

Corn market pops up as a growth engine

Casper Burgering

Senior economist Agricultural
Commodities

casper.burgering@nl.abnamro.com
+31 6 109 760 34

Demand for corn will continue to grow in the coming years. But the corn market is currently influenced by trade negotiations between the US and China. Indeed, uncertainty about the progress of the negotiations has an impact on the price. Overall sentiment is low, while the availability of corn - and ethanol - is high which is depressing corn prices. On balance, the price of corn fell by around one percent so far this year. However, as soon as the uncertainty decreases, the tide will turn.

Corn		
	18-mrt	3m %
- Corn No.2 Yellow (US) spot price (USD/bu)	3.42	-3.1%
- Corn (Brazil) (USD/60 kg bags)	10.38	8.5%
- Corn (China, Dalian) (USD/Mt)	267	-4.2%
- Corn (CBOT) 2nd contract (USDc/bu)	381	-3.2%
- Ethanol 2nd contract (USD/gallon)	1.41	9.9%
Exchange rates		
	18-mrt	2019 eoy
- EUR/USD	1.13	1.16
- USD/BRL	3.81	3.60
- USD/CNY	6.71	6.60
Oil		
	18-mrt	2019 eoy
- Oil price (Brent) (USD/bbl)	67	70

Figure 1: Relation between prices of ethanol, oil and corn



Source: Thomson Reuters Datastream, ABN AMRO Group Economics

Corn is mostly used for animal feed. Approximately 60 percent of the global supply of corn ends up as food for animals (such as cattle, chickens, pigs and goats). Just over ten percent of the total supply of corn is for human consumption. Over the past 10 years, the shares of animal feed and human consumption in the total demand for corn has remained fairly constant. However, there has been a marked increase in the use of corn as a biofuel (such as ethanol).

The rise of biofuel

Since 2008, the average annual growth in the demand for corn for biofuel purposes has been almost seven percent, while growth in the demand for corn for animal feed and human consumption has remained around two percent. As a result, the share of biofuel in the total demand for corn grew to 17 percent in 2018. However, the high average growth in the demand for corn for biofuel was mainly achieved in the period before 2014. This was when capacity growth took off globally in the ethanol industry. And as a result, price trends in oil, ethanol and corn ran parallel to each other. The strong growth in capacity the ethanol industry has experienced is now causing problems for the sector. Due to overcapacity in the ethanol industry, many producers are struggling with relatively low margins. Some are being forced to reduce their capacity, while others - especially smaller

Trend in corn price:

	% price opposite to 1 January 2019	% price opposite to 1 week ago	% price opposite to 1 month ago	% price opposite to 3 months ago	Price volatility over last month (avg.)	Price volatility over 2018 (avg.)	Price volatility since 2000 (avg.)
Corn	-1.2%	+2.7%	-2.6%	-3.1%	4.4%	3.8%	10.3%

Volatility is the average difference between highest and lowest price in mentioned period (calculated on 1 months moving averages)

players in the market – are compelled to cease their activities completely. However, the market situation seems to be improving. A few new guidelines have recently been introduced in the US that will also stimulate the demand for corn. The sale of E15 gasoline, with a larger component of ethanol compared to the usual E10 option, is now allowed without restriction. This paves the way for further growth in the demand for corn-based ethanol.

Demand for ethanol and corn is growing

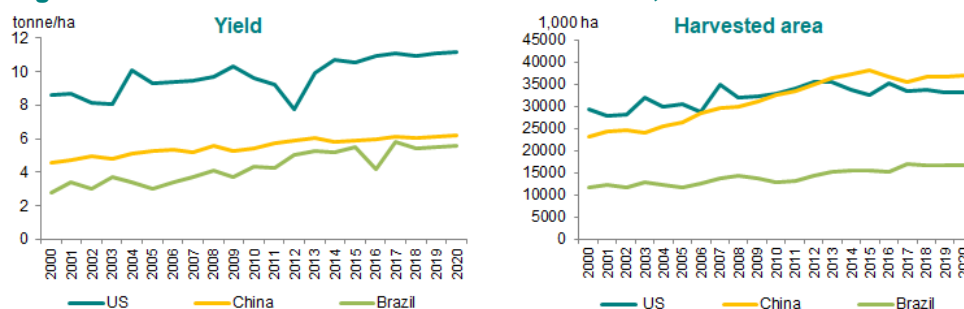
Exports of ethanol has become increasingly important to the US, where ethanol producers saw total ethanol exports rise by 24% in 2018. The growth in exports of ethanol based on corn to Brazil is particularly striking. In the last two years, Brazil has become an important market for the US. Brazil's share in total US exports of ethanol has grown to around 30% in a relatively short period of time. In 2018, US ethanol exports to Brazil increased by 20%. However, the volatility in the export growth figures for ethanol is high. For example, total US exports of ethanol declined by 20% in December 2018 on an annual basis after two months of average export growth of 54% year-on-year.

Still, demand for biofuel is not just increasing in Brazil. Other countries have also started blending ethanol with fuel. The growth prospects for global demand for biofuels will therefore remain positive in the coming years. China is also investing heavily in ethanol capacity expansions in order to meet growing demand.

Growth rate in corn supply cools down

The growth in hectares of harvested area and yields of corn decreased considerably from 2014 to 2018 compared to the previous periods since 1994. Meanwhile, the growth in global output declined in tandem.

Figure 2: Yield and harvested area in corn in Brazil, China and US



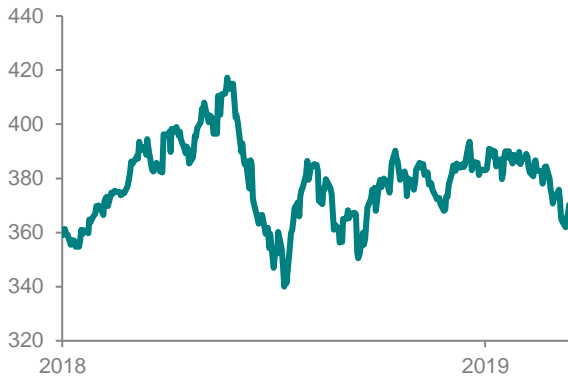
	Harvested area corn			Yield corn		
	US	Brazil	China	US	Brazil	China
	(average growth per year)			(average growth per year)		
1994-2018	0.5%	0.7%	3.1%	1.2%	1.3%	6.0%
1994-2003	0.8%	-0.9%	1.4%	-0.7%	0.3%	6.3%
2004-2013	1.9%	2.4%	4.3%	-0.1%	1.7%	5.5%
2014-2018	0.1%	1.5%	-0.3%	0.4%	0.9%	0.9%

Source: OECD, ABN AMRO Group Economics

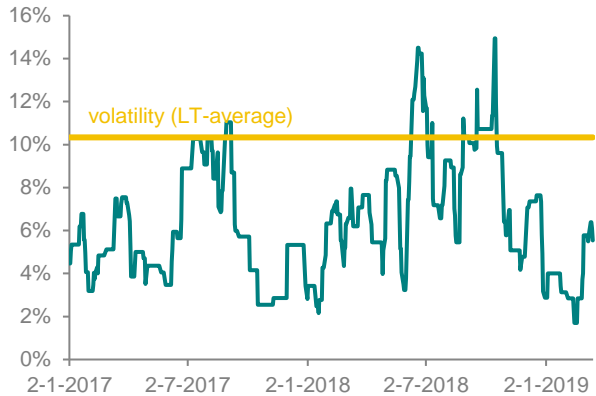
In addition, a relatively low growth in output is expected for the current season as cold soils and wet fields are making planting and fertilizing in the main corn regions more difficult. On balance, we think production will continue to increase, but the pace of that increase will be relatively low compared to previous years. Due to the shortage of corn this season, stocks are decreasing and, according to the International Grains Council (IGC), are expected to fall by more than 11%.

Graphical Insights

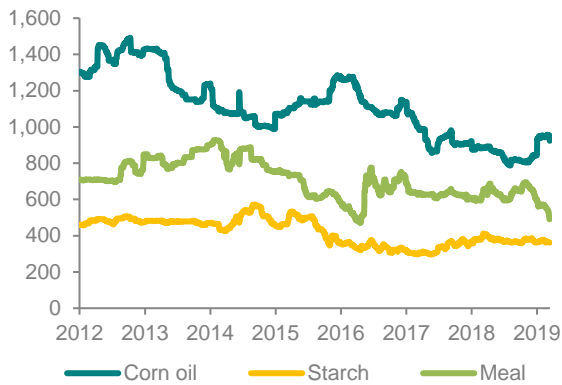
Price corn (2nd contract, USDc/Bu)



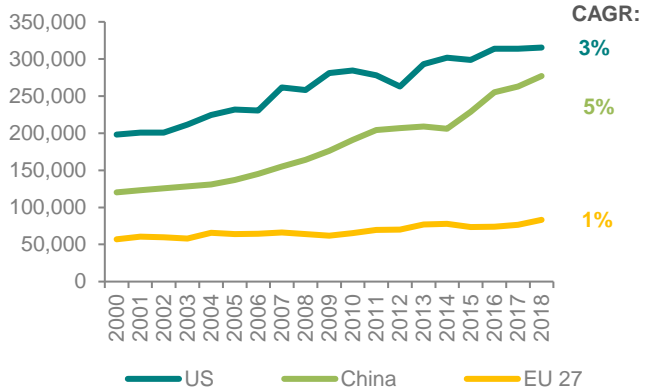
Price volatility (in %)



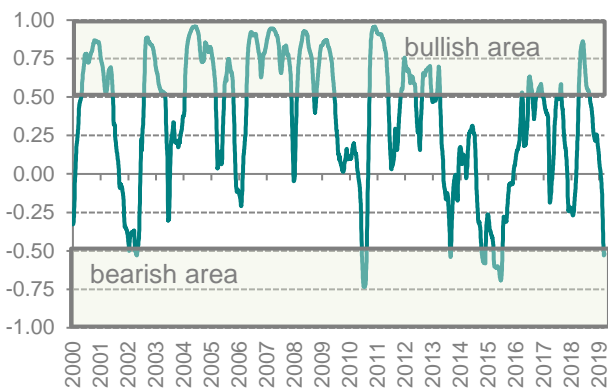
Price corn oil, starch and meal (China, index)



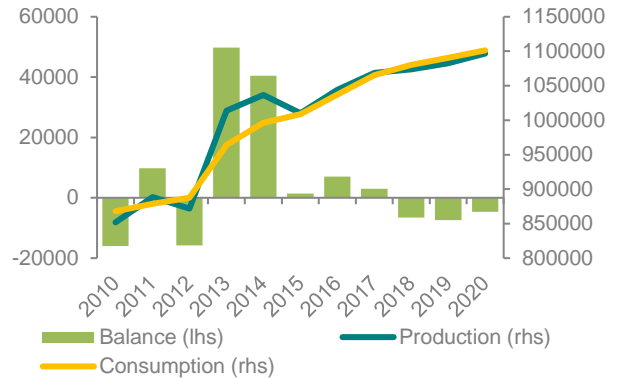
Demand corn US, EU, China (1,000 tonnes)



Correlation open interest and corn price



Global market balance until 2020 (1,000 tonnes)



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