

Wheat: Record Price Gap Between U.S. and Europe



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The summer of 2016 has not been kind to European wheat farmers. Unusually heavy rains damaged wheat crops in France and Germany, likely reducing the harvest by about 4-5% from last year, according to French analysts Strategie Grains' report in August. By comparison, growing conditions in the United States have been nearly ideal despite a strong El Niño over the winter and spring. The U.S. Department of Agriculture's (USDA) August 2016 Wheat Outlook indicated that total U.S. wheat production is likely to rise 12-13% in the 2016/17 marketing year that started on June 1, versus 2015/16.

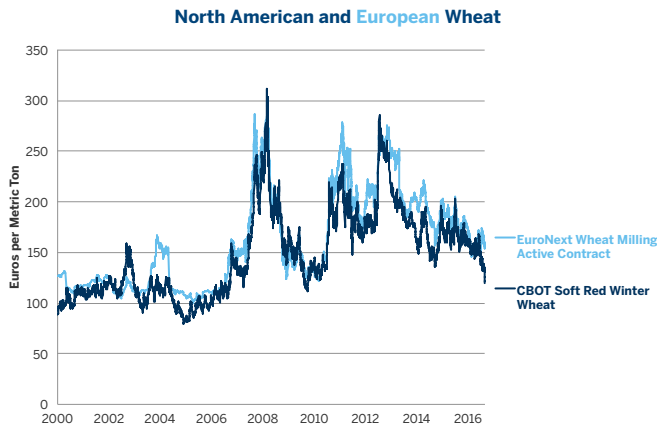
The contrasting growing conditions have contributed to one of the largest-ever price gaps between U.S. wheat (Chicago Board of Trade soft red winter wheat) and European wheat on the Paris-based Euronext exchange (Figure 1). The European price is now over 20% higher than the U.S. price. This price differential opens up an interesting opportunity for U.S. exporters. It also creates a rare bright spot for American farmers, who have been beleaguered by the post-2011 rise in the U.S. dollar – the currency of trade in global commodities. The poor French and German wheat harvest could also open up opportunities for Eastern European nations like Russia, Kazakhstan and Romania to gain market share and to sell their wheat at higher-than-normal prices.

Outlook: Weather, Volatility, Currency and Macro-Factors

Weather: While the current U.S. growing season looks conducive, the good times might not last for wheat farmers. Weather in the Americas could be adversely impacted by a rapid change from El Niño during the past year to a La Niña over the next year. El Niño and La Niña typically have little impact on European growing regions.

Already a band of cold water is forming along the equatorial Pacific Ocean (Figure 2). So far, there seems to be a quick move from a strong El Niño towards a La Niña, similar to the powerful El Niños in 1972-73, 1982-83 and 1997-98 (Figure 3).

Figure 1: European and United States Wheat Prices in the Futures Markets.



Bloomberg Professional (CA1, W 1 and EUR), CME Group Economic Research Calculations

Figure 2: Band of Cooler-Than-Normal Water Building Along the Equatorial Pacific.

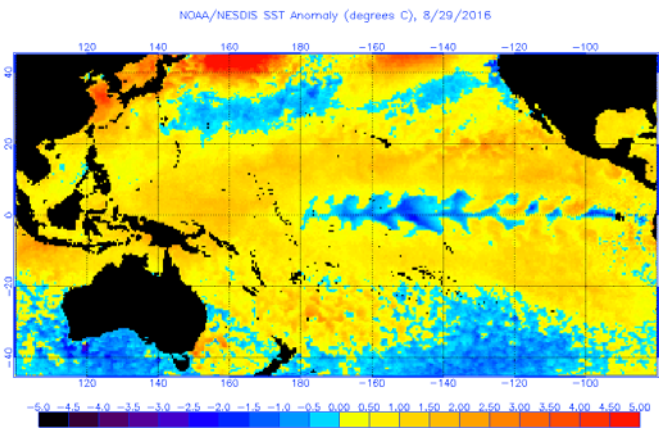
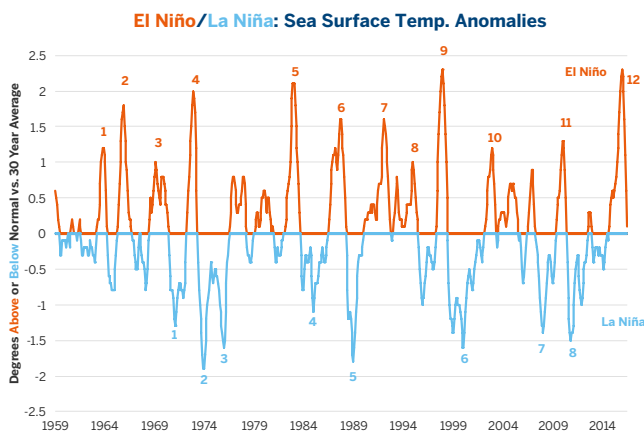


Figure 3: Powerful El Niños Often Become La Niñas the Following Winter.

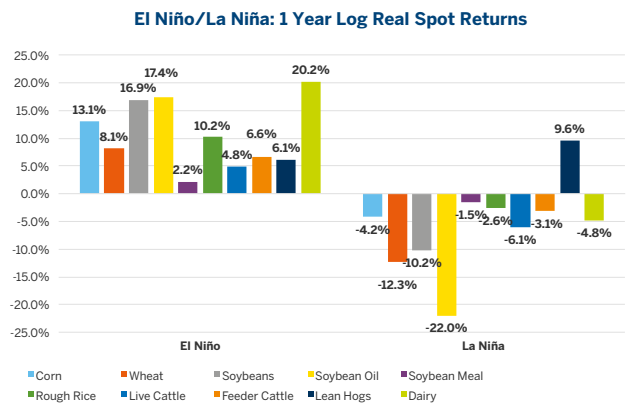


Source: NOAA, National Weather Service, Climate Prediction Center

The past 12 El Niños have tended to be bullish for U.S. wheat prices in the futures market. On average, prices rose by 8% in the U.S. in the 12 months after Pacific Ocean temperatures rose 1°C above normal. La Niñas have tended to have the opposite impact: On average, wheat prices have tended to fall by 12% in the 12 months after equatorial Pacific Ocean temperatures have fallen to -1°C or below (Figure 4). The impact upon European markets is indeterminate, since daily futures pricing only goes back to 1999, covering only two El Niño episodes. That said, European and U.S. wheat prices are highly correlated. Since January 2000, on a daily basis the currency-adjusted correlation is +0.54. In reality, daily data likely understates the correlation as a result of different market closing times in Europe and the U.S.

As such, even if La Niña is less likely to impact weather in Europe than in the United States, it is plausible that it might have a major impact vicariously on the prices of European wheat via the global wheat market. On balance, El Niño didn't have much of a positive impact on U.S. wheat prices in 2015 and 2016: Prices actually declined year on year. As such, a La Niña in 2016 and 2017, if it happens, might not weigh further on an already depressed U.S. wheat market. By contrast, the European price, inflated by the poor growing conditions this summer, might be susceptible to more downside price action than the U.S. price despite La Niña being of little direct consequence to Europe, weather-wise.

Figure 4: El Niño/La Niña Impacts by Agricultural Goods.



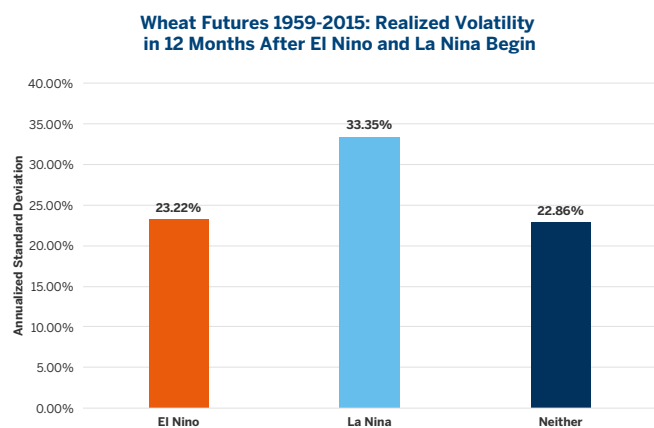
Source: NOAA, National Weather Service, Bloomberg Professional (C 1, W 1, S 1, BO1, SMI, RRI, LC1, LHI and DAL, CPI INDX), Calculations Done by CME Group Economic Research

La Niña's main consequence in the U.S. wheat market, historically, has been exceptionally high volatility. Wheat volatility has averaged nearly one and a half times the high during periods of strong La Niña (-1°C or below) as during periods of strong El Niño (+1°C or above) or during neutral periods (between -1°C and +1°C) (Figure 5). As such, if the world experiences a strong El Niño, it could take the U.S. and European wheat markets on a wild ride.

Typically, the stronger the episode of La Niña, the greater the degree of volatility (Figure 6). Here, too, there is a risk. The 2015-16 El Niño tied the 1997-1998 episode for the strongest on record. The 1997-98 episode was followed a powerful, multi-year La Niña. The current rapid decline in equatorial Pacific Ocean temperatures from +2.3°C in December to +0.2°C in June might indicate that we are on the path to not just a La Niña but to a particularly virulent one.

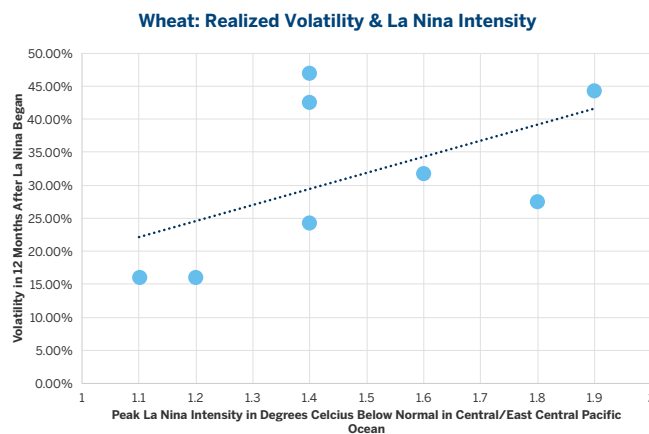
If a powerful La Niña does emerge, the price of wheat options could potentially rise a great deal.

Figure 5: La Nina has Correlated With Exceptionally High Realized Volatility.



Source: Bloomberg Professional (NOAAONI and W 1) for raw data with calculations from CME Group Economics

Figure 6: Stronger La Niñas Tend to Correlate With Higher Levels of Realized Volatility.



Source: Bloomberg Professional (NOAAONI and W 1) for raw data with calculations from CME Group Economics

Weather isn't the only factor that could move the price of European and U.S. wheat. Central bank policy and currency movements are likely to have an impact as well.

Between May 2014 and March 2015, the euro fell from 1.40 to 1.05 versus the U.S. dollar as the European Central Bank (ECB) lowered rates to zero and embarked on an aggressive quantitative easing program. The euro's decline gave European farmers an edge over their American counterparts, making European exports cheaper than those from the U.S.

Since March 2015, the ECB has attempted to ease policy further while the U.S. Federal Reserve (Fed) has moved in the opposite direction. One might have expected the monetary policy divergence between the U.S. and the eurozone to weaken the euro further against the U.S. Dollar. However, during the past year and a half, the euro has found itself in a fairly tight channel versus the U.S. dollar, trading mainly between 1.05 and 1.15.

There are probably two reasons why the euro hasn't fallen further:

- 1) While the Fed has hiked rates, it ultimately tightened much less than markets expected. Fed Funds Futures have spent much of the past two years actively de-pricing rate hikes that had been seen as 'baked in the cake' a year or two ago.
- 2) The ECB's move to negative deposit rates in February 2016 may actually be supporting the euro. Although negative rates were intended as an easing move, they may actually be tightening monetary policy by taxing the banking system, and encouraging more savings and less spending and investment. This shouldn't be too surprising. After the Bank of Japan (BoJ) implemented a similar policy, the yen began soaring.

This dynamic may change at some point. On the U.S. side of the equation, Fed Funds Futures priced such a slow pace of Fed rate hikes that there are few rate hikes left to de-price. All else being equal, any unexpected move towards tighter monetary policy in the U.S. should support the U.S. dollar and benefit European farmers to the detriment of their U.S. peers. The European side of the equation is less clear. Although evidence is growing that negative interest rates have been a massive mistake on the part of the ECB, the BoJ and other central banks that have tried them don't expect any fast policy reversals. As a group, central banks are notoriously slow moving, bureaucratic and loath to admit error. As such, it's not overwhelmingly clear to us that the euro is about to take another leg down. Continuing to trade within its post-March 2015 range is a distinct possibility.

It's not clear when the price gap between U.S. and the European wheat prices might return to normal levels. The key variables to watch will be the weather in Western Europe and growing areas in the Americas and former Soviet states, as well as monetary policy and other drivers of currency markets.

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