

# Value Of The U.S. Dollar And Corn Prices



## grain outlook

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It has not been uncommon for daily fluctuations in corn prices to be attributed to fluctuations in the value of the U.S. dollar relative to other currencies. So, what is the connection?

From the side of the importer of U.S. corn, a lower valued dollar in relation to the currency of that country, all else equal, is in effect a reduction in the price of corn. A lower price to the importer might be expected to result in larger imports. That is, there would be a movement down the demand curve to a new, larger equilibrium of quantity supplied and quantity demanded. For the U.S. market, larger exports at the same nominal price of corn is in effect an increase in demand. That is, there is an upward shift in the demand curve for U.S. corn. In turn, the increase in demand results in a higher equilibrium price of corn. Theoretically, then, a lower valued U.S. dollar should result in larger exports and a higher nominal price in the U.S., assuming no change in other price factors.

The relationship between the value of the U.S. dollar and the volume of U.S. corn exports during the 12 month marketing year is difficult to identify. For the 10 marketing years from 1999-2000 through 2008-2009, for example, we find a very low correlation between the two variables. However, that is not the proper relationship to examine because it violates the assumption of all other things equal. A proper analysis should try to isolate the impact of the value of the dollar from the impact of other factors.

One of the things revealed in historic corn export data is that exports to the largest importer, Japan, are remarkably constant from year to year. For the period 1999-00 through 2008-09, Japan accounted for 26 to 36 percent of annual U.S. corn exports. Japan's imports of U.S. corn were in a narrow range of 567 to 628 million bushels. It is generally well known that Japan buys U.S. corn based on the need to support the domestic livestock industry and that imports are not sensitive to price or exchange rates. The

data over the 10 year period supports that observation.

Examining the relationship between exports of U.S. corn to destinations other than Japan and the value of the dollar reveals a negative correlation of about 0.4. The direction of the relationship is as expected and is relatively strong, but that simple relationship ignores the impact of other factors that might influence exports of U.S. corn. Those factors might include such things as the price of corn and the magnitude of grain production outside the U.S. Adding those factors to the analysis fails to yield a strong relationship between exports and the value of the U.S. dollar.

The analysis presented here of the relationship between corn exports and the value of the dollar is not comprehensive and covers a very short period of time. Still, the results suggest that exports of U.S. corn in any given year may not be especially sensitive to the value of the U.S. dollar. In fact, the magnitude of corn exports in a given year does not appear to be highly correlated to other factors such as foreign grain production. The inability to quantify these relationships makes it difficult to forecast corn exports.

A second point about the effect of the value of the dollar on corn prices is that the export market is now a relatively small portion of the U.S. corn market. Exports this year, for example, are expected to account for only 15 percent of the total consumption of U.S. corn. Exports to destinations other than Japan may account for only 10 to 11 percent of total consumption. Even if the influence of the dollar's value on exports is stronger than suggested here, the impact on the price of corn is likely relatively small.

It appears that the impact of the value of the U.S. dollar on the value of corn may be less than implied by daily market commentary. The direct cause and effect relationship is relatively weak. There may be some recent economic relationship between the value of the U.S. dollar and crude oil prices which impacts the value of ethanol and therefore corn. The value of the U.S. dollar and commodity prices may also be correlated to some degree in the current economic environment as expectations about world economies influence both the value of the dollar and decisions about investment in commodities in general. In any case, it is unlikely that the corn market will completely ignore currency values in the price discovery process, even if the relationship is weak.  $\Delta$

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