



Sep 17,  
2012

## Food Prices Update *September 2012*

*Little change to estimates of cereals harvests*

*Maize and wheat prices remain high, but may have peaked*

---

### KEY POINTS

- Estimates of cereal harvests have changed little from August to September. Further cuts to estimates of the already bad US maize harvest have been quite small.
- Hence the sharp price rises seen in the maize and wheat markets in July have probably reached their limit — even if at more than **US\$320** a tonne for maize, **US\$365** a tonne for wheat, prices are high.
- With maize stocks very low indeed, there is no room for additional harvest failures.
- Attention thus now turns to the main Southern Hemisphere crop season that starts from November onwards. Early warnings of an El Niño for late 2012, early 2013 are worrying: it is not yet clear, however, how intense the warming of Pacific equatorial waters will be.

This update includes a special section looking at which countries with high existing levels of hunger may be the most exposed to high international prices of maize and wheat in 2012. Most of the vulnerable countries lie in a band stretching from Mozambique and Zimbabwe north-east through East Africa and the Horn to Tajikistan.

## Contents

KEY POINTS.....	1
Recap from earlier updates.....	2
KEY DEVELOPMENTS.....	3
Supply: watching the harvests.....	3
Cereals prices on world markets.....	7
Commentary .....	9
FOCUS ON VULNERABILITY .....	10
Key points.....	10
Further explanation .....	11
What may happen to the prices of staples in countries that do not depend heavily on imports, or which export cereals?.....	12
What happens if relatively large countries were to suffer harvest failure at the same time as a price spike? .....	12

## Recap from earlier updates

- Prices of maize and wheat, which were falling from early 2011 owing to good harvests, shot up in July 2012, largely owing to drought in the US Midwest which knocked 103M tonnes off US maize harvest estimates by mid-August.
- High maize prices have seen the premium paid for wheat over maize cut to slim margins. The latest rises in maize prices have helped to push up wheat prices, though stocks of wheat remain good.
- Rice prices were high in 2011 owing to flood losses in Thailand and concern over the impact of Thai policies on exports from that country. They have remained high, but relatively stable this year.

## KEY DEVELOPMENTS

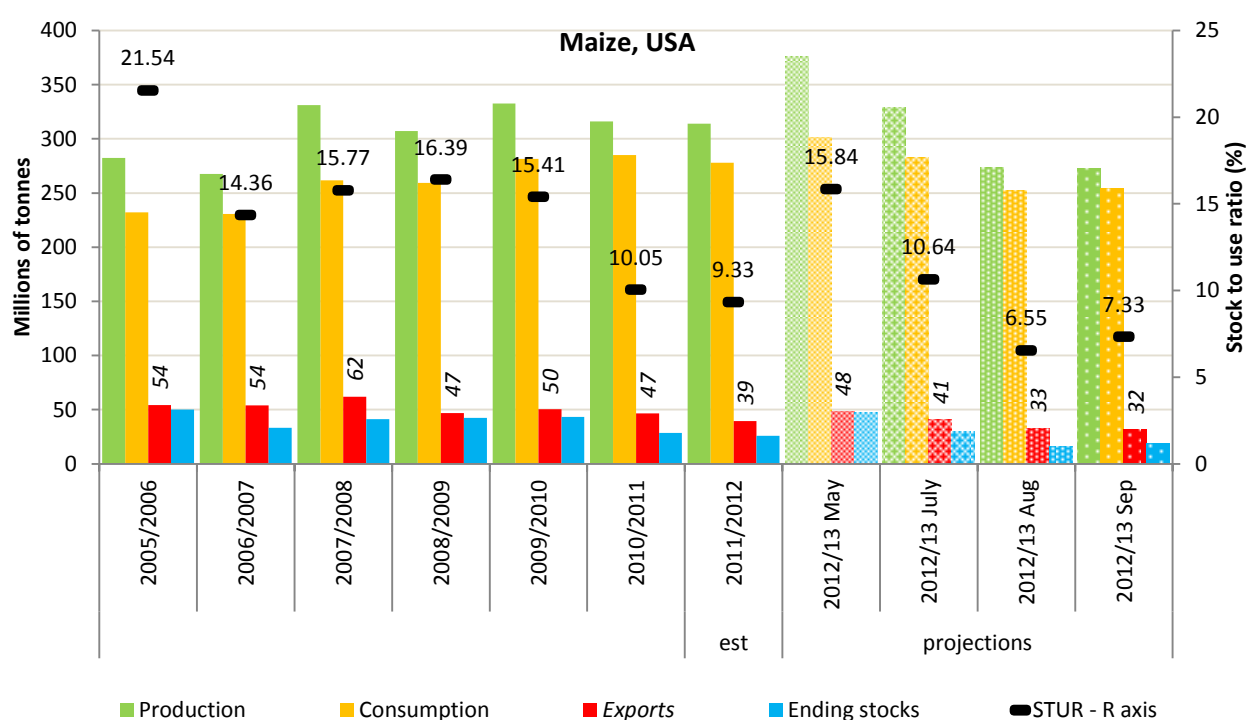
### Supply: watching the harvests

Maize: US harvest bad, but only slightly worse than expected in August

The latest 12 September estimates of the *US maize harvest* show only a slight deterioration, by another 1M tonnes, on the previous forecast of a 103M tonne loss of harvests below the May estimates — see Figure A.

It seems, then, that the shock that was apparent in July and August has not intensified.

**Figure A US Maize production, consumption, exports, ending stocks and stock ratios, 2005/06 to 2012/13 projection**



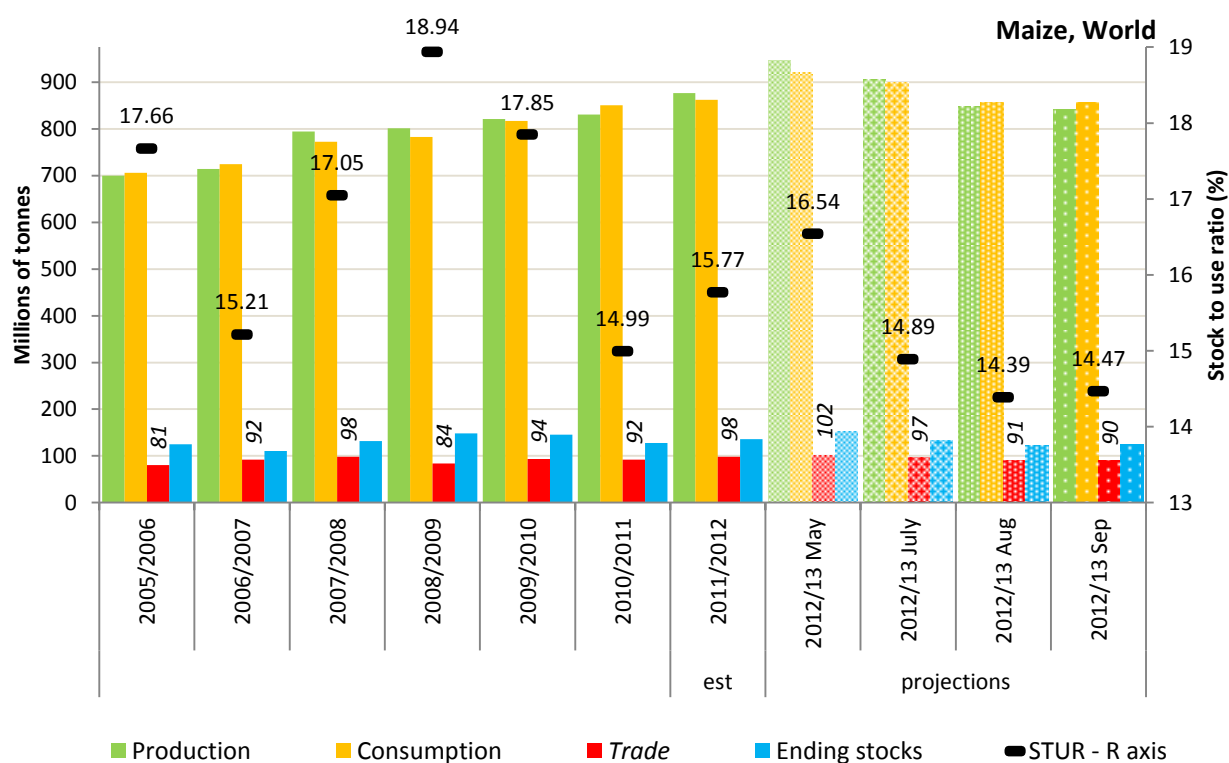
**Source:** With data from USDA WASDE and USDA FAS.

**Note:** STUR is the Stock-to-use ratio, expressing ending stocks as a percent of total consumption.

Maize: forecast world harvests down slightly reduced

World maize harvest prospects have fallen 8M tonnes from August to September estimates — a minor downward adjustment compared to the 97M tonne drop in projections from May to August 2012, see Figure B. The additional reduction arises from drought in Southern and Eastern Europe.

**Figure B World maize production, consumption, exports, ending stocks and stock ratios, 2005/06 to 2012/13 projection**



**Source:** With data from USDA WASDE and USDA FAS.

**Note:** STUR is the Stock-to-use ratio, expressing ending stocks as a percent of total consumption.

Wheat: US  
harvest little  
affected — will  
surpass last year

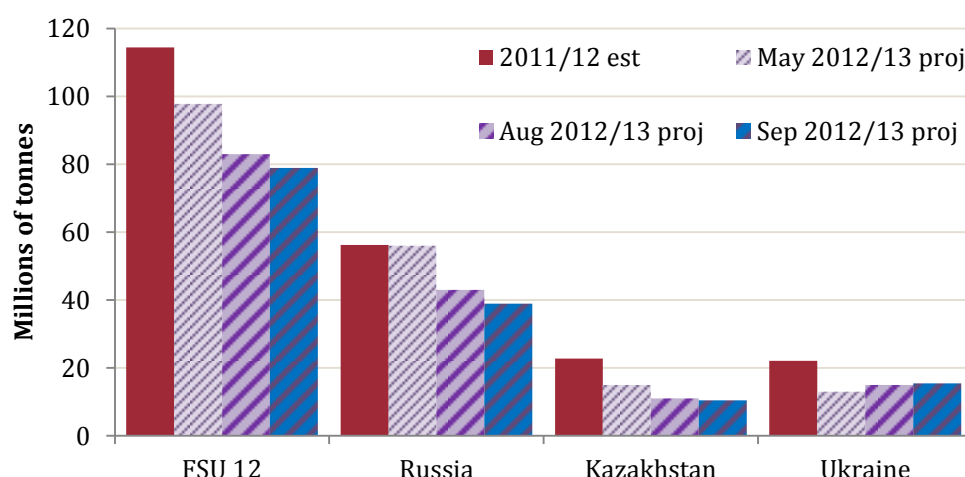
The forecast **US wheat** harvest that largely escaped the drought in the Mid-West in unchanged since last month. It is still expected to reach almost 62M tonnes, 7M tonnes more than last year.

World wheat  
harvests forecast  
to be down by  
36M tonnes on  
last year

Worldwide, expectations of wheat harvests for 2012/13 have fallen by 4M tonnes between the August to September estimates, owing largely to drought and heat in Russia, see Figure C.

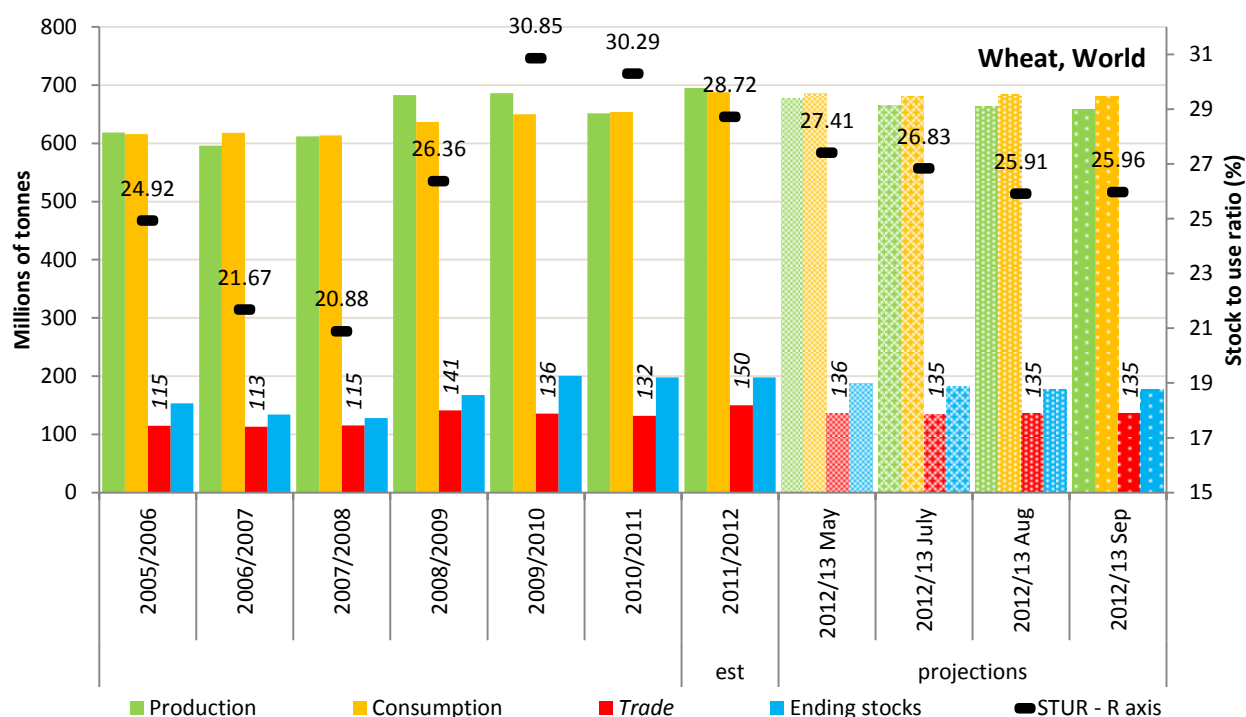
The world wheat harvest should thus be 36M tonnes lower than last year's record. With relatively healthy global wheat stocks however, consumption is only expected to be about 7M tonnes below 2011/12 levels, at 681M tonnes: see Figure D.

**Figure C Wheat production in the Former Soviet Union, 2011/12 to 2012/13 projection**



**Source:** With data from USDA WASDE, May 2012 and Sep 2012. **Note:** FSU-12 = 12 countries in the Former Soviet Union

**Figure D World wheat production, consumption, exports, ending stocks and stock ratios, 2005/06 to 2012/13 projection**

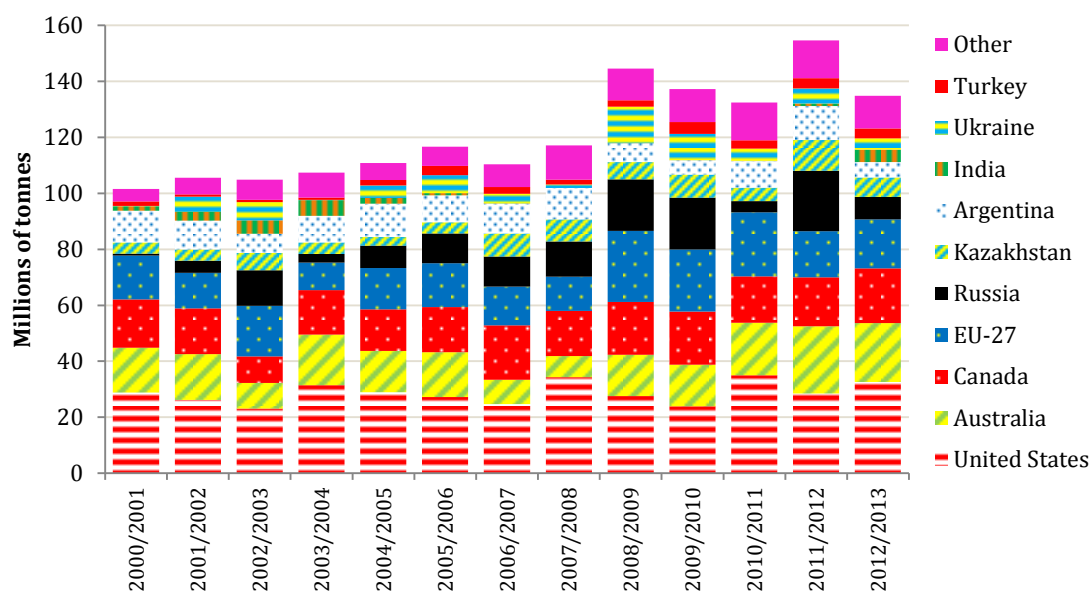


**Source:** With data from USDA WASDE and USDA FAS.

**Note:** STUR is the Stock-to-use ratio, expressing ending stocks as a percent of total consumption.

Global wheat exports are expected to be close to 20M tonnes lower in 2012/13 than the last marketing year, with exports from Russia projected some 10M tonnes lower in August/September than in May. Exports in 2011/12 were however unusually high, some 16M tonnes above the previous 3-year average. Figure E shows global wheat exports from the top 10 locations and the rest of the world.

**Figure E** Global wheat exports, 2000/01 to 2012/13 estimate



**Source:** With data from USDA FAS PSD, accessed September 14 2012. Note: EU-27 is an aggregate of the 27 countries in the EU (disaggregated data is not available).

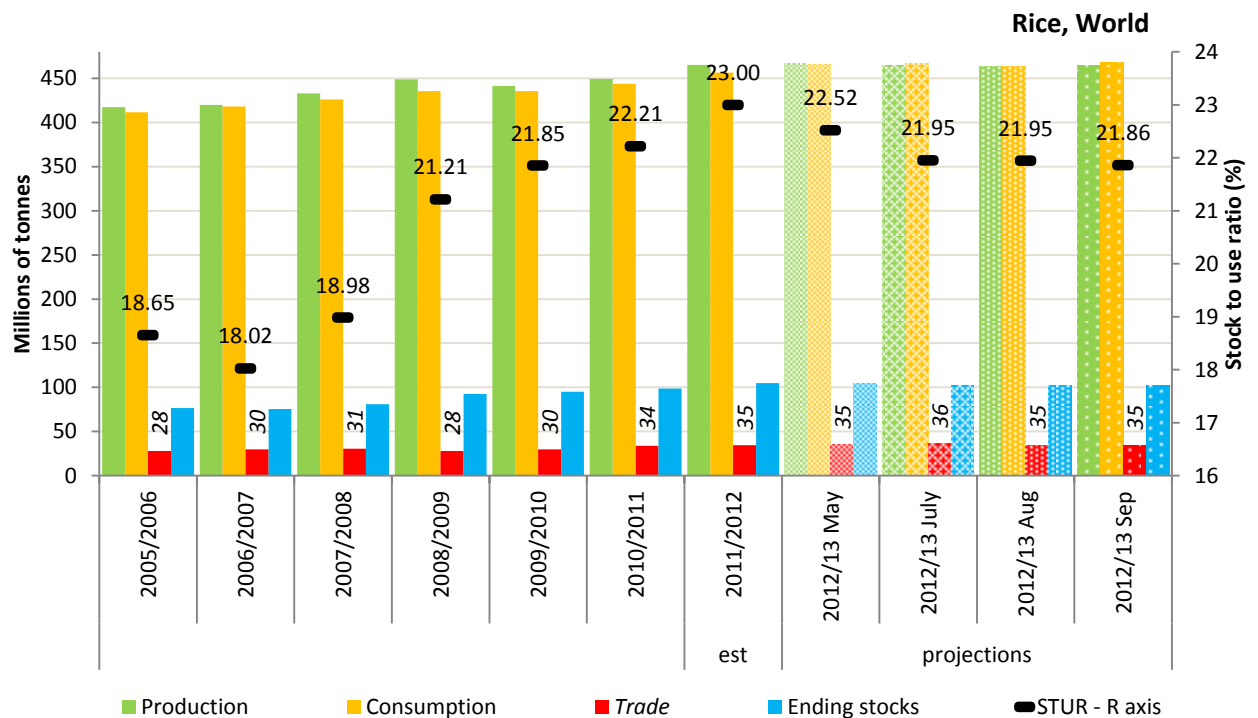
Rice: harvest on course for near-record  
Monsoon better than feared

Forecast *rice* harvests have increased a little: the September estimate now stands at 464M tonnes, close to last year's record-breaking harvest, see Figure F.

The improvement of the monsoon in India is contributing to better prospects for the major rice crop there, as well as improving conditions for winter planting<sup>1</sup>.

<sup>1</sup> See <http://in.reuters.com/article/2012/09/13/india-monsoon-update-september-idINDEE88C07O20120913>

**Figure F World rice production, consumption, exports, ending stocks and stock ratios, 2005/06 to 2012/13 projection**



**Source:** With data from USDA WASDE and USDA FAS.

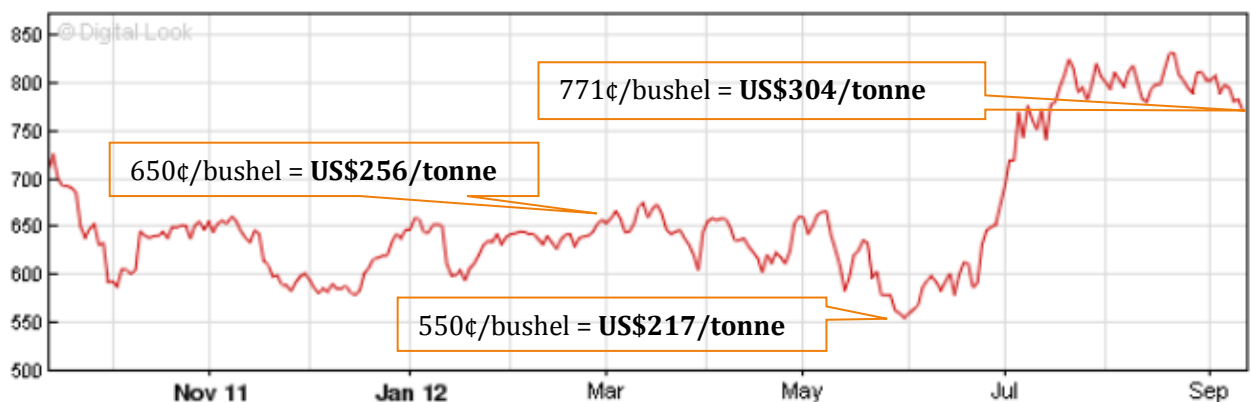
**Note:** STUR is the Stock-to-use ratio, expressing ending stocks as a percent of total consumption

## Cereals prices on world markets

Maize futures:  
prices no higher  
than after the  
mid-July shock

When it was clear in mid-July how poor the US harvest was likely to be, *maize futures* prices rose by almost US\$100 a tonne within a few weeks, see Figure F. But that may be the limit: since then if anything prices have fallen a little. They remain around US\$304 a tonne, about US\$20 below spot prices.

**Figure F Chicago (CBOT) Corn Futures: US cents/bushel, 12 months to Sep 13, 2012**

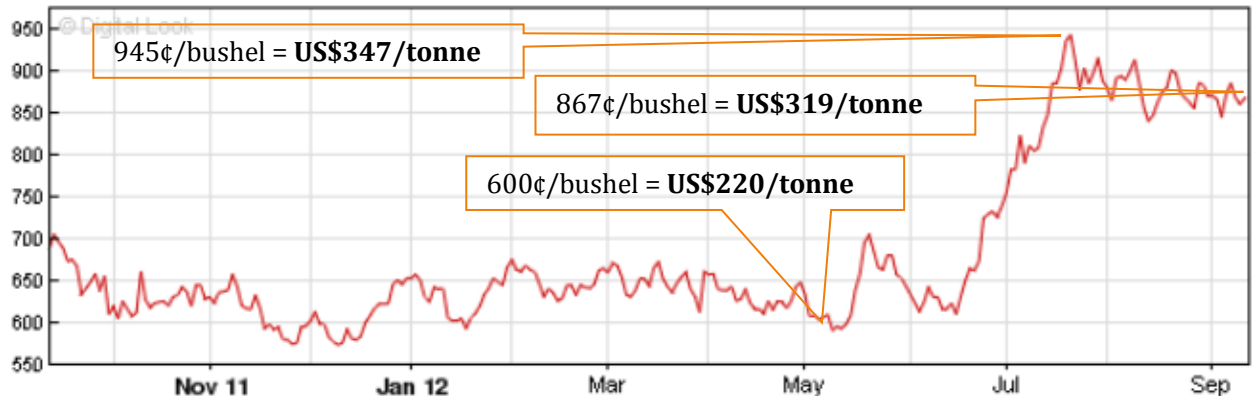


**Source:** BBC Market data. US\$/tonne added

Wheat futures  
falling back a  
little

**Wheat futures** prices also shot up by US\$105 a tonne in July. Subsequently they too have fallen back a little. Wheat futures stand at US\$319 a tonne, US\$20 below spot prices.

**Figure G Chicago (CBOT) Wheat Futures: US cents/bushel, 12 months to Sep 13, 2012**



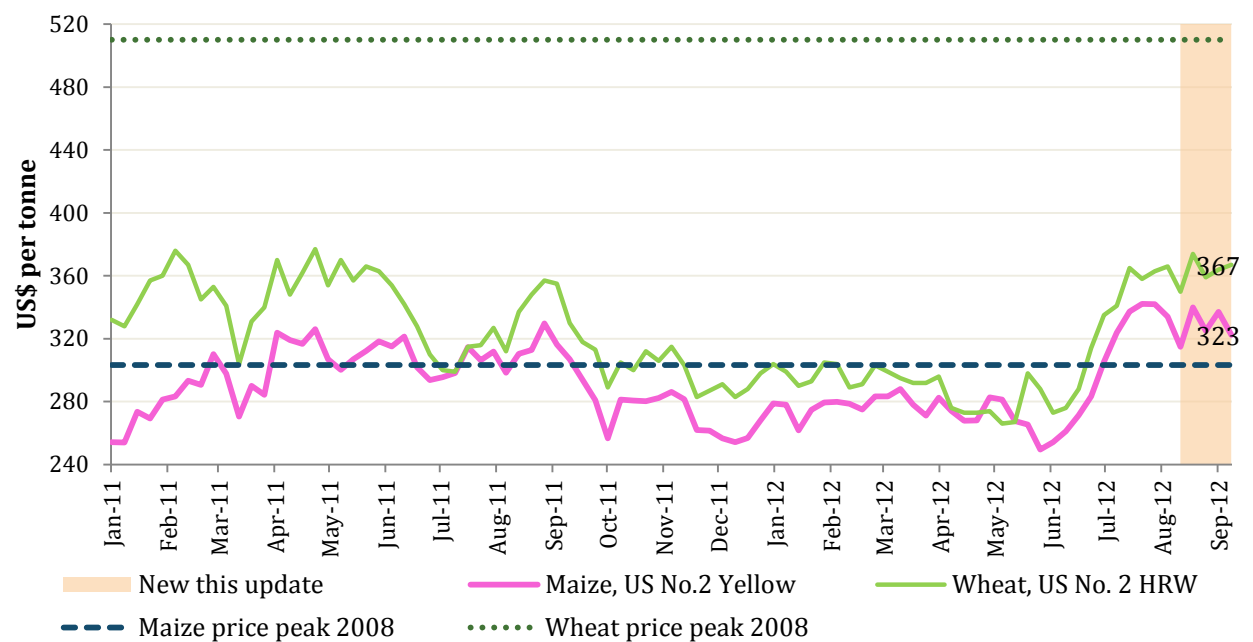
Source: BBC Market data. US\$/tonne added

Spot prices for  
maize and wheat  
remain high but  
not rising

**Spot prices for maize and wheat** rose strongly in July, but show few clear changes since. They remain high in the week ending September 14<sup>th</sup> 2012, at **US\$323** and **US\$367** a tonne, respectively, see Figure H.

Maize prices per tonne have climbed almost US\$40 *above* the peak reached in the food price spike in mid-2008. Those for wheat remain about US\$150 *below* the levels touched in early 2008 — represented by the dotted lines in Figure B.

**Figure H Maize and wheat spot prices from Jan 2011 to week ending Sep 14, 2012**



Source: Constructed with data from FAO ESC.

Note: The last 5 weeks show new data for this update.

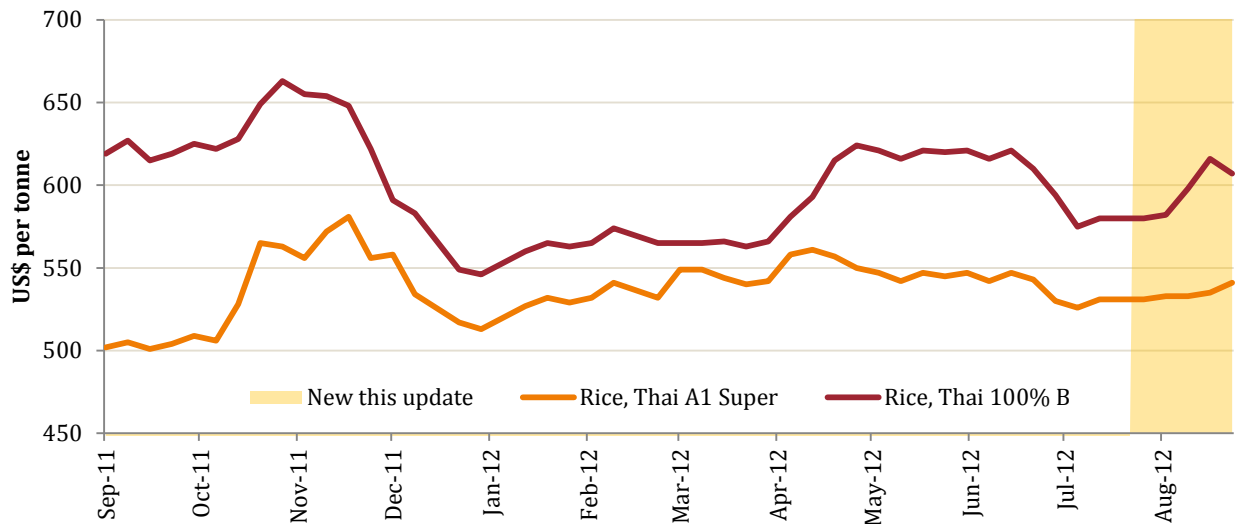


Rice prices high, little changed all year

**Rice prices** have changed little in the last couple of months: indeed they remain close to the levels seen at the beginning of the year, see Figure J.

Relatively high stocks, particularly in Thailand and India, help to keep a cap on the price.

**Figure J Rice prices, Sep 2011 to Sep 2012**



**Source:** With data from FAO ESC.

**Note:** The last 5 weeks show new data for this update.

## Commentary

No further shocks in Northern Hemisphere, so attention turns to the Southern Hemisphere ... where an El Niño is expected — but how serious will it be?

It seems as though the very bad US maize harvest may be the only major shock for the Northern Hemisphere in 2012. This pushed up maize and wheat prices, but fears that there might be a more severe spike have eased.

Stocks of maize, however, are very low. Hence, grain prices will remain vulnerable to any further shocks until they have been rebuilt; and that is unlikely for at least another year, until after another round of harvests north and south of the equator.

Hence attention now shifts towards the prospects for Southern Hemisphere crops which may be vulnerable to an El Niño predicted for late 2012 and early 2013. This could seriously harm crops in Australia, Africa and South America: but much depends on how pronounced the event is. An update on the El Niño is expected from the WMO in mid-September. Sources expect a *mild to moderate* El Niño to be declared.<sup>2</sup> While that is somewhat reassuring, with low stocks even modest harvest setbacks could send prices of maize and wheat soaring.

<sup>2</sup> See:

[http://reliefweb.int/sites/reliefweb.int/files/resources/El%20Nino%20Alert\\_final%20%2806%20Sept%202012%29.pdf](http://reliefweb.int/sites/reliefweb.int/files/resources/El%20Nino%20Alert_final%20%2806%20Sept%202012%29.pdf)

## FOCUS ON VULNERABILITY

*Which countries are most at risk of increased hunger from higher prices of maize and wheat in 2012?*

### Key points

Developing countries with existing high levels of hunger have been assessed for their exposure to rising prices for maize and wheat, based on high levels of hunger, and dependence on imports of maize and wheat for staple food consumption. The following countries are highly and moderately exposed to rising prices for maize and wheat:

Highly exposed	Moderately exposed
Eritrea	Timor Leste
Haïti	Mozambique
Afghanistan	South Sudan
Somalia	Sudan (former)
Yemen	Togo
Djibouti	The Gambia
Kenya	
Zimbabwe	
Tajikistan	
Occupied Palestinian Territory (OPT)	

In addition, the following countries may see domestic prices rise owing to exports of maize and wheat:

**Pakistan, Tanzania.**

One large country where a harvest failure in 2012 could lead to such large imports that it would put pressure on world prices:

**Ethiopia.**

## Further explanation

Three criteria were used:

**Hunger:** the country has to have high current levels of hunger. Only those countries where 15% or more of the population are classified as hungry, using the Hunger Index reported by IFPRI, are considered.

**Countries depend heavily on maize and wheat.** Countries where roots and tubers are important, making up 40% or more of staples consumed, are omitted from the list; as are those where rice is a major staple.

This is a fine judgment: if cereals prices rise, it is likely that some consumers will switch to rice, roots, tubers and plantains, thus pushing up their prices as well. This effect will be moderated by those who are simply unwilling to change their diet; and by a higher short-term elasticity of supply of some tubers to price since some can be dug up earlier than planned.<sup>3</sup>

**Dependence on imported maize and wheat.** Those countries that typically import 40% or more of the cereals they consume are classed as 'Highly Exposed' to a price spike, those where it is less than 40%, but more than 25% are classed as 'Exposed'<sup>4</sup>.

The countries that fulfil these criteria are, in order of their hunger rates:

Highly exposed	Moderately exposed
Eritrea	Timor Leste
Haïti	Mozambique
Afghanistan	South Sudan
Somalia	Sudan (former)
Yemen	Togo
Djibouti	The Gambia
Kenya	
Zimbabwe	
Tajikistan	
OPT*	

\*Hunger rates for OPT are unavailable

Most of these countries are seen as fragile states,<sup>5</sup> many recovering from conflict. The three exceptions are The Gambia, Kenya, and Mozambique.

---

<sup>3</sup> Cassava, for example, can be harvested between 6 and 24 months after planting. It has thus been promoted as famine crop, since it can be grown, left in the ground and harvested when needed.

<sup>4</sup> Kenya and Zimbabwe have maize and wheat import requirements close to 40% for 2012/13 marketing year as projected by USDA, hence are classified as Highly Exposed. Mozambique has lower than usual import requirements projected for 2012/13, hence is classified as Moderately exposed.

<sup>5</sup> They appear on the 2010/11 list of fragile situations compiled by the World Bank — see [http://siteresources.worldbank.org/EXTLICUS/Resources/511777-1269623894864/Fragile\\_Situations\\_List\\_FY11\\_%28Oct\\_19\\_2010%29.pdf](http://siteresources.worldbank.org/EXTLICUS/Resources/511777-1269623894864/Fragile_Situations_List_FY11_%28Oct_19_2010%29.pdf)

It is also striking how these countries cluster geographically, see the map, in a belt that runs from Mozambique and Zimbabwe north-east through East Africa and the Horn to Tajikistan.

There might have been more countries from Asia such as Bangladesh and DPR Korea, and from West Africa such as Liberia and Sierra Leone: but since they are countries where rice is the main staple they have some protection from the current rises in prices of maize and wheat.

### What may happen to the prices of staples in countries that do not depend heavily on imports, or which export cereals?

Any country that imports a good fraction of its cereals is seriously exposed to high food prices: but countries that are reasonably well integrated into world markets would also be vulnerable, since domestic prices should rise to world market parity levels through exports when the world price is sufficiently high.

In practice, there are two limits to this:

- a) When transport costs are high, there can be a large band within which local prices rule. That said, if the world price spike is big enough, the export parity price may rise to levels that overcome transport costs; and,
- b) Political limits. Recent experience shows that some governments will restrict exports if they believe that these will drag domestic prices towards international levels during a price spike.

Including countries where there a price spike could lead to significant local exports, thereby raising domestic prices adds a few more candidates to the list.<sup>6</sup> Although most could prevent exports, some have long and porous borders that would be difficult to police. Therefore **Pakistan** and **Tanzania** can be added to the list of exposed countries [shaded in blue on map].

### What happens if relatively large countries were to suffer harvest failure at the same time as a price spike?

Amongst the 48 countries with hunger indices of 15% or more, there are some 16 countries that do not depend much on cereals imports and hence are not seen as exposed to high risk. Were, however, their harvests to fail, they would be.

In some cases they are also relatively large countries and their import needs would significantly raise demand on the international markets and exacerbate any price spike. Countries in this category include **Ethiopia**— shaded in pink on the map.

---

<sup>6</sup> Most of the other countries not classed as exposed, would be less likely to suffer contagion, since (a) they are landlocked and it is not that easy to ship out food — e.g. Chad, Zambia; (b) their governments would never allow this — e.g. India, Bangladesh, Malawi; or (c) roots and tubers are important, so that higher cereals prices would probably not hit the poor that hard — although rising cereals prices would tend to transmit to some degree to the roots and tubers as well, as people switched consumption. For some countries, more than one of these factors applies.

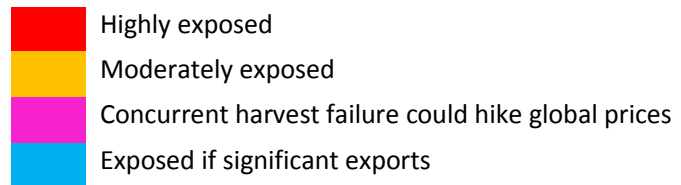


Table: Statistics used to assess country vulnerability to a price spike

	Poverty & Hunger			Cereal Dependency						Colour coding on map	Remarks
	Income group	Poverty headcount (%) below national poverty line	IFPRI Hunger Index 2011	Cereal share in staple foods (cereals, roots & tubers)	Cereal net import share in cereal supplied avg	Maize & wheat 2012/13 imports as share of 2012/13 consumption	Rice share in staple kcal consumed, 2009	Maize & wheat share in staple kcal consumed, 2009	Cereal production variability (%)		
Congo, DR	L	71	39	No data	29	24		No data	1		Cereals less important than roots & tubers
Burundi	L	68	38	37	25		8	30	3		Cereals less important than roots & tubers
Eritrea	L	53	34	97	67	91	0	34	52		HIGHLY EXPOSED
Chad	L	43	31	89	7	57	5	13	12		Vulnerable to domestic harvest failures.
Ethiopia	L	44	29	84	8	7	0	46	8		<b>Vulnerable to domestic harvest failure</b>
Haiti	L	65	28	83	67	50	37	42	10		HIGHLY EXPOSED (Though rice moderate)
Timor-Leste	LM	40	27	86	35		40	47	16		MODERATELY EXPOSED (high import dependency but some rice consumption)
CAR	L		27	44	17		6	31	3		Cereals less important than roots & tubers
Afghanistan	L	42	26	No data		33		No data; assume wheat >50	22		HIGHLY EXPOSED
Comoros	L		26	72	79		56	16	3		EXPOSED but Large rice consumers
Somalia	L		26	No data	3	56		No data	20		HIGHLY EXPOSED
Yemen	LM	42	25	98	88	88	13	75	23		HIGHLY EXPOSED
Sierra Leone	L	70	25	83	30	45	68	10	16		Exposed but Large rice consumers
Bangladesh	L	40	25	97	12	71	86	11	5		Exposed but Large rice consumers
Angola	LM		24	53	52	42	4	47	12		Cereals less important than roots & tubers Oil revenues: can import without distress.
Zambia	L	68	24	79	7	2	2	74	20		Vulnerable to domestic harvest failure
India	LM	29	24	96	-4		49	39	5		Vulnerable to domestic harvest failure, but large stocks limit this
Niger	L	63	23	97	12	100	5	4	12		Vulnerable to domestic harvest failure. Subject of early warnings.
Mozambique	L	55	23	54	42	24	12	38	12		EXPOSED – imports for 2012/13 lower than longer term avg
Djibouti	LM		23	99	152		32	65	6		HIGHLY EXPOSED
Madagascar	L	69	23	76	14	23	64	12	10		EXPOSED but Large rice consumers
South Sudan		51	22*	No data							Insufficient data. Likely EXPOSED. Also vulnerable to domestic harvest failure.

Liberia	L		22	68	82	100	63	10	31		EXPOSED but Large rice consumers
Sudan (former)	LM		22	97	32	79	1	30	19		EXPOSED – high imports of maize and wheat but these only 30% of staples.
Rwanda	L	57	21	36	20		8	20	12		Cereals less important than roots & tubers
Pakistan	LM	33	21	97	-14	1	15	81	5		Exposed if significant exports
Tanzania	L	36	21	74	15	14	16	51	15		Exposed if significant exports
Lao P.D.R.	L	34	20	95	-1		85	9	6		Vulnerable to domestic harvest failure
Togo	L	32	20	95	21	15	12	40	4		EXPOSED but moderate import requirement
Cambodia	L	30	20	93	1		86	9	11		Vulnerable to domestic harvest failure. Large rice consumers
Nepal	L	31	20	96	3	2	43	45	3		Vulnerable to domestic harvest failure
Mali	L	64	20		12		30	19	15		Slightly exposed. Vulnerable to domestic harvest failure. Maize and wheat not major.
Guinea-Bissau	L	66	20	86	41		63	12	14		EXPOSED but major rice consumers
DPR Korea	L		19	91	41	23	53	35	9		EXPOSED but major rice consumers
Kenya	L	47	19	88	22	37	7	78	12		HIGHLY EXPOSED- import requirement 2012/13 close to 40%
Malawi	L	52	18	80	6		4	74	26		Vulnerable to domestic harvest failure
Côte d'Ivoire	LM		18	51	64	53	34	18	5		Cereals less important than roots and tubers
Cameroon	LM	40	18	67	36	32	21	31	5		Roots & Tubers equally important for staples
Zimbabwe	L	35	18	96	28	37	2	87	29		HIGHLY EXPOSED - import requirement 2012/13 close to 40%
Guinea	L	40	17	78	32	25	63	12	6		Exposed but Rice a major staple
Burkina Faso	L	46	17	99	7	15	13	26	11		Vulnerable to domestic harvest failure
Tajikistan	L	54	17	95	55	62	4	88	13		HIGHLY EXPOSED
Uganda	L	31	17	50	20		4	28	4		Cereals less important than roots & tubers
Myanmar	L	32	16	97	-4	13	90	5	6		Vulnerable to domestic harvest failure
Nigeria	LM	34	16	69	25	31	12	24	6		Roots & tubers equally important for staples
OPT	LM		15*	97	102		24	65	27		HIGHLY EXPOSED
Gambia, The	L	61	15	99	63		36	24	21		EXPOSED but rice, roots & tubers more important than maize and wheat
Benin	L	39	15	53	29		18	29	9		Roots & tubers equally important for staple

COUNTRIES WITH VALUES ON HUNGER INDEX BELOW 15:

REMARKS ARE CUT OFF BELOW THIS POINT

Guatemala	LM	51	14	98	71	53	4	93	4		
Sri Lanka	LM	23	14	96	41	141	72	23	8		
Namibia	UM		14	75	47	63	2	61	14		
Senegal	LM	33	14	95	69	72	47	33	29		
Botswana	UM		13	88	76	92	9	58	23		
Congo, Rep.	LM	42	13	39	90	96	6	32	17		
Mauritania	L	46	13	99	69	96	21	65	21		
Bolivia	LM	38	12	88	37	30	24	62	8		

Indonesia	LM	17	12	92	18	49	69	22	4		
Lesotho	LM	56	12	96	46	75	3	85	20		
Philippines	LM	25	12	95	33	31	80	14	4		
Mongolia	LM	36	11	92	79	19	4	86	44		
Vietnam	LM	29	11	97	-18	39	85	12	2		
Swaziland	LM	69	11	91	110	47	13	78	20		
Dominican Republic	UM	49	10	93	198	110	61	30	10		
Bhutan	LM		10	No data		10		No data	19		
Armenia	LM	51	10	92	106	59	4	84	22		
Nicaragua	LM	46	9	98	35	43	31	65	15		
Ghana	L	29	9	38	38	22	13	18	11		
Thailand	LM	14	8	96	-89	33	86	10	2		
Suriname	UM		8	96	23		57	38	6		
Ecuador	LM	38	8	95	70	55	52	40	12		
Honduras	LM	51	8	99	62	54	13	83	9		
Guyana	LM	35	7	92	-129	95	56	36	9		
Panama	UM	37	7	96	110	88	54	40	11		
South Africa	UM	22	6	96	43	12	9	86	17		
Uzbekistan	LM	27	6	96	11	19	3	91	9		
Turkmenistan	LM		6	97	5	6	8	89	15		
Morocco	LM	19	6	96	57	61	1	85	40		
Peru	UM	52	6	75	83	66	36	36	7		
Iraq	LM		6	No data		62		No data but wheat major	32		
Colombia	UM	45	6	84	91	73	32	50	10		
China	LM	3	6	91	0	1	50	40	6		
El Salvador	LM	31	6	96	97	48	8	76	6		
Kyrgyz Republic	L	43	6	87	32	23	6	80	8		
Mauritius	UM	11	5	97	128	123	36	60	40		
Paraguay	LM	21	5	70	-241	2	3	67	16		
Gabon	UM		5	66	80	100	25	41	6		
Azerbaijan	UM	50	5	92	57	37	1	91	17		
Syria	LM		5	96	27	34	8	88	26		
Venezuela	UM	52	5	93	54	67	26	66	9		

### Data sources by column

Income classification

Incomes according to World Bank classifications [Sep 2010 list]. L = Low income countries, LM = Lower middle income countries, UM = Upper middle income countries



Poverty headcount at national poverty line	Latest available from the World Bank when accessed late 2010.
Global Hunger Index	From IFPRI/Welthungerhilfe/Concern, 2011. This draws on data from 2004 to 2009. It is an index of FAO undernourishment, child mortality, and under five underweight statistics with minor adjustments: Where any of the three components are missing, averages are calculated on what exists. For South Sudan, Hunger Index is likely >22, the value for the former Sudan. No GHI values are available for OPT so 15 is assigned assuming it would be above the cut-off point chosen for this exercise.
Cereal share in staple foods (cereals, roots & tubers)	From FAOSTAT, using Kcal/capita/day averages from 2007-2009
Cereal net import share in cereal supplied	From FAOSTAT data, using an average from 2002 to 2007. Numbers greater than 100% or negative numbers likely owe to disparities in food supply measures and measures of food products imported and exported for perhaps other purposes (processing, animal feed etc).
Maize & wheat 2012/13 imports as share of 2012/13 consumption	From USDA FAS PSD, using their projections for maize and wheat imports and consumption for marketing year 2012/13
Rice share in staple Kcal consumed, 2009	From FAOSTAT data, using Kcal/capita/day figures for rice, cereals, roots & tubers
Maize and wheat share in staple kcal consumed, 2009	From FAOSTAT data, using Kcal/capita/day figures for maize, wheat, cereals, roots & tubers
Production variability	A measure of local harvest variability risk. Constructed using data from FAO. Number is the Cuddy–Della Valle Index, after World Bank 2005 pp9 <a href="http://siteresources.worldbank.org/INTARD/Resources/ManagingFoodPriceRisks.pdf">http://siteresources.worldbank.org/INTARD/Resources/ManagingFoodPriceRisks.pdf</a>

Update prepared by

Steve Wiggins [s.wiggins@odi.org.uk](mailto:s.wiggins@odi.org.uk)

Sharada Keats [s.keats@odi.org.uk](mailto:s.keats@odi.org.uk)



This material has been funded by UK aid from the UK Government, however the views expressed do not necessarily reflect the UK Government's official policies.