

# Response

## **“The Price of Biodiesel RINs and Economic Fundamentals”: US Biofuel Policy Failures Reveal Limitations of Market-Based Policy Instruments: Rejoinder – Authors’ Response to Comment**

We thank Professor Babcock for his supportive comments regarding our modeling of D4 biodiesel RIN prices, as well as his insights regarding the limitations of the market-based RIN credits used to demonstrate compliance for the Renewable Fuels Standard (RFS). The latter issue is highly relevant given the upcoming reset of the RFS mandates starting in 2023. It is an under-appreciated fact that the RFS legislation does not sunset, so there will be some kind of biofuel mandates unless the U.S. Congress repeals the RFS. While the RFS does not sunset, the specific volumetric standards found in the original legislation end in 2022. Congress provided only broad criteria for how the mandates will be implemented starting in 2023.

Professor Babcock argues that the design of the RIN program for the RFS did not take into account the, “potential political consequences of large, policy-induced monetary transfers from one impacted party to another.” We argue that this was not the only design flaw in the RFS program as it related to RIN credits. In particular, the RFS mandates were specified in a nested manner so there is a hierarchy among the RIN credits for different mandate categories. What this means is that D4 biodiesel RINs can be used to meet the (implied) conventional ethanol mandate if needed. This seems innocuous enough, but it has had profound and, we would argue, unanticipated implications for the volatility of all RIN prices.

This issue can be understood using Professor Babcock’s terminology of “easy-to-achieve” levels of (implied) ethanol mandates versus “costly-to-achieve” levels. When ethanol mandates are set at easy-to-achieve levels, D6 ethanol and D4 biodiesel RIN prices are

set in essentially different markets, with correspondingly low D6 and relatively high D4 prices. In contrast, when ethanol mandates are set at costly-to-achieve levels D4 and D6 RINs tend to trade for approximately the same price because biodiesel becomes the cheaper alternative for filling the (implied) conventional ethanol mandate. When this is the case, all of the factors that drive the volatility of D4 biodiesel RIN prices also drive the volatility of D6 ethanol prices, which are required to demonstrate compliance for the bulk of the total RFS mandate. We highlight three factors that contribute directly to the volatility of D4 RIN prices in our article: (a) biodiesel prices, (b) diesel prices, and (c) the \$1 per gallon biodiesel tax credit. As we demonstrate in our article (see figure 4), whether the tax credit is in place can swing the price of biodiesel RINs by up to \$0.67 per gallon. This would not be a major problem if Congress did not have such a long history of letting the credit expire and then reinstating the tax credit in a retroactive fashion. This means that the RIN market not only has to forecast fuel market fundamentals but also the probability that the tax credit will be in place or not. This has contributed substantially to the high volatility of D4 RIN prices, which has been directly transmitted to D6 RIN prices during periods where the conventional mandate has been in a costly-to-achieve state (most of the time since 2013).

The biodiesel tax credit is not the only policy factor that has contributed to the high volatility of D4 RIN prices. It is not overly dramatic to state that biodiesel markets around the globe are buffeted by a veritable witches’ brew of policy interventions. As just one example, the U.S. Department of Commerce filed an anti-dumping and countervailing duty petition with the International Trade Commission against Argentine and Indonesian biodiesel producers in March 2017 due to noncompetitive domestic support in those countries for biodiesel

producers. The U.S. subsequently won the case and consequently imposed import duties that ranged from 54.36 to 70.05% of the value of Argentinian biodiesel and from 50.71% for Indonesian biodiesel. The impact of the duties on U.S. biodiesel imports was dramatic, and this has helped to strengthen biodiesel prices. Of course, this strengthening of biodiesel prices was also transmitted into higher D4 RIN prices than otherwise would have been the case. There is a very long list of policy interventions that have directly impacted biodiesel prices, and consequently, D4 and D6 RIN prices. The volatility of RIN prices has undoubtedly contributed to the policy failures so ably described by Professor Babcock.

Stepping back, our view is that the RIN market has been unfairly treated as a scapegoat for problems with the RFS. Our research shows that the RIN market is, by and large, functioning the way it should. Moreover, other work by ourselves and others shows that RIN prices are largely passed through up and down the supply chain, so that price signals are given to

consumers and obligated parties are compensated for their RIN expenditures through higher wholesale prices. For the source of RIN price volatility, one must therefore look elsewhere: interactions with other policies, low demand elasticities in fuels markets, and – most importantly in our view – the use of a quantity mandate.

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