

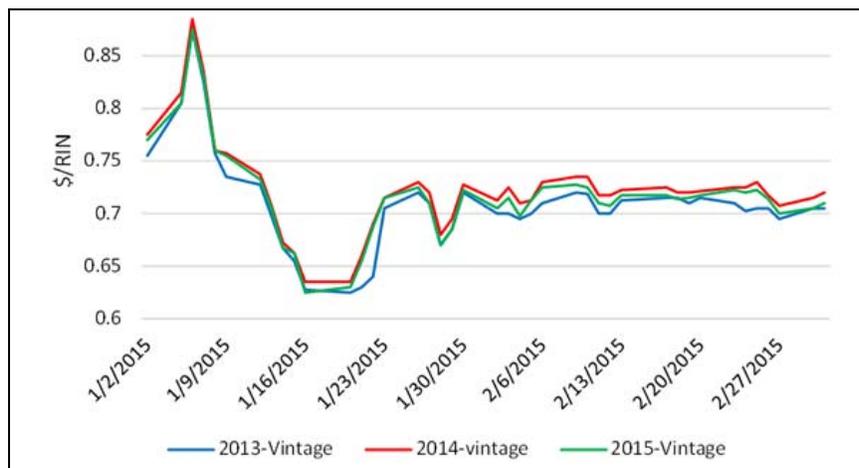
RIN Price (Mis)Behavior?

Since the beginning of the year, the market value of 2014-vintage D6 RINs has almost always exceeded that of 2015-vintage D6 RINs. Given our understanding of RIN hierarchies, such price behavior runs counter to our expectations. In this bulletin, we show that inversion of the vintage hierarchy has become much more common so far in 2015 than in previous years, and we speculate that this inversion might be caused by uncertainty about the 2014 RFS compliance requirement.

Market observations

Figure 1 plots the observed daily prices of 2013, 2014, and 2015 D6 RINs from January 2, 2015 to February 13, 2015. The price of a 2013-vintage RIN never exceeds that of a 2014-vintage RIN. This behavior is in line with our understanding (see below). However, the 2015-vintage RIN prices are lower than 2014-vintage RIN prices.

Figure 1. Daily D6 RIN prices.



Source: Oil Price Information Service

Table 1 shows price comparisons by vintage going back to 2012. We can see from Table 1 that, prior to 2014, new vintage D6 RIN prices were almost always higher than old vintage RIN prices. The 2012-vintage RINs were priced more than 2013-vintage RINs less than 1% of the time. In 2014, old vintage RINs had a higher price than new vintage RINs only 28% of the time. Recently, it is becoming quite common.

Review of expected RIN price behavior¹

The Energy Independence and Security Act (EISA) of 2007 lays the frame-

1. See Whistance and Thompson, 2014, "A Critical Assessment of RIN Price Behavior and the Implications for Corn, Ethanol, and Gasoline Price Relationships." *Applied Economic Perspectives and Policy*. doi:10.1093/aep/ppy012.

Summary:

We show that inversion of the vintage hierarchy has become much more common so far in 2015 than in previous years, and we speculate that this inversion might be caused by uncertainty about the 2014 RFS compliance requirement.

For more on this topic, see these FAPRI-MU publications:

Bulletin #01-15

Are RIN Prices High Enough for E85 Expansion?

Report #03-14

Model Documentation: US Biofuels, Corn Processing, Biomass-based Diesel, and Cellulosic Biomass

Report #03-13

Implied RIN Prices for E85 Expansion and the Effects of a Steeper Blend Wall

Report #07-13

Renewable Fuel Standard Waiver Options for 2014 and Beyond

Report #01-14

Biomass-based Diesel Policy Options: Larger RFS Requirements and Tax Credit Extension

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Table 1. D6 price inversions: How many days is an older RIN priced higher than a new RIN?

Vintage comparisons	11/12	12/13	13/14	14/15
Occurrences	0	5	124	74
	0.0%	0.8%	31.0%	89.2%
Total by year	2012	2013	2014	2015 (to date)
Occurrences	0	7	159	37
	0.0%	1.7%	28.2%	61.7%

Source: Authors' calculations based on data from OPIS

work for two types of RIN hierarchy: one based on the RIN classification (e.g. D4 vs D5) and one based on the RIN vintage (e.g. 2014 vs 2015). The latter arises from the fact that RINs have a two-year lifespan. RINs produced in a given year can be used by obligated parties to demonstrate RFS compliance for the current year or they can be carried over to meet the following year's obligation.

Because 2015-vintage RINs have a longer remaining lifespan than 2014-vintage RINs, we would expect obligated parties to be willing to pay a bit of a premium for 2015-vintage RINs compared to 2014-vintage RINs.

What about deficits?

Regulations allow obligated parties to claim a deficit, with conditions. If permitted, they could not use 2014-vintage RINs for the 2014 mandate, but instead declare a deficit and apply 2015-vintage RINs for the remainder of the 2014 mandate and all the 2015 mandate. We are not aware of any significant role that deficits have played to date. If large-scale deficits were to occur, then in the extreme case this effect could restore the vintage hierarchy: 2015-vintage RIN price would be at least as high as 2014-vintage RIN price.

Possible explanations

We are interested in knowing why this exception seems to have become more prevalent. What has changed? For one thing, there seems to be a great deal of uncertainty surrounding the RFS requirements for 2014 and 2015 relative to prior years. In the past, obligated parties could be reasonably certain of their current and future obligations. However, the 2014 requirements are still not set at this time. If the final 2014 obligations are high relative to earlier expectations and compared to what was used, then the 2014-vintage RIN price would tend to rise. If obligated parties do not anticipate using 2015-vintage RINs to help to meet the 2014 mandate (i.e. unable or unwilling to declare a deficit), then the 2014 vintage RIN price could theoretically be greater than the 2015-vintage RIN price. This effect could explain why the data exhibit vintage-hierarchy inversion for 2014- and 2015-vintage D6 RINs.

Other factors

Average prices are taken as the midpoints of the prices at which trading occurred on a given day. To the extent that more trades occurred in the lower (or higher) end of the range, the midpoint average may not be as representative as a trade-weighted average. Furthermore, this type of RIN behavior has also occurred for both D4 and D5 RINs in the past. In those cases, concerns of RIN fraud in the D5 market and a thinly traded D4 market could have contributed to the vintage-hierarchy inversions. While those factors and the uncertainties associated with them seem unlikely to cause the behavior we investigate in this bulletin, they highlight the fact that there could be other factors at work beyond the uncertainty surrounding RFS obligations that might explain why this behavior occurs in RIN markets.

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