Seasonality of Diesel Fuel Prices

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Introduction

Fuel is a major expense item for most farmers. To reduce this expense, farmers can use either less fuel or purchase their fuel at a lower price point. Reducing fuel usage is certainly a good goal but many farmers are constrained to use at least a certain amount of fuel. After all, even no-till production requires at least one trip with a tractor and planter and another with a combine. Thus reducing fuel usage for crop production may be limited.

Purchasing fuel at the lowest price point may not always be possible either. Since it is not unusual for diesel prices to vary upwards of a dollar a gallon during the course of a year, buying at the lowest price of the year could save farmers significant money. However, timing fuel purchases for the low point of the year would require a crystal ball.

Diesel prices do show some seasonality over time so it may be possible to estimate periods when prices may be lower. Thus, farmers may be able to lower their fuel costs by observing these seasonality trends and purchasing their fuel at those times of lower prices. This article examines both a 10-year and a 5-year historical period to calculate when diesel prices are lowest.

Figure 1 shows the yearly seasonality of diesel fuel prices based on the last 10 years of monthly diesel fuel prices. As shown in the figure, diesel prices are lowest in January and February and then start increasing throughout the year. By September, prices have reached their peak and have started to decline.

Farmers would typically use most of their fuel during the spring and fall seasons so purchasing fuel on an as needed basis would probably not be optimal. This is especially true for the fall harvest season as diesel prices are highest in September and October.

Based on a 10 - year history, farmers would have the lowest fuel expense by purchasing their entire year's supply in January and February. Given that diesel fuel has a shelf life of a year, this would certainly be an option. However, purchasing a year's supply requires farmer's having adequate storage. There would also be carrying costs for purchasing fuel very far in advance.

Another risk with the above strategy is that a seasonality pattern based on 10 years of prices may not reflect recent seasonality. Figure 2 shows the seasonality of diesel fuel based on a 5

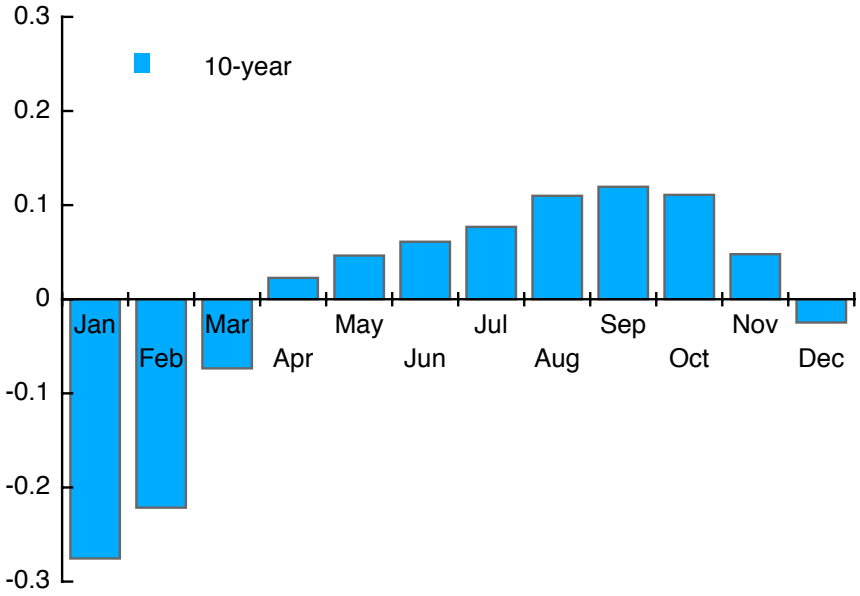

Figure 1. 10 Year Seasonality of Diesel Prices ($/gal)

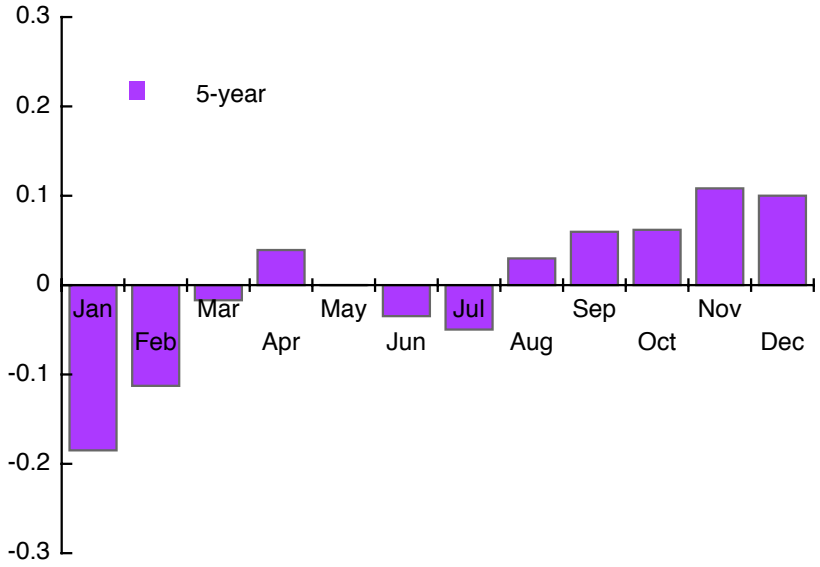

Figure 2. 5 Year Seasonality of Diesel Prices ($/gal)

- year pattern. This five year pattern still has January and February with the lowest prices but now the highest price month is November. June and July also exhibit some lower prices as well. Based on this data, farmers would probably want to purchase their spring fuel in January and February and purchase their fall fuel in June and July.

The two figures illustrate some of the potential problems with using seasonality to purchase fuel. The seasonality is not always consistent. This is especially true for the summer months. Some years, the summer prices have not risen very much and in other years the prices have risen during the summer. Part of this may be related to the recession in the economy. The last five years have seen a slower economy which has probably limited the amount of diesel used during the summer construction season. With a growing economy, more construction would take place and summer usage would be higher with a corresponding higher fuel price.

Still, January and February seem to be good bets for fuel purchases. Prices are often the lowest they will be for the entire year. The early summer months could also be a good opportunity to purchase fall fuel especially if farm storage is limited. Purchasing fuel for harvest at the time of harvest is probably not optimal as prices have been the highest based on both sets of data.