



Key points

- Since the late 1970s, China has increased its cereals production to keep pace with domestic demand, build large stocks and keep prices stable, with little impact on world prices
- 2011, however, saw two surprises: increased maize imports in response to growing demand for animal feed, and domestic price rises that reflect increased costs of domestic production
- Policy-makers have responded by trying to stimulate domestic production of cereals, and seem to be using social protection to offset price rises for the poor

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China: are changes afoot for cereals?

Sharada Keats and Steve Wiggins

Since its economic reforms began in 1978, China has seen rapid economic growth, alongside remarkable growth in agricultural production and exceptional progress on poverty and malnutrition. The country's policy-makers have long been determined that the country must grow sufficient staple foods to meet its domestic needs, with enough in store to cover any unforeseen harvest failures. China has, therefore, been reluctant to import cereals from the world market. Given the vast size of the country, the risks of not being able to procure enough cereals, or having to pay a very high price for them, are too great.

For some time, then, those analysing world cereals markets have been able to leave China out of their considerations. China has not been expected to import grain or to offload its large stocks on the world market. Within the country, there has been an expectation that domestic prices would not necessarily vary in step with often volatile world prices. Indeed, during the world price spike of 2007/08, rice prices rose by no more than 10% in China (Figure 1), effectively insulating the country from the tripling of the rice price that took place on international markets in early 2008.

Surprising developments in 2011 and 2012

Two observations have disturbed this understanding of China's grain policies in 2011 and 2012:

- domestic prices of some types of rice have risen by 30% since mid-2010 (Figure 1)
- China plans to import 2M tonnes of maize from the world market between July 2011 and June 2012, most of it feedgrain for livestock. Some believe that this could rise to 5M tonnes.

Do these surprises mean that China can no longer be discounted as a player on world cereal markets? If China does become a significant importer of grains, this will tend to raise world prices. Has the Government ceased to try and hold down rice prices at almost any cost? Or are these isolated events, the product of unusual circumstances that do not indicate changes to patterns seen before?

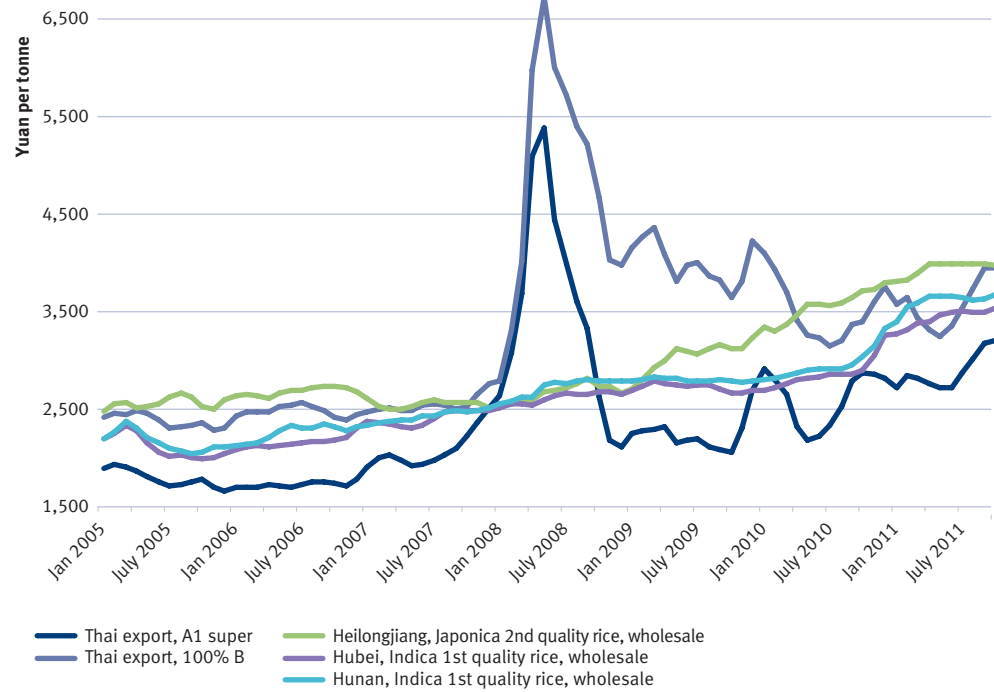
This Project Briefing draws on 'China: are changes afoot for cereals?', a study carried out under the DFID-funded programme on 'Managing Risk and Building Resilience in an Uncertain World'. The study examined the evolution since 1990 of production, consumption, trade and stocks of cereals in China; looked at their costs of production; and reviewed Chinese policy concerning cereals.

Demand for cereals for animal feed and processing is growing faster than production

Production of cereals in China — largely maize, rice and wheat — has grown sufficiently in the last 20 years to match increases in demand for human consumption (Figure 2). Indeed, growth was strong enough in the 1990s to allow very large public stocks to be built up. Direct consumption of cereals by people has, meanwhile, been growing only slowly. For example, rice consumption rose by 11% in the 20 years between 1987 and 2007; but leaving aside increases resulting from population growth, average individual consumption fell by about 10%.

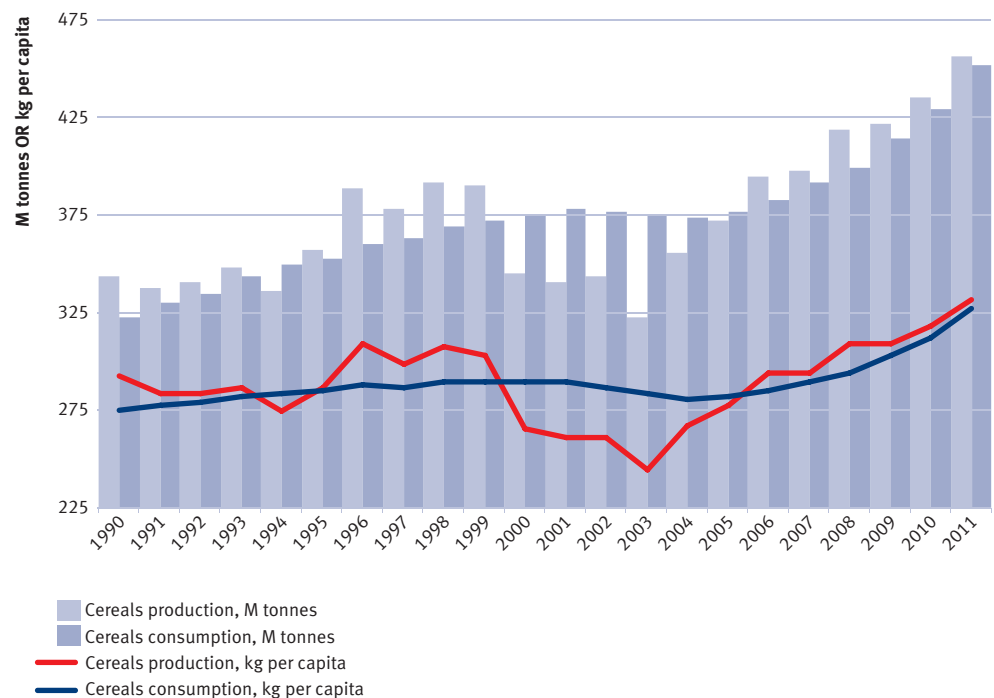
Demand for feedgrain, on the other hand, has grown rapidly as a result of the rising consumption of meat. Meat consumption per person increased from 22 kg to 53 kg a year

Figure 1: Nominal rice prices in China compared to Thai export prices, in Chinese currency, Jan 2005 – Oct 2011



Source: Constructed with data from the FAO Global Information and Early Warning System. Thai prices in US\$ converted to yuan at the official exchange rate.

Figure 2: Cereal production and consumption in China from 1990/91 to 2011/12



Source: Constructed with data from US Department for Agriculture Foreign Agricultural Service and FAOSTAT for population estimates. Note: Rice is expressed on a milled basis.

between 1987 and 2007, leading to a trebling of total consumption.¹ Most of the additional meat has come from animals fed with grains, given the limited amount of good grazing available. As a result, feed use of cereals rose by 48M tonnes from 1990 to 2007, while food use actually fell by 3M tonnes.

Demand for the industrial use of some cereals, above all maize, is also growing quickly. Primarily, this is maize processed into starch, but it also includes some maize distilled to ethanol as biofuel.

Cereal imports are rising

Cereal imports are rising, given growing demand for cereals – mainly maize – for animal feed and industrial processing. As recently as 2006, China was a net exporter of over 5M tonnes of maize, but in 2011 it was a net importer of about 4M tonnes. This swing of 9M tonnes in five years is about 10% of the 91M tonnes of maize that was traded on world markets in 2010/11. Feedgrain imports will probably rise in the future, with most projections forecasting meat consumption rising from their current levels of just over 50 kg a head a year, to 70 kg or even 90 kg a head as and when incomes rise to levels seen in neighbouring Korea and Japan.

In addition to cereals, China imports large and growing amounts of soybean both for vegetable oil and for animal feed, for which soybean meal provides much of the protein.

Consumer prices for cereals are increasing as costs of production rise

Consumer prices for rice and other cereals have risen surprisingly since early 2010. Part of this reflects growing demand for feedgrain, but more important has been a large increase in costs of domestic production – the result of rises in prices of inputs such as fertiliser and labour. Costs of production rose in current US dollars by 50–70% from 2005 to 2010.

Despite this sharp rise in costs, China remains a relatively low cost producer of rice: domestic costs remain below import parity prices.

The reaction of the State

Although policy for cereals production was liberalised from 1978 onwards, the State still intervenes actively when production falters or when public stocks fall too low. In the 2000s, the Government has fostered production through investment in rural investment, research, extension, and by offering farmers attractive prices. The Government is also trying to boost farm incomes, partly through direct payments, to reduce the gaps between urban and rural incomes.

It seems that social protection may be used increasingly to cushion the impacts of rising domestic prices for staples on poor and vulnerable consumers. In 2011, China launched a new programme for rural poverty reduction that extended social protection from urban to rural people, including medical cooperatives, pensions, and minimum living standard guarantees. The rural poverty line has also been raised, thereby entitling more people to government help including subsidies, job training, discounted loans, and jobs on publicly-funded rural infrastructure projects.

Will China become a player on world cereal markets?

It seems likely that China will continue to rely predominantly on local production of rice, remaining a small net exporter. Demand for rice is growing only slowly and stocks are high.

For maize and wheat, the story is different, given their use as feedgrain. The rapid growth in demand for meat in China makes it likely that the country will turn increasingly to international markets for feedgrains – mostly maize. In late 2011, the US Department for Agriculture projected China's net maize imports in 2015 at 7.3M tonnes, or 7% of world trade: just three years ago in 2008, they predicted only 1.3M tonnes of net imports for 2015.

China may go from being a small net exporter of wheat to a small net importer, though much depends on relative prices of maize and wheat for feed. As the price premium on wheat compared to maize has withered in recent years, China's feedlots have been using more wheat, even if marginally so: 11% of China's feedgrain in 2011 was wheat, compared to 89% maize, up from 3% in 2005. While China was a major wheat importer in the 1980s and 1990s, it has achieved near self-sufficiency in the past decade. With falling wheat consumption per capita, China is not expected to return to heavy imports of wheat from international markets, except when feed wheat is cheap enough to substitute for feed maize.

The great uncertainty is how fast demand for animal products, and thereby for feedgrains, will grow; or more precisely, the level at which individual demand for meat will level off, assuming incomes grow as expected. Will most Chinese adopt a diet similar to that found in Europe or North America, with high levels of meat consumption; or might they settle for a diet closer to that seen in Japan, with less meat? This depends partly on consumer preferences, but may well be influenced by public policy. It is hard to imagine that the leadership will do nothing to deter the adoption of Western diets widely considered to be less healthy than those found in many parts of Asia, especially when this would increase China's dependence on imported grains.

In sum, for the near and foreseeable future, China is likely to become a significant importer of maize, bringing in perhaps 5–10M tonnes a year through to 2015, and probably more after that. This will put further pressure on supplies of a grain that is already in high demand from the ethanol distilleries of the US Midwest.

Has the Government stopped trying to hold down rice prices?

As costs of production rise as a result, in large part, of the rising costs of inputs and wages, prices for consumers are being permitted to rise more than in the past. Some of these price rises may also be driven by people switching from low to high quality rice. In addition, general inflation has been pushing up prices of more products than just cereals.

For the middle class in China, with their rapidly increasing incomes and declining individual consumption of rice, price increases may not be a major concern — although surveys of urban residents show dissatisfaction with rises in food prices and the Government's handling of the situation. Perhaps more importantly, large numbers of poor people — mainly in rural areas — continue to rely heavily on staple cereals. For them, price still matters.

It appears that the Government may be trying to protect poor consumers more through safety nets than by holding down staple food prices. The sharp upward adjustment of the rural poverty line in 2011 to allow more people to qualify for state assistance suggests as much. It is to be hoped that these measures will be enough to prevent the social harm that has accompanied faltering cereal production and rising prices in the past.

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Institute 2012
ISSN 1756-7602

References, endnotes and project information

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This Project Briefing is based on the report:

Keats, S. and Wiggins, S. (2012) 'China: are changes afoot for cereals?' London: Overseas Development Institute. www.odi.org.uk/resources/details.asp?id=6671&title=shockwatch-food-prices-china-grain-cereals

Endnotes

1. Estimates reported by FAO. Meat consumption in China is disputed: some specialists believe that official figures overstate current consumption. But there are no questions over the trend: a rapid increase in average consumption.

Project Information

This research 'China: are changes afoot for cereals?' was funded by the UK Department for International Development, DFID as part of an accountable grant 'Managing Risk and Building Resilience in an Uncertain World'. The study was carried out by Sharada Keats and Steve Wiggins, with the advice of Professor Huang.

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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.