December Supply and Demand Estimates

Typically, the December World Agricultural Supply and Demand Estimates (WASDE) report is not the most exciting event of the year. Not much new information generally crops up between November and December, and so it is with this year's December report. There were a couple of notable tweaks here and there in the report, though.

Starting with the U.S. balance sheet, USDA made some relatively small revisions to corn use. Estimated corn used for ethanol production was bumped up by 25 million bushels to reflect continued stronger-than-expected ethanol production in November. On the other hand, continued sluggish export sales led to a 50 million bushel drop in projected corn exports. On net, then, corn ending stocks projections were raised by 25 million bushels compared to the November report. This is not a huge increase, of course. The significance of the figure, to the extent that there is any, is that the corn stocks-to-use ratio—which had been projected to decline ever so slightly this marketing year—is now projected to increase for the third year in a row, climbing above the 13 percent mark for the first time since 2009/10.

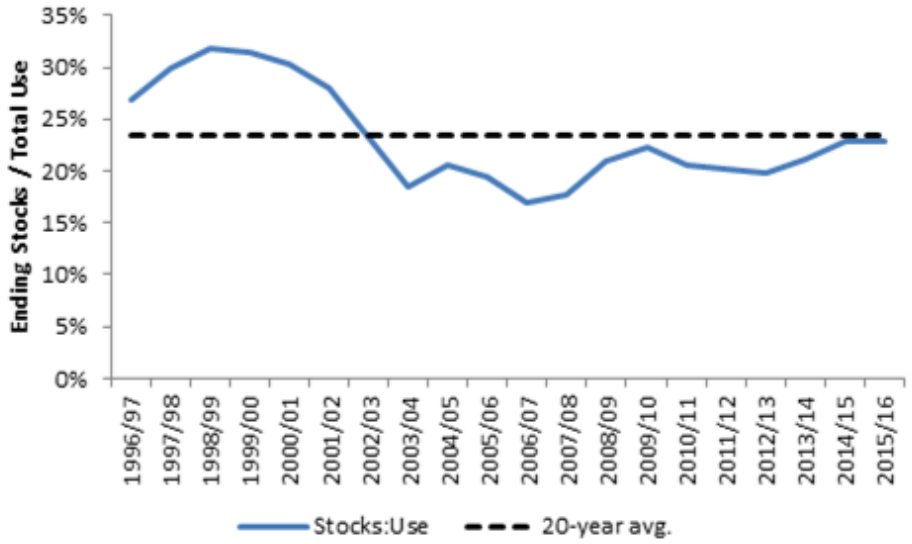
The other notable change in this month's WASDE report had to do with world rice figures. For 2015/16, estimated world rice production was reduced by just over 4 million metric tons (mmt), largely reflecting lower production estimates for India. Rice consumption estimates were also reduced in this month's report, but not by enough to offset the lower production, resulting in a further drawdown in world rice stocks.

If USDA's estimates hold, this will be the third consecutive year that rice consumption has outstripped production. The shortfall in production this year, at 15.3 mmt, will be the largest since 2003. World rice stocks do appear to be getting legitimately tight. Global rice stocks are projected to total just 88.4 mmt by the end of the present marketing year. This equates to a world stocks-to-use ratio of 18.2 percent—the tightest level of world stocks since 2006/07—the point at which world rice stocks bottomed out following about half a dozen years of decline.

Tight world rice supplies had a significant effect on the market in the 2006 to 2008 time period. For example, around harvest in 2006, U.S. rice prices received by farmers averaged around $9 per hundredweight (cwt). Shortly after harvest in 2008, with global supplies still near those multi-year lows, the U.S. price received by farmers climbed to over $19 per cwt. To this point, rice prices this time around are showing little sign of rallying on as projections call for dwindling world supplies.

The major difference in the market now in comparison with 2006-2008 is that supplies of other food and feed grains are relatively large and growing. In 2006/07, as rice stocks reached their lowest point, world wheat supplies were also at their lowest level in the entire post-war period (and were heading even lower, not bottoming out until 2007/08). Corn stocks were also at their lowest point in many years and were not expected to build due to strong demand growth from the biofuel sector and from a surging China.

The difference in the overall supply picture for grains now in comparison with 2006/07 is evident with all grains are considered together. Figure 1 shows the stocks-to-use ratio over the past twenty years for all food and feed grains reported by USDA Foreign Agricultural Service in their Production, Supply, and Distribution (PSD) database. This includes barley, corn, millet, oats, rice (milled), rye, grain sorghum and wheat.



Data Source: USDA Foreign Agricultural Service, PSD Online.

Figure 1. World Food and Feed Grain Supply: Stocks-to-Use Ratio, 1997/97 to 20015/16

Currently, the world stocks-to-use ratio for all food and feed grains combined is about even with the 20-year average. By contrast, in 2006/07, the stock-to-use ratio for grains was at its lowest point in years.

Of course, the fact that rice supplies, considered on their own, are historically tight is not an insignificant point. These tight supplies do provide substantial support for rice prices right now. Looking ahead, it is likely that any further disruption in the market (e.g., further crop losses in Asia) would elicit a strong market response. But it is important also to be aware that the overall market picture this time around is not the same as it was in the mid-2000s. Other grain stocks are at least adequate (arguably bordering on burdensome for wheat), and demand is stable rather than rapidly growing. This will limit the potential upside for rice, though its fundamental situation does look more favorable than for most other major commodities right now.

Renewable Fuels Standard Final Rule Implications

Late last month, the Environmental Protection Agency (EPA) finally released mandated renewable fuels volumes under the Renewable Fuels Standard (RFS). Preliminary volumes had

been released in June and were, to say the least, controversial. At that time, EPA invoked their authority under RFS to waive a portion of the fuel volumes specified in the Energy Independence and Security Act of 2007 (EISA). EPA had issued partial waivers before to account for the fact that cellulosic fuels were not available in the volumes required under the EISA. What was novel and controversial about EPA's preliminary rule last June was that the agency partially waived mandated conventional ethanol volumes based not on a lack of availability of the fuel, but rather on the fact that mandated volumes would push beyond the 10 percent blend-wall.

EPA's exercise in baby-splitting last June really didn't satisfy anyone. Refiners and blenders argued that the reduced volumes were still too aggressive in pushing beyond the blend wall and included unrealistic projections for advanced biofuels. Ethanol producers (and the farmers who supply their primary raw material) complained that the reduced mandates went too far in letting refiners off the hook and thus undermined the intent of Congress to force open the market to alternative fuels.

In their final rule, EPA has essentially stuck with their compromise position, though the revised numbers do appear to be somewhat more aggressive in pushing the mandated volumes beyond the blend wall than was the case with the preliminary June volumes. Table 1 shows the blending percentages prescribed under the preliminary rule and the final rule. For each category of renewable fuel, for 2015 and 2016, the required blending percentage is higher under the final rule than was initially proposed. Notably the total renewable blending percentage for 2016 exceeds 10 percent for the first time ever under the RFS.

Table 1. Final Blending Percentages Required under the Renewable Fuels Standard for Renewable Fuel Classes: 2014 – 2016, Preliminary vs. Final Rule

	June 2015 Preliminary Rule			November 2015 Final Rule		
	2014	2015	2016	2014	2015	2016
Cellulosic biofuel	0.019%	0.059%	0.114%	0.019%	0.069%	0.128%
Biomass-based diesel	1.42%	1.41%	1.49%	1.41%	1.49%	1.59%
Advanced biofuel	1.52%	1.61%	1.88%	1.51%	1.62%	2.01%
Renewable Fuel	9.02%	9.04%	9.63%	9.19%	9.52%	10.10%

We can also estimate how far beyond the blend wall the final RFS rule pushes in terms of volume for ethanol products (backing biodiesel figures out of the total renewable volume). Table 2 calculates the conventional gap (i.e., the amount by which the implied mandate for conventional ethanol exceeds the 10 percent blend wall, after accounting for required volumes of cellulosic and other advanced ethanol) based on the most recent Short-Term Energy Outlook (STEO) gasoline consumption estimates from the Energy Information Administration (EIA).

Table 2. Estimated Conventional Ethanol Gap based on RFS Final Rule and December Short-Term Energy Outlook (STEO) Gasoline Consumption Estimates

	Gasoline Consumption	10% Blend Wall	Cellulosic Ethanol	Other Advanced	Conventional Blend Wall	Conventional Mandate	Conventional Gap
2014	136.7	13.7	0.033	0.192	13.4	13.610	0.161
2015	140.1	14.0	0.123	0.162	13.7	14.050	0.323
2016	140.3	14.0	0.230	0.530	13.3	14.500	1.233

A couple of points about the numbers in Table 2 are in order. First, the "other advanced" figure in Table 2 is calculated by taking the total advanced renewable volume from the final rule and subtracting the required cellulosic volume and 1.5 times the biomass-based diesel volume. Second, the conventional blend wall is calculated by taking 10 percent of gasoline consumption and subtracting required cellulosic and other advanced volumes from it. This implicitly assumes that all other advanced volumes will be essentially some form of ethanol. To the extent that other advanced volumes might consist of something else (e.g., diesel substitutes or drop-in fuels), the conventional gap calculated here would be reduced.

For each of the three years covered by EPA's final rule, a conventional gap does appear to exist. By 2016, the conventional gap amounts to 1.233 billion gallons (at least as estimated here). The reality is that the industry has, to this point, been able to stockpile Renewable Identification Numbers (RINs). More than likely, the industry can cover the conventional gap estimated here (most of it, anyway) with these RINs. But if the numbers here are anywhere close to accurate, the store of RINs that has been carried over for years now will likely be exhausted within the time frame covered by this final rule.

Scott Irwin and Darrel Good at the University of Illinois reach a similar conclusion in a recent Farmdoc Daily post (here). From their analysis (emphasis added):

> "The release of the EPA's final rulemaking for 2014-16 RFS standards was a major shock to the market. The price of D4 biodiesel RINs went up 30 percent and the price of D6 ethanol RINs increased over 90 percent in the three trading days following the release. ***The market was apparently surprised by how much the final conventional ethanol mandates, particularly in 2016, breached the E10 blend wall.*** In addition, the final rulemaking clearly signaled that the EPA is serious about getting "the RFS back on track," and it would not be surprising if the EPA set the conventional ethanol mandate at the statutory level of 15.0 billion gallons as soon as 2017. ***The prospect of large conventional mandate gaps versus the E10 blend wall evidently shifted the expectation of market participants from one where the existing stock of RINs would not be exhausted for years to one where the stocks could be exhausted in a matter of months***."

Irwin and Good go on to note that once RINs are effectively exhausted, refiners/blenders will need to cover the required renewable fuel volumes with higher ethanol blends or with more biodiesel or other advanced biofuels. The commercial acceptance of higher blends has been the goal toward which the RFS has been directed since its inception. With its partial waiver in this final rule, EPA is delaying this outcome, but with gasoline demand essentially flat and further mandated volume increases still ahead under the RFS schedule, higher blends will be a necessity in the near future.

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