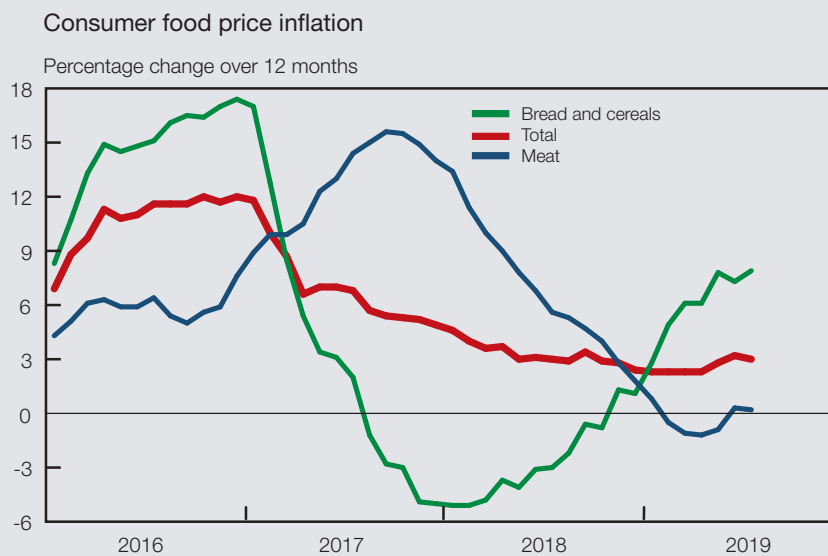


Box 2 Drivers of domestic consumer food price inflation

The significant moderation in consumer food price inflation, from a recent peak of 12.0% in December 2016 to 2.3% in the first four months of 2019, was initially driven by a sharp deceleration in bread and cereals price inflation which outweighed an acceleration in meat price inflation over the period. The subsequent slowdown in meat price inflation then marginally outweighed the later acceleration in bread and cereals price inflation. These two food categories play a prominent role in the evolution of overall consumer food price outcomes, given their dominant weighting in the consumer food price basket¹



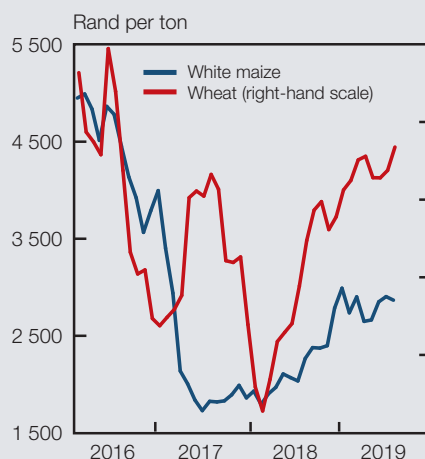
Source: Stats SA

Thus far in 2019, the domestic spot price of white maize has levelled off following a marked increase in 2018, while that of wheat increased further, albeit at a slower pace. The year-on-year percentage increases in both of these prices accordingly moderated as the low price-comparison base gradually dissipates.

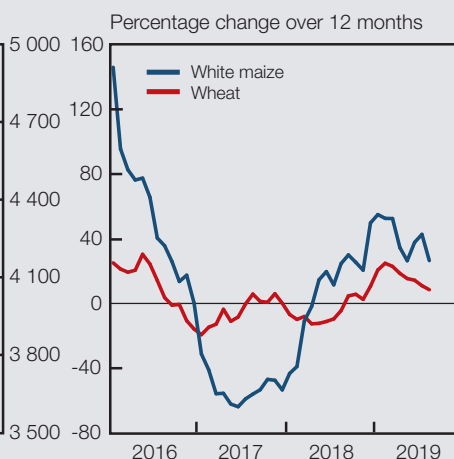
Recently, overall consumer food price inflation accelerated somewhat to 3.2% in June 2019 as bread and cereals price inflation quickened further, and as meat price *deflation* moderated and prices began to increase thereafter.

¹ Meat products have a weight of 35.3% in the consumer food price index, with bread and cereals comprising 20.7% of the index.

Domestic spot prices of wheat and white maize



Change in spot prices of domestic wheat and white maize



Sources: International grains council and JSE

This box reflects on looming domestic food price pressures as assessed through the relationship between international food price inflation,² domestic agricultural producer price inflation and domestic consumer food price inflation. It seems that, although consumer food price inflation could accelerate in coming months, the effect of higher meat price inflation will likely be moderated somewhat by slowing bread and cereals price inflation. The expectation of a moderation in consumer bread and cereals price inflation, from its recent peak of 7.9% in July 2019, is based on the leading properties of price outcomes at earlier stages of production within the food price formation process.

The relationships in this price formation process are explored in terms of both correlation and asymmetrical turning point analysis. The correlation analysis³ showed that the year-on-year percentage change in the rand-denominated⁴ food price index of the Food and Agricultural Organization (FAO) of the United Nations correlated fairly well with the year-on-year percentage change in the domestic consumer price index (CPI) for food, with the highest correlation of 0.80 at a nine-month lead. Similarly, the rand-denominated FAO cereals price index correlated relatively well with the domestic CPI for bread and cereals, with the highest correlation of 0.70 at a six-month lead. However, the correlation between rand-denominated FAO meat price inflation and the domestic CPI for meat was weak, most probably due to the fact that most of domestic meat consumption is produced locally. Also, domestic meat prices are not affected to the same extent by import parity pricing, as is the case with cereals.

An *asymmetrical turning point analysis*⁵ of leads and lags between these food price measures showed that rand-denominated FAO food prices lead cyclical turning points in total domestic CPI food prices at both peaks and troughs. This is also the case for international cereals prices, with the median lead at troughs being more than double that at peaks. Total domestic agricultural producer prices, constituted primarily of food, also reached cyclical turning points ahead of that in total domestic CPI food prices, with the peaks and troughs in domestic agricultural producer prices for cereals and other crops leading those in CPI bread and cereals prices.

Median leads in months at cyclical turning points of different measures of food price inflation

	Domestic CPI inflation			
	Total food		Bread and cereals	
	Peaks	Troughs	Peaks	Troughs
Rand-denominated FAO food prices	10.0	13.5	–	–
Total domestic agricultural producer prices	4.0	5.0	–	–
Rand-denominated FAO cereals prices	–	–	5.0	12.0
Domestic agricultural producer prices for cereals and other crops	–	–	8.5	6.5

Source: FAO, Stats SA and SARB

2 International food price inflation as measured by the Food and Agricultural Organization (FAO) of the United Nations.

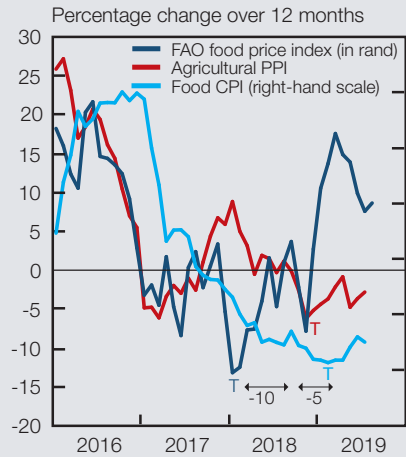
3 The sample period of the correlation analysis is January 2001 to April 2019.

4 Note that the rand-denominated FAO indices already include the impact of changes in the exchange value of the rand and that exchange rate effects were not separated in the analysis.

5 The sample period of the turning point analysis is from the mid-1990s to April 2019.

These leading properties of international food prices and domestic agricultural producer prices in respect of domestic consumer food prices held up well during the most recent trough in domestic food price inflation. The lower turning point in FAO food price inflation in January 2018 preceded that in domestic agricultural producer price inflation by 10 months and that in domestic CPI food price inflation by 15 months. Similarly, the trough in FAO cereals price inflation in January 2017 led the trough in domestic agricultural producer price inflation for cereals and other crops by five months and the trough in CPI bread and cereals price inflation by 14 months.

International and domestic food price inflation



International and domestic cereal price inflation



* Note that T indicates trough
 Sources: FAO, Stats SA and SARB

This analysis shows the predictive value of leads and lags in the price formation process. Therefore, an acceleration in consumer food price inflation can be expected in coming months, given already observed higher price pressures in the food production chain. However, the acceleration will most likely be moderated by slowing wheat and maize price inflation, suppressing increases in the prices of bread and cereals at the consumer level.