount implied by the linear trend.

Oil Prices

Since gasoline will remain the predominant form of transportation fuel even as renewable fuel mandates increase, ethanol prices and demand will largely be a function of oil prices. Oil prices are exogenous to the baseline and alternative scenario, and are taken from IHS Global Insight's macroeconomic forecast. The West Texas Intermediate price of crude oil is expected to rise to around $70 per barrel during the 2010/11 crop marketing year, and then average in the range of $80–90 the 2011/12 to 2020/21 period.



Biofuels Policy

Regulatory Cap

The regulatory cap on the amount of ethanol that can be blended with gasoline is assumed to be expanded to 15% beginning with the 2009/10 crop marketing year, then to 20% in 2015/16 and 30% in 2019/20. This partially reflects the fact that the mandated levels of ethanol usage contained in the 2007 energy bill are impracticable unless the regulatory cap is raised over time.

Advanced Biofuels Mandate

The forecast also assumes that mandates for production and use of advanced biofuels are satisfied with domestic production, and that imported sugar-based ethanol is not counted toward the mandate. This means that imported ethanol competes directly with starch-based ethanol in the U.S. fuel market.

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Carryover RIN Credits

The forecast assumes that Renewable Identification Numbers, commonly known as RIN credits, can be accumulated in years when ethanol production and consumption is greater than the mandated level. These RIN credits can then be applied against the mandates in future years, although RIN credits can only be used to offset 20% of the mandate in any single year. This assumption has great significance for 2009 and 2010, as high gasoline prices boosted demand for corn-based ethanol in 2008 such that production exceeded the mandated level by one billion gallons. The lower gasoline prices seen in 2009 and expected in 2010 are resulting in lower ethanol prices and lower profitability for ethanol production. This provides an incentive for ethanol blenders to redeem the RIN credits amassed in 2008 to lower their ethanol-usage requirements. The forecast assumes that these credits will be used to reduce mandated ethanol production by 500 million gallons each in 2009 and 2010. This would, in turn, retard the growth of the ethanol industry immediately prior to the potential elimination of the ethanol import tariff at the beginning of 2011.

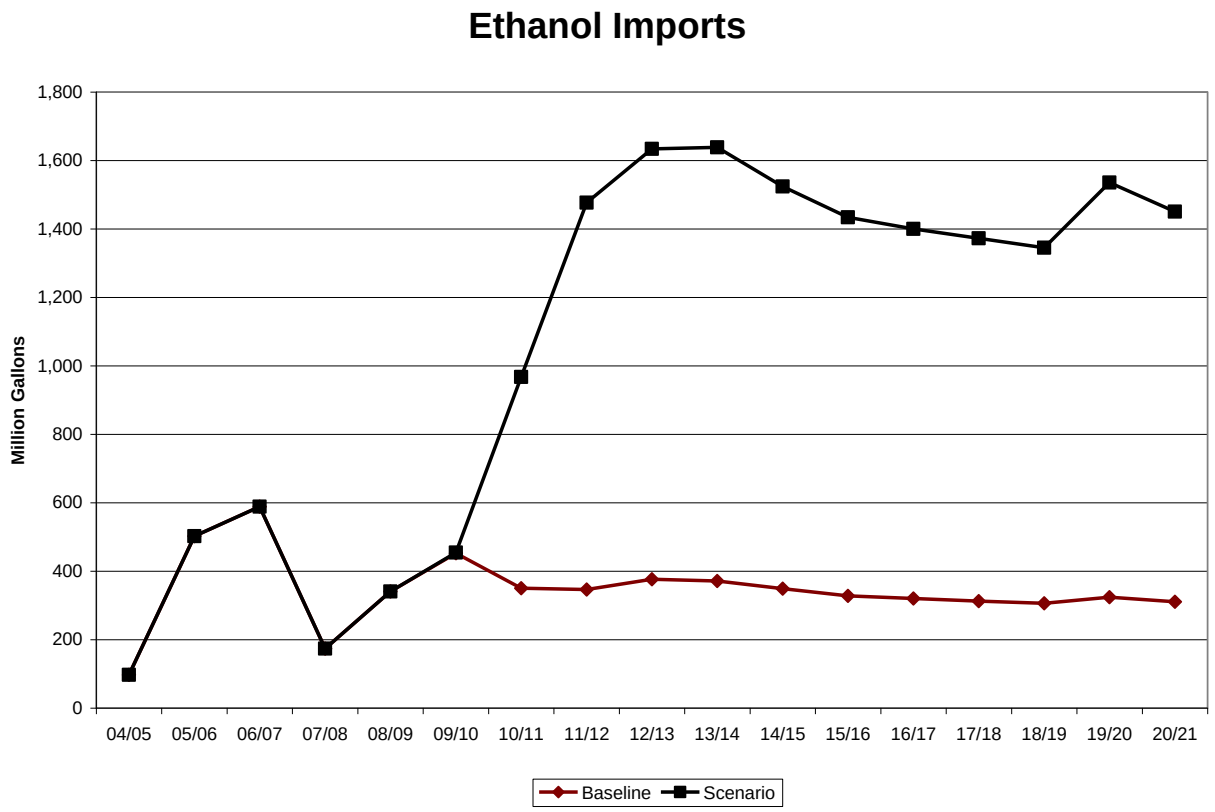
Brazilian Sugar Ethanol Production Response

There is considerable debate over the magnitude of Brazil's capacity to expand sugar ethanol production. The evidence of the past few years clearly indicates that given the economic incentive, Brazilian sugar producers can significantly expand their production. The removal of the U.S. tariff would provide a price incentive to sugar producers. Expansion of the sugar cane area could occur in several areas of Brazil, with transportation costs to port being one of the few limiting factors. Based on the historical responsiveness of Brazilian sugar cane production to ethanol prices, we conservatively estimate that Brazil could export an additional 1–2 billion gallons of ethanol to the United States. Other studies have suggested that 4 billion gallons by 2020 may be possible, but this seems to be on the upper end of the range given transportation logistics from the areas where sugar cane would likely need to be grown. Other factors, such as higher crude oil prices or changes in EU policy, could incentivize this level of production.

Scenario Results

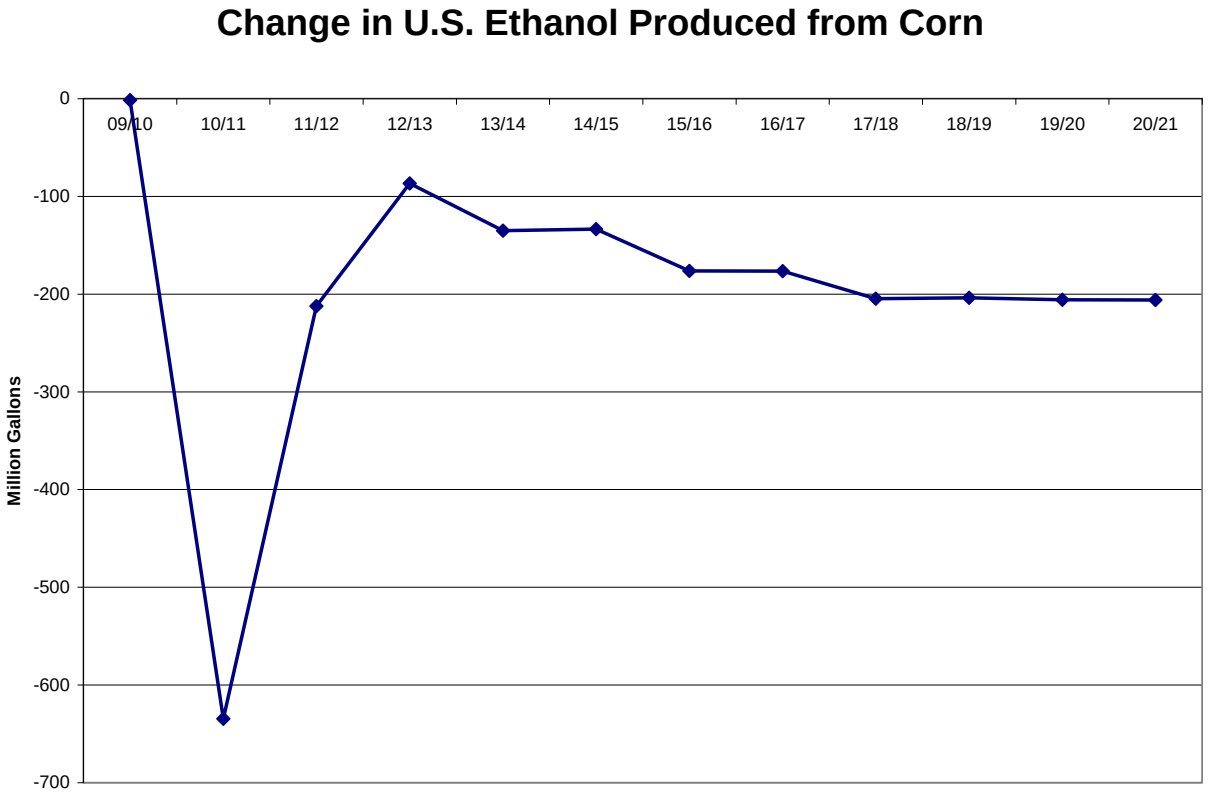
First Alternative Scenario

In the baseline forecast, which assumes a continuation of the 54 cent per gallon tariff, ethanol imports are expected to remain near the recently observed level of 300–400 million gallons per year. When the import tariff is eliminated on January 1, 2011, imports will immediately begin to rise until they reach a high of just over 1.6 billion gallons in 2012/13 and 2013/14, and then gradually decline to around 1.4 billion gallons in 2018/19. Imports will jump again in 2019/20 in response to the assumed increase in the regulatory cap from 20% to 30%.



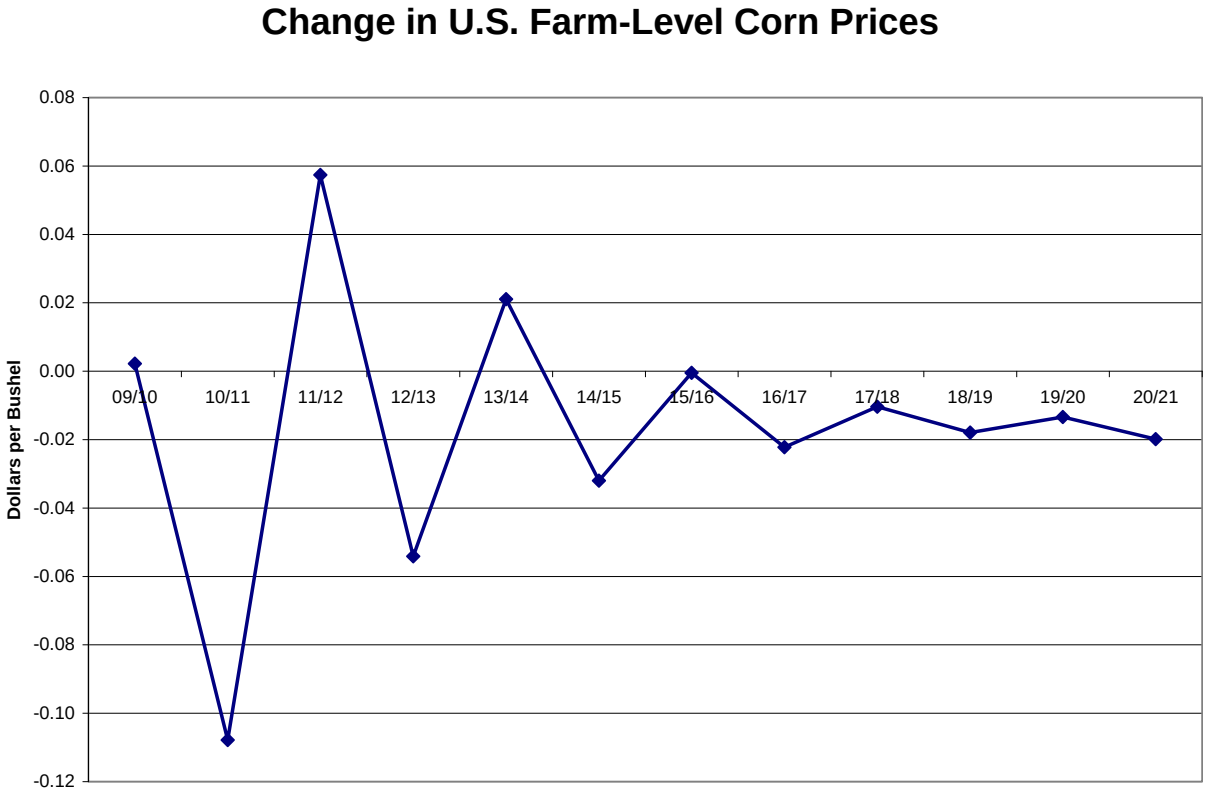
In response to the increase in ethanol imports, U.S. production of corn-based ethanol would be expected to decline due to the elimination of the import tariff. The response of both imports and U.S. ethanol production is most pronounced at the beginning of the forecast period, partly because crude oil

prices are expected to be relatively low at that time. Overall ethanol usage is lower at that point as well because the mandate is lower.



The change in U.S. corn-based ethanol production is less than the change in ethanol imports, which means that total U.S. ethanol consumption is expected to increase with the removal of the import tariff. Ethanol imports are expected to enter the United States at lower prices than domestic starch-based ethanol, and the downward price pressure on ethanol markets is expected to increase ethanol consumption.

The production decline of corn-based ethanol would result in lower demand for U.S. corn, ultimately causing mostly lower corn prices than in the baseline forecast. Corn prices could be higher in individual years as corn acreage adjusts downward to the lower demand. Beyond the first three years of the forecast period, the annual price impact settles down to two cents per bushel or less as acreage adjusts to the new equilibrium.

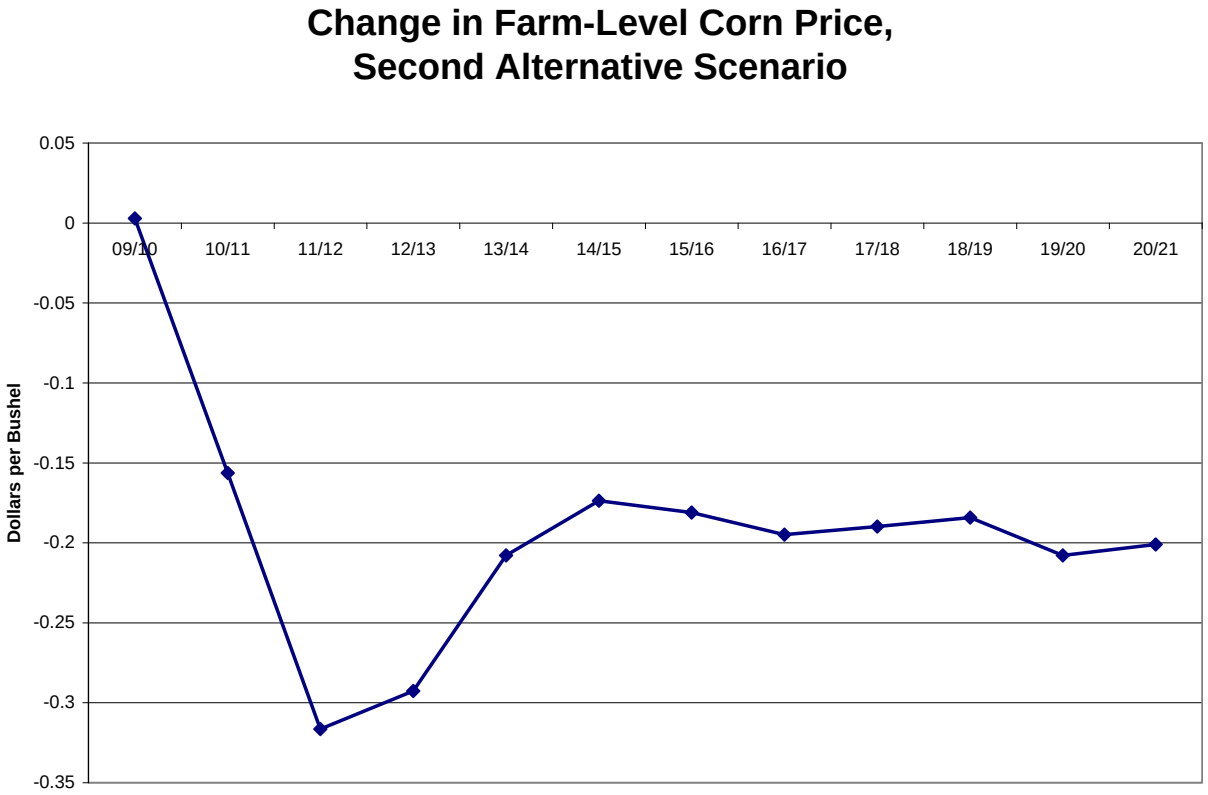


Second Alternative Scenario

IHS Global Insight ran some other alternative scenarios to assess the sensitivity of the results to the underlying forecast assumptions. In one of these scenarios, crude oil prices remain near their current level and the regulatory cap on ethanol blending remains at 10% through the forecast period. Both of these assumptions would reduce the potential market for starch-based ethanol, increasing the impact of ethanol imports and causing the negative impact on corn prices to be much more severe.

The combined effect of assuming that crude oil prices stay relatively low ($51.25 per barrel through the forecast period) and that the regulatory cap remains unchanged causes U.S. domestic demand to be 9% lower than in the baseline forecast in the 2011/12 marketing year. That gap widens to 14% in 2012/13, before narrowing to 4% lower annually for much of the forecast period. The forecast of ethanol imports actually increases under this scenario, as domestic corn-based ethanol is less price competitive. The net result is that U.S. corn prices drop by more than 30 cents per bushel from the

baseline forecast in 2011/12, and then show a drop of nearly 20 cents per bushel for the remainder of the forecast period.



Conclusions

The results indicate that removal of ethanol import tariffs at the end of 2010 would result in increased imports of Brazilian sugar-based ethanol. Imports would increase in any case, but the magnitude of the impact was found to be very sensitive to the assumptions. For example, the exogenous forecast that crude oil prices will rise to $80–90 per barrel for much of the forecast period, rather than remaining in the $50–60 range, dampens the effects of increased ethanol imports by expanding the overall market for ethanol.

The assumption that corn and soybean yields will grow in the near term because of improved technology in crop inputs helps to improve the competitiveness of corn-based ethanol by reducing the cost of its inputs. If yield growth remains at more conservative trend levels, then the impacts of the removal of ethanol import tariffs would be more severe.

The assumed expansion of the regulatory cap on ethanol blending also mitigates the effects of the tariff removal by allowing the overall market for ethanol to expand. On the other hand, the assumption that imports of sugar-based ethanol are not used to fill the advanced biofuel mandate, but instead compete with corn-based ethanol under the starch-based biofuel mandate, increases the impact of imports on corn-based ethanol production.

Consideration of the sensitivity analysis underscores the importance of a comprehensive approach to policy making, rather than making policy decisions individually. A combination of elimination of the ethanol import tariff, lack of technology growth in corn yields, keeping the regulatory cap on ethanol blending at 10%, plus not allowing imported sugar-based ethanol to be counted against the advanced biofuel mandate could constitute a "perfect storm" that would threaten to swamp the domestic corn-based ethanol industry with imports.

Appendix

The accompanying tables contain highlights of the results for the baseline forecast, plus the two alternative scenarios discussed. The data focus on the impacts on the corn and ethanol supply/demand pictures. A more complete set of results is available.

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Baseline Forecast

U.S. Corn Supply and Utilization

Marketing Year Beginning September 1	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21
Prices (Dollars Per Bushel)												
Season Average Farm Price	**3.92**	**3.92**	**3.93**	**3.91**	**3.72**	**3.68**	**3.64**	**3.61**	**3.54**	**3.46**	**3.41**	**3.31**
Central IL Spot Market Price	4.01	4.00	4.01	3.99	3.79	3.75	3.70	3.68	3.60	3.51	3.46	3.35
FOB, U.S. Gulf	4.89	4.89	4.90	4.87	4.66	4.61	4.56	4.54	4.46	4.36	4.30	4.19
Acreage (Million Acres)												
Planted Area	86.3	87.1	90.4	91.5	91.7	89.3	88.8	88.2	87.7	86.8	85.4	84.6
Harvested Area	79.0	79.9	83.1	84.2	84.4	82.2	81.7	81.2	80.8	79.9	78.6	78.0
Harvested Area % of Planted	92%	92%	92%	92%	92%	92%	92%	92%	92%	92%	92%	92%
Yield (Bushels Per Acre)	157.1	161.3	165.9	170.4	175.0	179.6	181.8	184.0	186.3	188.5	190.8	193.0
Supply (Million Bushels)												
Beginning Stocks	1,769	1,632	1,552	1,589	1,625	1,788	1,818	1,851	1,873	1,930	2,004	2,037
Production	12,412	12,884	13,789	14,351	14,779	14,752	14,856	14,949	15,050	15,072	15,004	15,046
Imports	15	15	15	15	15	15	15	15	15	15	15	15
Total Supply	14,196	14,531	15,356	15,954	16,419	16,555	16,689	16,815	16,938	17,016	17,023	17,097
Domestic Disappearance (Million Bushels)												
Feed & Residual	5,482	5,437	5,553	5,634	5,758	5,766	5,779	5,796	5,826	5,912	5,898	5,936
Fuel Alcohol (Ethanol)	3,901	4,284	5,003	5,493	5,484	5,427	5,400	5,420	5,411	5,357	5,353	5,249
HFCS	460	460	457	451	450	451	453	454	455	456	455	456
Seed	22	23	23	23	23	23	22	22	22	22	21	24
Food, Other	843	850	856	863	874	882	889	896	904	912	919	928
Total Domestic Disappearance	10,707	11,053	11,892	12,464	12,588	12,549	12,544	12,588	12,618	12,658	12,647	12,593
Exports (Million Bushels)	1,857	1,925	1,875	1,865	2,043	2,188	2,294	2,354	2,390	2,354	2,340	2,428
Total Disappearance (Million Bushels)	12,564	12,979	13,767	14,330	14,632	14,737	14,838	14,942	15,008	15,012	14,986	15,021
Ending Stocks (Million Bushels)	1,632	1,552	1,589	1,625	1,788	1,818	1,851	1,873	1,930	2,004	2,037	2,077

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Baseline Forecast

U.S. Ethanol Supply and Utilization

Marketing Year Beginning September 1	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21
Production Capacity, Jan 1 (Million Gallons)	10,839	13,676	15,285	16,195	17,223	18,090	19,590	21,538	23,484	25,391	27,235	29,006
Potential Blend Rate Assumption	**15%**	**15%**	**15%**	**15%**	**15%**	**15%**	**20%**	**20%**	**20%**	**20%**	**30%**	**30%**
Theoretical regulatory cap excluding E85 use (Million Gallons)	21,119	21,098	21,122	21,102	21,153	21,348	28,824	29,195	29,573	29,959	45,523	46,119
Effective regulatory cap excluding E85 use (Million Gallons)	19,007	18,988	19,010	18,992	19,038	19,213	25,942	26,276	26,615	26,963	40,971	41,507
Supply (Million Gallons)												
Beginning Stocks	621	720	785	907	1,007	1,057	1,135	1,229	1,326	1,427	1,525	1,627
Production	11,213	12,582	15,069	17,189	18,157	19,573	21,323	23,211	25,182	27,100	29,166	31,605
Corn	**10,780**	**11,899**	**13,973**	**15,421**	**15,477**	**15,395**	**15,396**	**15,531**	**15,585**	**15,504**	**15,570**	**15,345**
Other Feedstocks	200	216	246	267	264	261	261	263	264	262	263	260
Cellulosic/Advanced	233	467	850	1,500	2,417	3,917	5,667	7,417	9,333	11,333	13,333	16,000
Net Imports (Ethyl Alcohol)	**453**	**350**	**346**	**376**	**371**	**349**	**328**	**320**	**313**	**306**	**324**	**311**
Total Supply	12,287	13,652	16,201	18,472	19,536	20,979	22,786	24,759	26,821	28,833	31,015	33,543
Domestic Disappearance (Million Gallons)	11,567	12,867	15,294	17,465	18,478	19,843	21,558	23,433	25,393	27,308	29,389	31,790
Ending Stocks (Million Gallons)	720	785	907	1,007	1,057	1,135	1,229	1,326	1,427	1,525	1,627	1,752
Ethanol Mandate (Marketing Year, Million Gallons)	12,067	12,867	13,850	15,100	16,617	18,717	20,667	22,417	24,333	26,333	28,333	31,000
Corn	11,500	12,400	13,000	13,600	14,200	14,800	15,000	15,000	15,000	15,000	15,000	15,000
Cellulosic	67	200	417	833	1,500	2,583	3,833	5,083	6,500	8,000	9,833	12,500
Other Advanced Biofuels	167	267	433	667	917	1,333	1,833	2,333	2,833	3,333	3,500	3,500
Effective Ethanol Mandate Adjusted for RIN Redemption	11,567	12,867	13,850	15,100	16,617	18,717	20,667	22,417	24,333	26,333	28,333	31,000
Crude Oil Prices (Dollars Per Barrel)												
Refiners Acquisition	42.12	63.74	77.81	84.54	86.14	82.44	79.74	79.30	79.33	79.36	79.39	79.42
West Texas Intermediate	**45.58**	**68.67**	**83.63**	**90.75**	**92.42**	**88.42**	**85.50**	**85.00**	**85.00**	**85.00**	**85.00**	**85.00**
Regular Unleaded Gasoline Prices (Dollars Per Gallon)												
Unl. Gasoline, FOB Omaha, Rack	1.36	1.91	2.27	2.44	2.49	2.40	2.34	2.33	2.34	2.35	2.35	2.36
Unleaded Gasoline, Retail	1.97	2.53	2.89	3.06	3.11	3.03	2.97	2.97	2.97	2.98	2.99	3.00

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Ethanol Prices (Dollars Per Gallon)												
Ethanol, FOB Omaha	1.63	1.70	1.77	1.91	1.92	1.85	1.78	1.77	1.76	1.75	1.82	1.79
Ethanol, Tax Credit	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
Ethanol, Implied Retail	1.79	1.87	1.94	2.08	2.09	2.02	1.96	1.95	1.95	1.94	2.01	1.99
Ethanol/Gasoline Retail Ratio	0.91	0.74	0.67	0.68	0.67	0.67	0.66	0.66	0.65	0.65	0.67	0.66
Ethanol Specific Import Tariff	**0.54**	**0.54**	**0.54**	**0.54**	**0.54**	**0.54**	**0.54**	**0.54**	**0.54**	**0.54**	**0.54**	**0.54**
Brazilian Hydrous Ethanol Price	1.07	1.25	1.37	1.43	1.45	1.41	1.39	1.38	1.38	1.38	1.38	1.38
Implied Brazilian CIF Gulf Ports Anhydrous Ethanol Price	1.90	2.10	2.24	2.31	2.33	2.29	2.26	2.25	2.25	2.25	2.25	2.25
Ethanol, FOB Omaha	1.63	1.70	1.77	1.91	1.92	1.85	1.78	1.77	1.76	1.75	1.82	1.79

Removal of Ethanol Import Tariff

Scenario 1

U.S. Corn Supply and Utilization

Marketing Year Beginning September 1	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21
Prices (Dollars Per Bushel)												
Season Average Farm Price	**3.93**	**3.81**	**3.99**	**3.85**	**3.74**	**3.65**	**3.64**	**3.59**	**3.53**	**3.44**	**3.39**	**3.29**
Central IL Spot Market Price	4.01	3.89	4.07	3.93	3.81	3.71	3.70	3.65	3.59	3.49	3.44	3.33
FOB, U.S. Gulf	4.89	4.77	4.97	4.81	4.68	4.58	4.56	4.51	4.44	4.34	4.28	4.16
Acreage (Million Acres)												
Planted Area	86.3	86.9	88.5	92.5	90.7	89.6	88.2	88.2	87.3	86.6	85.0	84.4
Harvested Area	79.0	79.7	81.3	85.2	83.5	82.4	81.1	81.2	80.4	79.7	78.3	77.7
Harvested Area % of Planted	92%	92%	92%	92%	92%	92%	92%	92%	92%	92%	92%	92%
Yield (Bushels Per Acre)	157.1	161.3	165.9	170.4	175.1	179.5	181.8	184.0	186.3	188.5	190.8	193.0
Supply (Million Bushels)												
Beginning Stocks	1,769	1,635	1,634	1,510	1,682	1,755	1,851	1,842	1,893	1,933	2,018	2,045
Production	12,412	12,847	13,482	14,512	14,620	14,802	14,750	14,937	14,969	15,027	14,937	14,994
Imports	15	15	15	15	15	15	15	15	15	15	15	15
Total Supply	14,196	14,497	15,130	16,036	16,317	16,572	16,616	16,794	16,877	16,975	16,971	17,054
Domestic Disappearance (Million Bushels)												
Feed & Residual	5,481	5,477	5,475	5,685	5,721	5,789	5,762	5,804	5,817	5,912	5,893	5,936
Fuel Alcohol (Ethanol)	3,900	4,056	4,927	5,462	5,436	5,380	5,338	5,358	5,340	5,286	5,282	5,179
HFCS	460	462	457	453	450	452	453	454	455	456	455	456
Seed	22	22	23	23	23	22	22	22	22	22	21	24
Food, Other	843	852	855	864	874	882	889	897	904	912	920	928
Total Domestic Disappearance	10,706	10,870	11,737	12,487	12,504	12,526	12,465	12,535	12,539	12,589	12,571	12,524
Exports (Million Bushels)	1,855	1,994	1,883	1,867	2,057	2,195	2,310	2,366	2,406	2,368	2,355	2,445
Total Disappearance (Million Bushels)	12,561	12,864	13,621	14,354	14,562	14,721	14,775	14,901	14,944	14,957	14,926	14,968
Ending Stocks (Million Bushels)	1,635	1,634	1,510	1,682	1,755	1,851	1,842	1,893	1,933	2,018	2,045	2,086

Removal of Ethanol Import Tariff

Scenario 1

U.S. Ethanol Supply and Utilization

Marketing Year Beginning September 1	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21
Production Capacity, Jan 1 (Million Gallons)	10,839	13,676	15,280	16,175	17,164	18,010	19,476	21,388	23,308	25,199	27,034	28,798
Potential Blend Rate Assumption	**15%**	**15%**	**15%**	**15%**	**15%**	**15%**	**20%**	**20%**	**20%**	**20%**	**30%**	**30%**
Theoretical regulatory cap excluding E85 use (Million Gallons)	21,119	21,100	21,123	21,103	21,154	21,349	28,825	29,196	29,573	29,959	45,524	46,119
Effective regulatory cap excluding E85 use (Million Gallons)	19,007	18,990	19,011	18,993	19,039	19,214	25,943	26,277	26,616	26,964	40,971	41,508
Supply (Million Gallons)												
Beginning Stocks	621	720	757	896	1,004	1,051	1,129	1,220	1,318	1,417	1,515	1,617
Production	11,212	11,936	14,855	17,100	18,021	19,437	21,145	23,031	24,974	26,893	28,957	31,396
Corn	**10,778**	**11,265**	**13,761**	**15,335**	**15,342**	**15,261**	**15,219**	**15,355**	**15,380**	**15,300**	**15,364**	**15,139**
Other Feedstocks	200	205	245	265	262	259	259	260	261	259	260	257
Cellulosic/Advanced	233	467	850	1,500	2,417	3,917	5,667	7,417	9,333	11,333	13,333	16,000
Net Imports (Ethyl Alcohol)	**454**	**967**	**1,477**	**1,634**	**1,638**	**1,524**	**1,434**	**1,400**	**1,373**	**1,345**	**1,535**	**1,451**
Total Supply	12,287	13,624	17,089	19,630	20,662	22,012	23,708	25,652	27,664	29,655	32,008	34,463
Domestic Disappearance (Million Gallons)	11,567	12,867	16,193	18,627	19,611	20,883	22,487	24,334	26,247	28,140	30,391	32,721
Ending Stocks (Million Gallons)	720	757	896	1,004	1,051	1,129	1,220	1,318	1,417	1,515	1,617	1,742
Ethanol Mandate (Marketing Year, Million Gallons)	12,067	12,867	13,850	15,100	16,617	18,717	20,667	22,417	24,333	26,333	28,333	31,000
Corn	11,500	12,400	13,000	13,600	14,200	14,800	15,000	15,000	15,000	15,000	15,000	15,000
Cellulosic	67	200	417	833	1,500	2,583	3,833	5,083	6,500	8,000	9,833	12,500
Other Advanced Biofuels	167	267	433	667	917	1,333	1,833	2,333	2,833	3,333	3,500	3,500
Effective Ethanol Mandate Adjusted for RIN Redemption	11,567	12,867	13,850	15,100	16,617	18,717	20,667	22,417	24,333	26,333	28,333	31,000
Crude Oil Prices (Dollars Per Barrel)												
Refiners Acquisition	42.12	63.74	77.81	84.54	86.14	82.44	79.74	79.30	79.33	79.36	79.39	79.42
West Texas Intermediate	**45.58**	**68.67**	**83.63**	**90.75**	**92.42**	**88.42**	**85.50**	**85.00**	**85.00**	**85.00**	**85.00**	**85.00**

Removal of Ethanol Import Tariff

Regular Unleaded Gasoline Prices (Dollars Per Gallon)												
Unl. Gasoline, FOB Omaha, Rack	1.36	1.91	2.27	2.44	2.49	2.40	2.34	2.33	2.34	2.35	2.35	2.36
Unleaded Gasoline, Retail	1.97	2.53	2.89	3.06	3.11	3.03	2.97	2.97	2.97	2.98	2.99	3.00
Ethanol Prices (Dollars Per Gallon)												
Ethanol, FOB Omaha	1.63	1.65	1.77	1.89	1.90	1.83	1.78	1.76	1.76	1.75	1.82	1.79
Ethanol, Tax Credit	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
Ethanol, Implied Retail	1.79	1.81	1.94	2.06	2.08	2.01	1.96	1.95	1.94	1.94	2.01	1.98
Ethanol/Gasoline Retail Ratio	0.91	0.72	0.67	0.67	0.67	0.66	0.66	0.66	0.65	0.65	0.67	0.66
Ethanol Specific Import Tariff	**0.54**	**0.18**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Brazilian Hydrous Ethanol Price	1.07	1.32	1.51	1.59	1.60	1.56	1.52	1.51	1.51	1.51	1.53	1.52
Implied Brazilian CIF Gulf Ports Anhydrous Ethanol Price	1.90	1.83	1.86	1.95	1.97	1.91	1.87	1.87	1.86	1.86	1.89	1.87
Ethanol, FOB Omaha	1.63	1.65	1.77	1.89	1.90	1.83	1.78	1.76	1.76	1.75	1.82	1.79

Removal of Ethanol Import Tariff

Difference between Baseline and Scenario 1

U.S. Corn Supply and Utilization

Marketing Year Beginning September 1	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21
Prices (Dollars Per Bushel)												
Season Average Farm Price	**0.00**	**-0.11**	**0.06**	**-0.05**	**0.02**	**-0.03**	**0.00**	**-0.02**	**-0.01**	**-0.02**	**-0.01**	**-0.02**
Central IL Spot Market Price	0.00	-0.11	0.06	-0.06	0.02	-0.03	0.00	-0.02	-0.01	-0.02	-0.01	-0.02
FOB, U.S. Gulf	0.00	-0.12	0.07	-0.06	0.02	-0.04	0.00	-0.03	-0.01	-0.02	-0.02	-0.02
Acreage (Million Acres)												
Planted Area	0.00	-0.22	-1.97	1.02	-0.98	0.31	-0.62	-0.06	-0.45	-0.24	-0.36	-0.27
Harvested Area	0.00	-0.22	-1.88	0.97	-0.93	0.29	-0.59	-0.06	-0.44	-0.23	-0.35	-0.26
Harvested Area % of Planted												
Yield (Bushels Per Acre)	0.00	-0.03	0.06	-0.05	0.04	-0.03	0.02	-0.02	0.01	-0.01	0.00	-0.01
Supply (Million Bushels)												
Beginning Stocks	-0.06	3.63	81.76	-79.02	57.30	-32.55	33.36	-9.31	19.98	2.85	14.03	7.97
Production	0.65	-36.93	-307.59	161.07	-159.68	49.85	-106.31	-11.76	-80.56	-44.43	-66.32	-51.50
Imports	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Supply	0.59	-33.30	-225.83	82.05	-102.38	17.30	-72.95	-21.06	-60.58	-41.58	-52.29	-43.52
Domestic Disappearance (Million Bushels)												
Feed & Residual	-0.92	40.33	-78.13	51.30	-36.33	22.72	-17.65	8.08	-8.87	0.23	-5.25	0.40
Fuel Alcohol (Ethanol)	-0.57	-228.16	-76.06	-30.86	-47.94	-47.10	-61.87	-61.59	-71.08	-70.41	-70.78	-70.50
HFCS	-0.03	2.57	0.25	1.16	0.53	0.81	0.39	0.51	0.42	0.47	0.38	0.40
Seed	-0.06	-0.50	0.26	-0.25	0.08	-0.16	-0.01	-0.12	-0.06	-0.09	-0.07	0.00
Food, Other	-0.05	2.37	-1.25	1.16	-0.45	0.67	0.01	0.45	0.21	0.35	0.26	0.38
Total Domestic Disappearance	-1.63	-183.39	-154.94	22.52	-84.11	-23.06	-79.13	-52.67	-79.40	-69.44	-75.46	-69.32
Exports (Million Bushels)	-1.41	68.33	8.12	2.24	14.27	7.00	15.48	11.63	15.96	13.83	15.20	16.86
Total Disappearance (Million Bushels)	-3.04	-115.06	-146.81	24.75	-69.84	-16.06	-63.65	-41.04	-63.43	-55.61	-60.27	-52.45
Ending Stocks (Million Bushels)	3.63	81.76	-79.02	57.30	-32.55	33.36	-9.31	19.98	2.85	14.03	7.97	8.93

Removal of Ethanol Import Tariff

Difference between Baseline and Scenario 1

U.S. Ethanol Supply and Utilization

Marketing Year Beginning September 1	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21
Production Capacity, Jan 1 (Million Gallons)	0.00	-0.01	-4.90	-19.69	-59.54	-80.57	-114.71	-149.33	-176.34	-192.11	-201.19	-208.17
Potential Blend Rate Assumption	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Theoretical regulatory cap excluding E85 use (Million Gallons)	-0.02	1.80	1.09	1.29	1.18	1.09	1.07	0.91	0.79	0.74	0.90	0.78
Effective regulatory cap excluding E85 use (Million Gallons)	-0.01	1.62	0.99	1.16	1.06	0.98	0.96	0.82	0.71	0.66	0.81	0.70
Supply (Million Gallons)												
Beginning Stocks	0.00	-0.11	-28.45	-10.67	-3.13	-5.99	-6.02	-8.64	-8.56	-10.02	-9.96	-10.22
Production	-1.55	-645.52	-214.14	-88.85	-136.57	-135.96	-178.74	-179.35	-207.70	-206.94	-209.01	-209.44
Corn	**-1.57**	**-634.64**	**-212.39**	**-86.73**	**-135.14**	**-133.60**	**-176.32**	**-176.54**	**-204.70**	**-203.81**	**-205.92**	**-206.19**
Other Feedstocks	0.02	-10.88	-1.75	-2.12	-1.43	-2.36	-2.42	-2.81	-3.00	-3.13	-3.09	-3.26
Cellulosic/Advanced	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Net Imports (Ethyl Alcohol)	**1.43**	**617.18**	**1130.54**	**1257.89**	**1266.62**	**1175.54**	**1106.07**	**1080.36**	**1059.96**	**1038.87**	**1211.41**	**1139.95**
Total Supply	-0.11	-28.45	887.94	1158.37	1126.92	1033.59	921.31	892.36	843.70	821.91	992.45	920.29
Domestic Disappearance (Million Gallons)	0.00	0.00	898.62	1161.50	1132.91	1039.61	929.95	900.93	853.72	831.87	1002.66	930.53
Ending Stocks (Million Gallons)	-0.11	-28.45	-10.67	-3.13	-5.99	-6.02	-8.64	-8.56	-10.02	-9.96	-10.22	-10.24
Ethanol Mandate (Marketing Year, Million Gallons)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cellulosic	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Advanced Biofuels	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Effective Ethanol Mandate Adjusted for RINS Redemption	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Removal of Ethanol Import Tariff

Crude Oil Prices (Dollars Per Barrel)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Refiners Acquisition	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
West Texas Intermediate	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Regular Unleaded Gasoline Prices (Dollars Per Gallon)												
Unl. Gasoline, FOB Omaha, Rack	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Unleaded Gasoline, Retail	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ethanol Prices (Dollars Per Gallon)												
Ethanol, FOB Omaha	0.00	-0.06	0.00	-0.02	-0.01	-0.01	0.00	-0.01	-0.01	-0.01	0.00	0.00
Ethanol, Tax Credit	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ethanol, Implied Retail	0.00	-0.06	0.00	-0.02	-0.01	-0.01	0.00	-0.01	-0.01	-0.01	0.00	0.00
Ethanol/Gasoline Retail Ratio	0.00	-0.02	0.00	-0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ethanol Specific Import Tariff	0.00	-0.36	-0.54	-0.54	-0.54	-0.54	-0.54	-0.54	-0.54	-0.54	-0.54	-0.54
Brazilian Hydrous Ethanol Price	0.00	0.08	0.14	0.16	0.16	0.15	0.14	0.13	0.13	0.13	0.15	0.14
Implied Brazilian CIF Gulf Ports Anhydrous Ethanol Price	0.00	-0.27	-0.38	-0.36	-0.36	-0.37	-0.38	-0.39	-0.39	-0.39	-0.37	-0.38
Ethanol, FOB Omaha	0.00	-0.06	0.00	-0.02	-0.01	-0.01	0.00	-0.01	-0.01	-0.01	0.00	0.00

Removal of Ethanol Import Tariff

Scenario 2

U.S. Corn Supply and Utilization

Marketing Year Beginning September 1	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21
Prices (Dollars Per Bushel)												
Season Average Farm Price	**3.93**	**3.77**	**3.61**	**3.62**	**3.51**	**3.50**	**3.46**	**3.42**	**3.35**	**3.27**	**3.20**	**3.11**
Central IL Spot Market Price	4.01	3.84	3.68	3.68	3.57	3.56	3.51	3.47	3.40	3.32	3.24	3.14
FOB, U.S. Gulf	4.90	4.71	4.54	4.54	4.42	4.41	4.36	4.31	4.24	4.15	4.06	3.96
Acreage (Million Acres)												
Planted Area	86.3	86.8	86.6	84.5	85.7	84.9	85.2	84.4	83.7	82.9	81.7	80.5
Harvested Area	79.0	79.6	79.4	77.5	78.7	78.0	78.2	77.5	76.9	76.2	75.1	74.0
Harvested Area % of Planted	92%	92%	92%	92%	92%	92%	92%	92%	92%	92%	92%	92%
Yield (Bushels Per Acre)	157.1	161.3	165.8	170.5	175.1	179.6	181.8	184.0	186.2	188.5	190.7	193.0
Supply (Million Bushels)												
Beginning Stocks	1,769	1,636	1,693	1,811	1,756	1,863	1,894	1,959	1,999	2,051	2,134	2,204
Production	12,412	12,836	13,168	13,211	13,771	14,000	14,222	14,270	14,323	14,371	14,317	14,276
Imports	15	15	15	15	15	15	15	15	15	15	15	15
Total Supply	14,197	14,487	14,877	15,037	15,542	15,877	16,132	16,244	16,337	16,437	16,466	16,495
Domestic Disappearance (Million Bushels)												
Feed & Residual	5,480	5,496	5,582	5,567	5,677	5,716	5,754	5,771	5,790	5,875	5,876	5,899
Fuel Alcohol (Ethanol)	3,900	3,935	3,991	4,185	4,367	4,534	4,577	4,550	4,527	4,494	4,445	4,397
HFCS	460	463	466	466	465	463	463	462	462	463	463	462
Seed	22	22	21	22	22	22	21	21	21	21	20	24
Food, Other	843	853	863	870	878	885	893	900	908	916	923	932
Total Domestic Disappearance	10,705	10,769	10,923	11,109	11,408	11,621	11,707	11,704	11,709	11,768	11,728	11,714
Exports (Million Bushels)	1,855	2,025	2,143	2,171	2,271	2,362	2,466	2,541	2,577	2,535	2,534	2,629
Total Disappearance (Million Bushels)	12,560	12,794	13,066	13,280	13,680	13,983	14,173	14,245	14,286	14,304	14,262	14,343
Ending Stocks (Million Bushels)	1,636	1,693	1,811	1,756	1,863	1,894	1,959	1,999	2,051	2,134	2,204	2,152

Removal of Ethanol Import Tariff

Scenario 2

U.S. Ethanol Supply and Utilization

Marketing Year Beginning September 1	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21
Production Capacity, Jan 1 (Million Gallons)	10,839	13,676	15,278	16,152	17,047	17,857	19,113	20,645	22,173	23,746	25,319	26,867
Potential Blend Rate Assumption	**10%**	**10%**	**10%**	**10%**	**10%**	**10%**	**10%**	**10%**	**10%**	**10%**	**10%**	**10%**
Theoretical regulatory cap excluding E85 use (Million Gallons)	14,079	14,244	14,520	14,735	14,920	15,097	15,275	15,453	15,636	15,824	16,016	16,211
Effective regulatory cap excluding E85 use (Million Gallons)	12,671	12,820	13,068	13,261	13,428	13,588	13,747	13,908	14,072	14,242	14,415	14,590
Supply (Million Gallons)												
Beginning Stocks	621	720	742	776	841	917	1,020	1,119	1,208	1,305	1,405	1,501
Production	11,211	11,594	12,192	13,460	14,955	17,002	18,941	20,682	22,599	24,567	26,487	29,078
Corn	**10,777**	**10,928**	**11,141**	**11,749**	**12,322**	**12,862**	**13,049**	**13,040**	**13,040**	**13,009**	**12,930**	**12,856**
Other Feedstocks	200	199	200	211	217	224	226	225	226	225	224	222
Cellulosic/Advanced	233	467	850	1,500	2,417	3,917	5,667	7,417	9,333	11,333	13,333	16,000
Net Imports (Ethyl Alcohol)	**455**	**1,294**	**1,692**	**1,705**	**1,738**	**1,817**	**1,824**	**1,824**	**1,832**	**1,866**	**1,942**	**2,051**
Total Supply	12,287	13,608	14,626	15,941	17,534	19,737	21,786	23,624	25,639	27,738	29,834	32,630
Domestic Disappearance (Million Gallons)	11,567	12,867	13,850	15,100	16,617	18,717	20,667	22,417	24,333	26,333	28,333	31,000
Ending Stocks (Million Gallons)	720	742	776	841	917	1,020	1,119	1,208	1,305	1,405	1,501	1,630
Ethanol Mandate (Marketing Year, Million Gallons)	12,067	12,867	13,850	15,100	16,617	18,717	20,667	22,417	24,333	26,333	28,333	31,000
Corn	11,500	12,400	13,000	13,600	14,200	14,800	15,000	15,000	15,000	15,000	15,000	15,000
Cellulosic	67	200	417	833	1,500	2,583	3,833	5,083	6,500	8,000	9,833	12,500
Other Advanced Biofuels	167	267	433	667	917	1,333	1,833	2,333	2,833	3,333	3,500	3,500
Effective Ethanol Mandate Adjusted for RINS Redemption	11,567	12,867	13,850	15,100	16,617	18,717	20,667	22,417	24,333	26,333	28,333	31,000

Removal of Ethanol Import Tariff

Crude Oil Prices (Dollars Per Barrel)												
Refiners Acquisition	42.12	47.45	47.45	47.45	47.45	47.45	47.45	47.45	47.45	47.45	47.45	47.45
West Texas Intermediate	**45.58**	**51.25**	**51.25**	**51.25**	**51.25**	**51.25**	**51.25**	**51.25**	**51.25**	**51.25**	**51.25**	**51.25**
Regular Unleaded Gasoline Prices (Dollars Per Gallon)												
Unl. Gasoline, FOB Omaha, Rack	1.36	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Unleaded Gasoline, Retail	1.97	2.12	2.12	2.12	2.13	2.13	2.13	2.14	2.14	2.14	2.15	2.15
Ethanol Prices (Dollars Per Gallon)												
Ethanol, FOB Omaha	1.63	1.62	1.59	1.59	1.60	1.63	1.64	1.64	1.64	1.65	1.68	1.72
Ethanol, Tax Credit	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
Ethanol, Implied Retail	1.79	1.78	1.75	1.76	1.78	1.81	1.82	1.82	1.83	1.84	1.87	1.92
Ethanol/Gasoline Retail Ratio	0.91	0.84	0.83	0.83	0.84	0.85	0.85	0.85	0.85	0.86	0.87	0.89
Ethanol Specific Import Tariff	0.54	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Brazilian Hydrous Ethanol Price	1.07	1.22	1.27	1.27	1.28	1.29	1.29	1.29	1.29	1.29	1.30	1.31
Implied Brazilian CIF Gulf Ports Anhydrous Ethanol Price	1.90	1.71	1.59	1.59	1.59	1.60	1.60	1.60	1.61	1.61	1.62	1.64
Ethanol, FOB Omaha	1.63	1.62	1.59	1.59	1.60	1.63	1.64	1.64	1.64	1.65	1.68	1.72

Removal of Ethanol Import Tariff

Difference between Baseline and Scenario 2

U.S. Corn Supply and Utilization

Marketing Year Beginning September 1	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21
Prices (Dollars Per Bushel)												
Season Average Farm Price	**0.00**	**-0.16**	**-0.32**	**-0.29**	**-0.21**	**-0.17**	**-0.18**	**-0.19**	**-0.19**	**-0.18**	**-0.21**	**-0.20**
Central IL Spot Market Price	0.00	-0.17	-0.33	-0.31	-0.22	-0.18	-0.19	-0.21	-0.20	-0.20	-0.22	-0.21
FOB, U.S. Gulf	0.00	-0.18	-0.36	-0.33	-0.24	-0.20	-0.21	-0.22	-0.22	-0.21	-0.24	-0.23
Acreage (Million Acres)												
Planted Area	0.00	-0.28	-3.86	-6.96	-5.99	-4.36	-3.60	-3.83	-4.03	-3.86	-3.69	-4.14
Harvested Area	0.00	-0.28	-3.74	-6.71	-5.78	-4.21	-3.47	-3.70	-3.89	-3.73	-3.56	-4.00
Harvested Area % of Planted	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Yield (Bushels Per Acre)	0.00	-0.04	-0.02	0.05	0.05	0.03	0.00	-0.01	0.00	-0.01	-0.03	-0.02
Supply (Million Bushels)												
Beginning Stocks	-0.07	4.71	141.48	221.82	131.35	75.48	75.06	108.76	125.04	122.35	127.56	168.58
Production	0.85	-48.19	-620.89	-1,139.56	-1,007.80	-753.81	-631.64	-680.64	-724.82	-703.79	-681.99	-773.29
Imports	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Supply	0.77	-43.47	-479.41	-917.74	-876.45	-678.33	-556.58	-571.88	-599.78	-581.44	-554.43	-604.70
Domestic Disappearance (Million Bushels)												
Feed & Residual	-1.22	59.00	28.85	-67.14	-80.47	-50.89	-25.09	-25.74	-35.30	-37.86	-20.41	-37.83
Fuel Alcohol (Ethanol)	-0.74	-349.16	-1,012.37	-1,307.13	-1,117.46	-893.23	-822.85	-870.36	-883.49	-863.18	-907.81	-852.24
HFCS	-0.05	3.76	9.25	14.36	15.14	12.28	9.62	8.49	7.72	6.84	7.78	6.16
Seed	-0.07	-0.98	-1.77	-1.52	-1.11	-0.91	-0.97	-1.02	-0.98	-0.94	-1.05	0.00
Food, Other	-0.06	3.44	6.89	6.29	4.40	3.62	3.72	3.95	3.80	3.64	4.05	3.87
Total Domestic Disappearance	-2.14	-283.94	-969.15	-1,355.14	-1,179.50	-929.14	-835.58	-884.69	-908.26	-891.50	-917.44	-880.03
Exports (Million Bushels)	-1.87	99.07	268.02	305.54	228.60	174.43	171.64	186.11	187.96	181.28	194.51	201.12
Total Disappearance (Million Bushels)	-4.01	-184.87	-701.13	-1,049.60	-950.90	-754.71	-663.94	-698.58	-720.31	-710.22	-722.94	-678.91
Ending Stocks (Million Bushels)	4.71	141.48	221.82	131.35	75.47	75.07	108.75	125.05	122.34	127.58	168.58	74.65

Removal of Ethanol Import Tariff

Difference between Baseline and Scenario 2

U.S. Ethanol Supply and Utilization

Marketing Year Beginning September 1	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21
Production Capacity, Jan 1 (Million Gallons)	0	0	-7	-42	-177	-234	-477	-892	-1,311	-1,645	-1,916	-2,139
Potential Blend Rate Assumption	0	0	0	0	0	0	0	0	0	0	0	0
Theoretical blending wall excluding E85 use (Million Gallons)	-7,040	-6,854	-6,602	-6,367	-6,233	-6,251	-13,549	-13,742	-13,937	-14,135	-29,507	-29,908
Effective blending wall excluding E85 use (Million Gallons)	-6,336	-6,169	-5,942	-5,730	-5,610	-5,626	-12,194	-12,368	-12,543	-12,721	-26,556	-26,917
Supply (Million Gallons)												
Beginning Stocks	0	0	-44	-131	-166	-140	-115	-110	-118	-122	-121	-126
Production	-2	-988	-2,878	-3,729	-3,202	-2,571	-2,381	-2,531	-2,581	-2,535	-2,678	-2,528
Corn	**-2**	**-971**	**-2,832**	**-3,673**	**-3,155**	**-2,534**	**-2,346**	**-2,493**	**-2,543**	**-2,497**	**-2,638**	**-2,490**
Other Feedstocks	0	-16	-46	-56	-47	-37	-35	-37	-38	-37	-40	-38
Cellulosic/Advanced	0	0	0	0	0	0	0	0	0	0	0	0
Net Imports (Ethyl Alcohol)	**2**	**944**	**1,346**	**1,329**	**1,366**	**1,468**	**1,496**	**1,504**	**1,519**	**1,560**	**1,618**	**1,741**
Total Supply	0	-44	-1,576	-2,531	-2,001	-1,243	-999	-1,136	-1,181	-1,097	-1,181	-913
Domestic Disappearance (Million Gallons)	0	0	-1,444	-2,366	-1,861	-1,128	-889	-1,018	-1,059	-976	-1,055	-791
Ending Stocks (Million Gallons)	0	-44	-131	-166	-140	-115	-110	-118	-122	-121	-126	-122
Ethanol Mandate (Marketing Year, Million Gallons)	0	0	0	0	0	0	0	0	0	0	0	0
Corn	0	0	0	0	0	0	0	0	0	0	0	0
Cellulosic	0	0	0	0	0	0	0	0	0	0	0	0
Other Advanced Biofuels	0	0	0	0	0	0	0	0	0	0	0	0
Effective Ethanol Mandate Adjusted for RINS Redemption	0	0	0	0	0	0	0	0	0	0	0	0

Removal of Ethanol Import Tariff

Crude Oil Prices (Dollars Per Barrel)												
Refiners Acquisition	0.00	-16.29	-30.36	-37.10	-38.70	-34.99	-32.29	-31.86	-31.89	-31.92	-31.94	-31.97
West Texas Intermediate	**0.00**	**-17.42**	**-32.38**	**-39.50**	**-41.17**	**-37.17**	**-34.25**	**-33.75**	**-33.75**	**-33.75**	**-33.75**	**-33.75**
Regular Unleaded Gasoline Prices (Dollars Per Gallon)												
Unl. Gasoline, FOB Omaha, Rack	0.00	-0.41	-0.77	-0.94	-0.99	-0.90	-0.84	-0.83	-0.84	-0.84	-0.85	-0.85
Unleaded Gasoline, Retail	0.00	-0.41	-0.77	-0.94	-0.99	-0.90	-0.84	-0.83	-0.84	-0.84	-0.85	-0.85
Ethanol Prices (Dollars Per Gallon)												
Ethanol, FOB Omaha	0.00	-0.08	-0.19	-0.32	-0.31	-0.21	-0.15	-0.13	-0.12	-0.10	-0.14	-0.07
Ethanol, Tax Credit	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ethanol, Implied Retail	0.00	-0.08	-0.19	-0.32	-0.31	-0.21	-0.15	-0.13	-0.12	-0.10	-0.14	-0.07
Ethanol/Gasoline Retail Ratio	0.00	0.10	0.15	0.15	0.16	0.18	0.19	0.19	0.20	0.21	0.20	0.23
Ethanol Specific Import Tariff (Calendar Year)	0.00	-0.36	-0.54	-0.54	-0.54	-0.54	-0.54	-0.54	-0.54	-0.54	-0.54	-0.54
Brazilian Hydrous Ethanol Price	0.00	-0.03	-0.10	-0.16	-0.17	-0.13	-0.10	-0.09	-0.09	-0.09	-0.08	-0.07
Implied Brazilian CIF Gulf Ports Anhydrous Ethanol Price	0.00	-0.39	-0.66	-0.73	-0.74	-0.68	-0.65	-0.65	-0.65	-0.64	-0.63	-0.62
Ethanol, FOB Omaha	0.00	-0.08	-0.19	-0.32	-0.31	-0.21	-0.15	-0.13	-0.12	-0.10	-0.14	-0.07