



Global sugar market review

- Sugar prices in 2011 proved extremely volatile, and may remain volatile in 2012 because of the low-stock environment.
- Disappointing Brazilian sugarcane production in 2011/12 was offset by better-than-expected production elsewhere. Australian sugar output rose 8% in 2011/12, despite adverse weather. Higher local production is forecast in 2012/13.
- Chinese per capita sugar demand is low compared to its regional peers. But China's total sugar demand is set to surge as this per capita demand gap narrows.
- In this report we review recent developments in the global sugar market and we outline China's future demand potential.

Global sugar prices in 2011

2011 proved another volatile year in the global sugar market with prices trading in a wide 15.7 cent range. It was the third consecutive year in which the annual trading range exceeded 15 cents, but it was just the seventh time in history. In early February world sugar prices¹ raced up to a three decade high US\$36.08/lb. But over the next three months global values declined by more than 40% to low of US\$20.40/lb, an eight month low. A second strong rally then pushed values back above 30 cents by July, before yet another wave a selling resulted in prices gradually trending lower to 23 cents by December.

Figure 1: ICE raw sugar price, US cents per pound (first futures contract)



The large trading range observed in the sugar market over the past 12 months was typical of any agricultural commodity in a low-inventory environment. The typical tug-of-war is one in which prices decline from lofty heights because of an anticipated production response² and/or price-induced demand destruction, only to bounce back amid news of any production scare, no matter how insignificant. If the production concerns are realised the renewed rally in values is sustained, if not, the bear market resumes and pushes prices back down to 'normal' levels.

And so it was with the sugar market in 2011.

The 40% decline in prices from February to May was linked to a series of upward revision to Thailand's 2010/11 sugarcane crush (to a record high) and the onset of the 2011/12 Brazilian centre-south crushing season. Expectations of a sharp lift in beet plantings in Europe and the FSU also weighed on prices.

However in May, the attitude of the sugar market shifted. Poor sugarcane yields prompted across the board downgrades to Brazil's centre-south production prospects – over the next few months Brazil's production forecasts would be cut by 14%. The market also became bullish about China's demand outlook, and subsequent sugar import requirements. The global sugar price surged 55% from May to late-July.

¹ ICE raw sugar, first contract.

² The supply response could be as a result of increased planted area because of high prices and/or an assumed normalisation in crop weather.



Continued (Global sugar prices in 2011)

A renewed barrage of bearish information crimped the bullish impact of the Brazilian and Chinese news in the second half of the year. The bearish news included the escalating European sovereign debt crisis, excellent sugar production results in Europe and the FSU, plus growing expectations of strong seasons in India and Thailand. By late November global sugar prices had fallen by 29%, and they have subsequently tracked sideways between US\$23-24/lb.

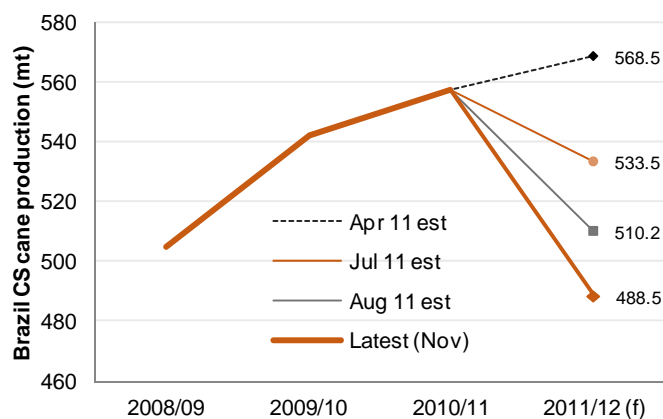
Recent fundamental developments in the global sugar market.

1) Brazilian centre-south cane production forecast lowered again in November.

In early November Unica³ reduced its estimate for Brazil's 2011/12 centre-south sugarcane crop. The key forecasts made by Unica includes:

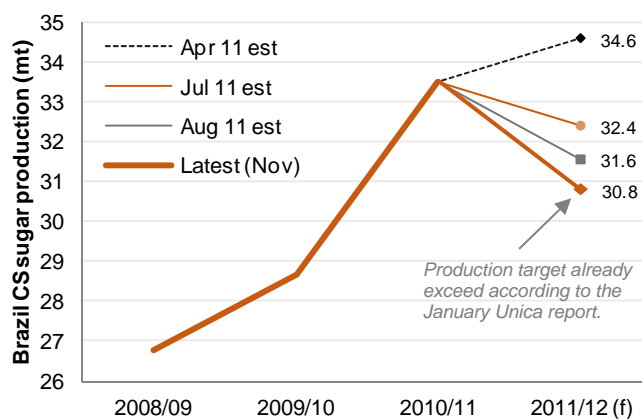
- Sugarcane production forecast at 488.5 million tonnes, down 4.3% from the August estimate and 12% below 2010/11 output of 557 million tonnes.
- Sugar output forecast at 30.8 million tonnes, down 2.5% from the prior estimate, and 8% below last year's record output of 33.5 million tonnes. The fall in sugar output is limited compared to the decline in sugarcane production because of a increase in the sugar/ethanol ratio.⁴
- Ethanol production forecast at 20.4 billion litres, down 20% YOY. Ethanol production in 2011/12 is forecast to be less than 2007/08 production, a time when the Brazilian flex-fuel vehicle fleet was less than half the current fleet⁵.
- Brazilian sugar exports are forecast at 21.2 million tonnes in 2011/12, down 14% YOY.

Figure 2: Brazilian CS cane production



Source: Unica and CBA

Figure 3: Brazilian CS sugar production



Source: Unica and CBA

Unica noted that the decline in sugarcane production is mainly the result of falling cane yields, which are estimated to be almost 20% below their historical average. The major factors contributing to the low yields included (1) aging cane fields; (2) unfavourable crop weather (including winter dryness and frosts during flowering); (3) mechanical planting and harvesting; (4) increased incidence of pests and disease (including Orange Rust); and (5) expansion of cane into more marginal production regions.

But better-than-expected harvest conditions in Brazil's centre-south throughout November and January have meant that Unica's November production totals have already been surpassed. As at the 1st January, total centre-south sugarcane production had reached 492.2 million tonnes (down

³ Unica is Brazil's sugarcane industry association

⁴ Sugar = 48% in 2011/12 vs. 45% in 2010/11.

⁵ As a result of falling domestic production, Brazilian ethanol imports have surged this year



11.6% YOY) and sugar output has risen to 31.2 million tonnes (down 6.9% YOY). Upon the data release, Unica noted that “the volume observed so far is practically a final number for the 2011/12 harvest”. Therefore, we await the commencement of the 2012/13 season (which officially starts on the 1st April) for fresh centre-south sugar supplies.

Unica, on the 1st November 2011, reported sugarcane production in the 2012/13 season is likely to increase only slightly from 2011/12. Given an assumed slight increase in sucrose yields but a decline in the sugar/ethanol consumption split, we believe that Brazilian centre-south sugar output may fall marginally in 2012/13 to 30.5-31.5 million tonnes.

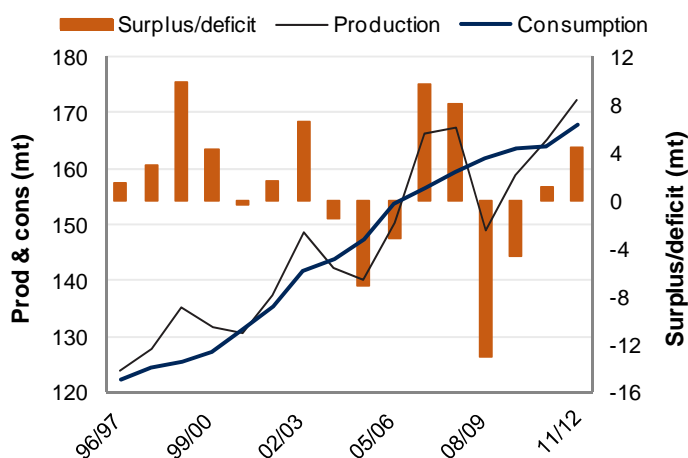
2) Despite lower Brazilian output, the 2011/12 global sugar supply surplus is revised higher.

Despite the spate of downward revisions to production prospects in Brazil (the world’s largest producer), the global supply surplus has been revised higher over the last few months.

The International Sugar Organisation, in their November World Sugar Balance report, forecast a 2011/12 global sugar supply surplus of 4½ million tonnes. This is 0.3 million tonnes higher than their August estimate as improving supplies in northern hemisphere crops overshadowed uncertainties in Brazil⁶. Global sugar supplies have been boosted by better than expected beet production in the European Union, led by France, and Russian beet sugar production has lifted nearly 50% YOY. In Thailand, the 2011/12 harvest has advanced strongly and sugar production is forecast to exceed 10 million tonnes, breaking last year’s record.

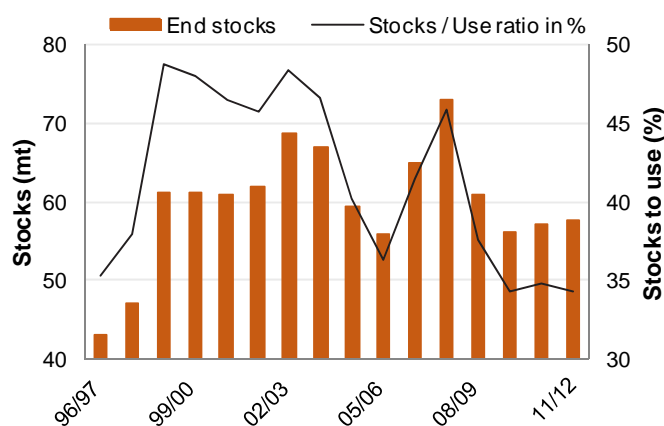
The net result is that the International Sugar Organisation expects global ending stocks to increase by ½ million tonnes to 57.6 million in 2011/12, the highest level since 2008/09. But as the following chart highlights, world sugar stocks remain historically low - particularly on a stock-to-use basis.

Figure 4: Global sugar production, use and surplus



Source: ISO and CBA

Figure 5: Global sugar inventories



Source: ISO and CBA

3) Indian 2011/12 crush gathering pace, but production targets stable (for now)...

India’s 2011/12 sugar production remains forecast between 24.0-26.0 million tonnes according to most local officials – compared to the 2010/11 crop of 24.3 million tonnes – despite the Indian Sugar Mills Association recently reporting better than expected crush results in the first few months of the season. Year-to-date Indian sugar production (1st Oct to 15th Jan) is 10.5 million tonnes according to ISMA, up 19½% YOY. As a result of the strong crush results noted thus far there are upside risks to the current production targets. But even with existing production targets, many Indian industry officials believe they have the ability to export 3-4 million tonnes of sugar in 2011/12.

4) Australian sugar production rises 8% in 2011/12.

ABARES forecast that Australia’s sugar production in 2011/12 rose 8% to 3.9 million tonnes, while cane area rose nearly 11%. The more subdued growth in sugar output can be traced to excessive

⁶ The global sugar surplus predicted by some other analysts is much higher. ABARES, for example, forecasts that world sugar stocks will increase by more than 7 million tonnes in 2011/12, resulting in the stock-to-use ratio increasing from 35% to 38%.



standover cane volumes last season and adverse weather, headlined by Cyclone Yasi which struck the key FNQ growing region of Tully in February 2011.

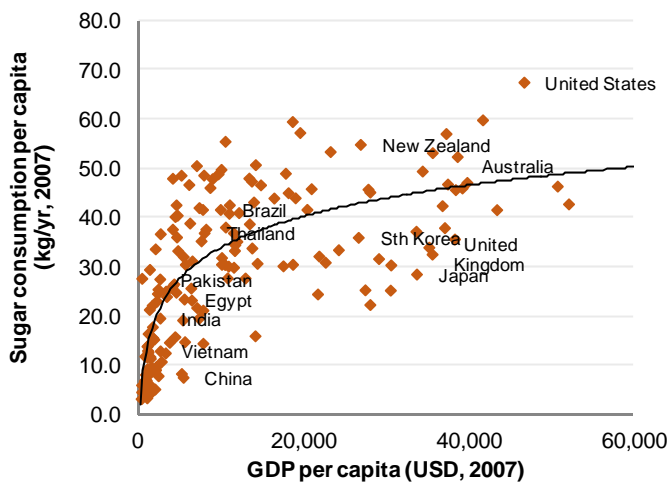
In 2012/13 we believe that Australia's sugarcane area may expand by another 5%, while improved agricultural yields and sugar extraction rates may result in a 15% jump in sugar production to 4½ million tonnes. If achieved, this would be the best production year since 2009/10, but still below the 2003/04-2009/10 average of 4.9 million tonnes.

The medium term global sugar demand outlook is bright.

Global sugar demand is expected to display robust growth over the coming decades, driven largely by increasing per capita demand in developing nations such as China. Low income countries display a relatively low rate of sugar consumption per person, however consumption rises rapidly as incomes increase. This is related to increased urbanisation and a westernisation of diets. Access to refrigeration increases the availability of refrigerated (sugary) beverages.

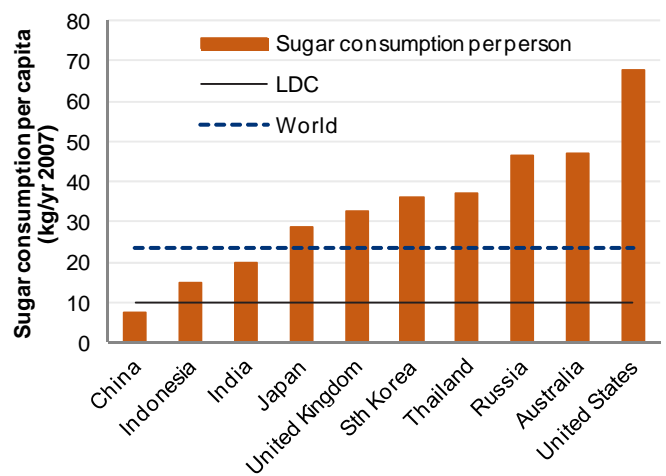
China and Indonesia, two key highly populated, developing nations, currently display low per capita sugar demand. In China, per capita sugar demand is just 7.6kg/person/year⁷ according to the United Nations FAO, while Indonesia's consumption was 14.8kg/person/year. In developed Asian nations such as Japan and South Korea per capita sugar demand is much higher (29kg/person/year and 36kg/person/year respectively). And developed western nations display considerably higher demand with Australia at 47kg/person/year and the United States at 67.6kg/person/year.

Figure 6: Sugar consumption versus income



Source: FAOSTAT and CBA

Figure 7: Per capita sugar consumption (2007)



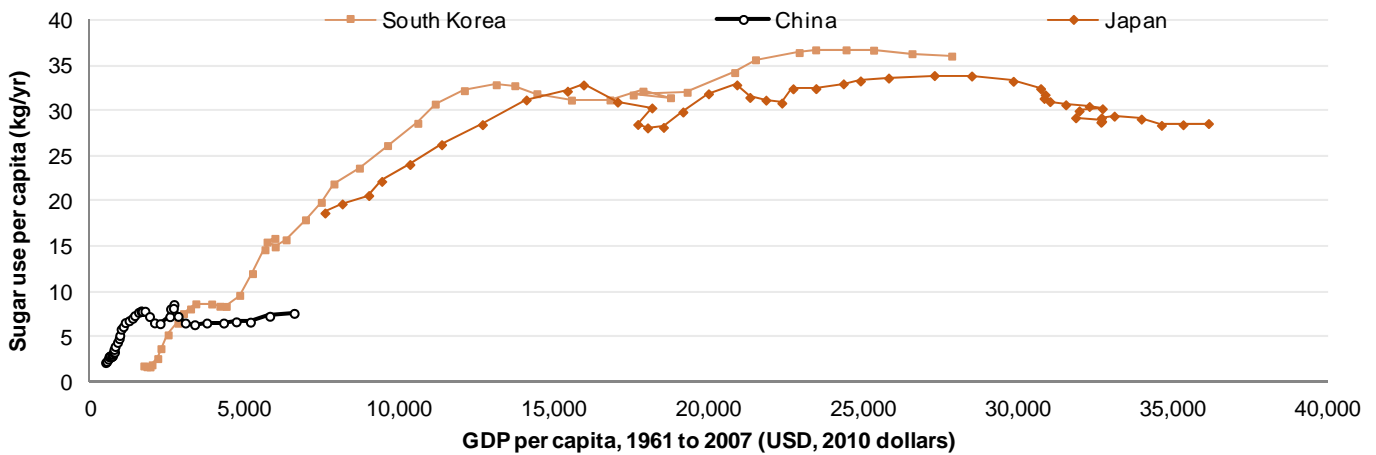
Source: FAOSTAT and CBA (3yr centred moving average)

Our bullish view on global sugar demand is largely because we believe that Chinese per capita demand will start to bridge the gap to the rates observed in developed Asian economies.

The following chart clearly displays the rise in per capita sugar consumption in South Korea and Japan as incomes in those nations rose. In the case of South Korea, per capita sugar demand was around 10kg/person/year when per capita GDP was USD5,000 (2010 dollar terms), however this surged to 20kg/person/year once incomes reached USD7,500/person and increased further to 27kg/person/year by the time incomes had reached USD10,000/person. Importantly this entire process took just 13 years. Per capita consumption sugar consumption in South Korea continued to rise in subsequent years, albeit at a slower rate, until levelling out between 30-37kg/person/year. With Chinese per capita GDP in 2010 at USD8,500/person, yet per capita sugar consumption still well below 10kg/year, expect considerable growth in Chinese sugar demand.

Figure 8: Asian sugar consumption grows with incomes

⁷ Based on the 3 year, centred moving average.



Source: FAOSTAT, Conference Board and CBA

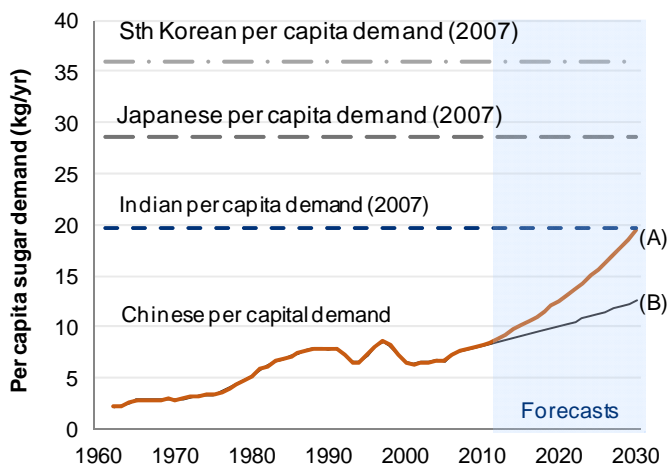
We have modelled two scenarios regarding Chinese per capita sugar demand.

- A. Chinese per capita sugar consumption rises to 30kg/person/year, with the evolution process taking 30 years. (Favoured growth profile)
- B. Chinese per capita sugar consumption growth remains at the 2000-2007 average of 2.2% pa. (Conservative growth profile)

Scenario A is our favoured growth profile, and implies China's per capita consumption growth of 4.4% pa over the next few decades, double the 2000-2007 growth rate of 2.2% pa. Under this scenario, Chinese per capita sugar consumption grows by 55% to 12.6kg/person/year by 2020, and grows further to 20kg per person by 2030 (equal to India's 2007 per capita consumption). Under this scenario, total Chinese sugar consumption rises by 63% from 2010 to 2020. By 2030, total Chinese sugar demand would be some 2.6-times 2010 demand. Under this scenario, we believe Chinese sugar imports will rise to 4-5 million tonnes by 2020, which based on current global trade patterns, would make China the world's largest sugar importer.

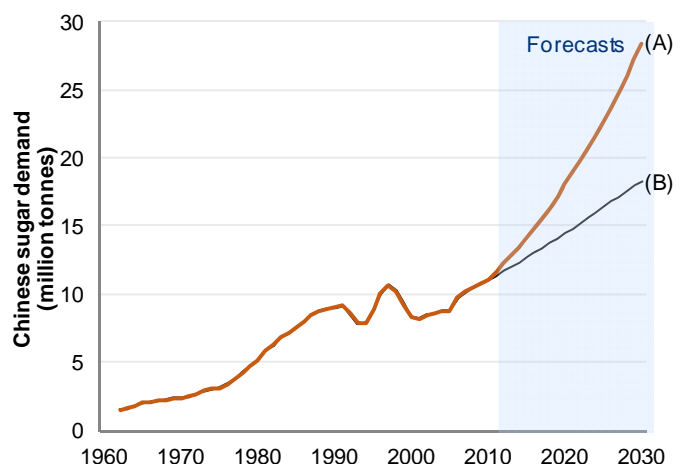
Scenario B is our conservative growth profile (2.2% pa), but even under this scenario Chinese sugar consumption will swell by 31% between 2010 and 2020. Given appropriate investment into sugar production, we believe that under this conservative consumption growth scenario the Chinese will not be forced to tap the market for additional imports. But the expansion in demand means that any Chinese production scares (i.e. due to weather or pests) will have a more pronounced impact on international trade flows and therefore on global sugar price volatility.

Figure 9: Chinese per capita sugar consumption (modelled)



Source: FAOSTAT, Conference Board and CBA

Figure 10: Chinese sugar consumption (modelled)



Source: FAOSTAT, Conference Board and CBA



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