

Quarterly Market Outlook



February 2016

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International Sugar Organization



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QUARTERLY MARKET OUTLOOK

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Sugar

Global deficit in 2015/16 estimated higher at 5.0 mln tonnes

World output to decrease by 4.3 mln tonnes

World consumption to grow by 1.75% or 3.0 mln tonnes

Tight trade balance

World sugar stocks to reduce but consumption/stocks ratio is still "comfortable"

World prices under bearish pressure from non-sugar factors despite a constructive fundamental picture

Special Focus – How are food and beverage companies responding to the sugar backlash?

Sector steps up efforts to self-regulate amid threat of anti-sugar policies and taxation

Trend towards "healthier" products and smaller servings gains momentum

Commodity Prices

Ample supply, struggling emerging economies and a strong US dollar continue to weigh on prices

Oil price plunges below USD30/barrel in mid-January

Agricultural prices fall for the seventh consecutive quarter

World Bank downgrades price outlook for 80% of the world's major commodities

World Fuel Ethanol

Global output to rise only marginally

No production gains in US, Brazil and the EU

Brazil's consumption forecast down in 2016...

...and US offtake to stagnate

Global trade to contract in 2016

Bioplastics and Biochemicals

Global bioplastics production capacity to more than triple by 2019

Expansion to be driven by trend towards bio-based packaging

Cogeneration

Brazil's biomass power generation grows 9% in 2015 to 22,593 GWh...

...but spot electricity prices in key demand centres fall to regulated floor in January

India's cogeneration capacity expands to 4,550 MW

Alternative Sweeteners

US HFCS offtake to contract further

New stevia sweetener gains EU approval

PureCircle boasts 18 different stevia products

Thaumatococcus gains EU approval in wide range of applications

Molasses

Lower production and availability in key Asian exporters

Molasses losing competitiveness against grains in livestock feed

Key Asian buyers unlikely to import more

WTO Update

Nairobi Ministerial Meeting clinches a deal on agricultural export subsidies

RTAs

TPP formally signed after October deal

Both EU and US want TTIP deal

EU-Canada trade deal still awaits ratification

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EXECUTIVE BRIEF

23 February 2016

World Sugar Market

World market prices have shown a downswing since our previous *Quarterly Market Outlook* in November, despite expectations for the world sugar balance to return to a deficit in 2015/16 after five seasons of surplus. The downward drift of prices can be mainly attributed to generally weak commodity markets and in particular the recent collapse of oil prices to 12-year lows. On February 19th, the spot price for raw sugar (the *ISA Daily Price*) was as low as 12.65 cents/lb, the lowest since end September 2015. Spot white sugar prices (the *ISO White Sugar Price Index*) remained more resilient to the pressure of macroeconomic factors and kept rising through the last quarter of 2015 and January 2016. In mid-January, the Index was as high as USD424.15/tonne (19.24 cents/lb), the highest daily price since November 2014. However, in February the index suffered a significant downward correction and on February 19th was as low as USD367.65/tonne (16.68 cents/lb).

In this issue we make our second revision of the world sugar balance for the 2015/16 crop cycle (October/September) which has strengthened our general view of the global supply/demand situation. The ISO has now increased the projected *global statistical deficit* to 5.018 mln tonnes as against 3.527 mln tonnes forecast in November. *World production* is put at 166.833 mln tonnes, down 4.347 mln tonnes or 2.54% from 2014/15. Although 2015/16 is expected to be the third consecutive season of shrinking global output, for the first time since 2008/09 the production fall is so pronounced as to exceed 4 mln tonnes. *World consumption* is projected to grow by 1.75% to 171.180 mln tonnes. The anticipated growth rate is lower than the 10-year average of 2.01%. The deceleration in growth is projected on the back of ongoing macroeconomic concerns including a slowdown in emerging market economies and the collapse of oil prices.

Despite a decrease in sugar output, world *export availability* is expected to rise from 55.430 mln tonnes in the previous crop cycle to 56.749 mln tonnes. We suggest that world exports may increase mostly due to releases of exporters' stocks while production in exporting countries is likely to remain flat. A higher global deficit is likely to trigger additional *import demand*. The world total is put at 56.759 mln tonnes. Thus, the trade balance is very tight and might result in an actual deficit if there are unforeseen production shortfalls.

A statistical deficit of the projected magnitude is likely to reduce the *stocks-to-consumption ratio* in 2015/16 by a significant 3.79 percentage points, to 46.87%. It remains, however, well above a seemingly critical level of 40% seen in 2009/10, which coincided with a surge in world market values. A larger than previously expected global deficit indicates a fundamental move towards a reduction in global stocks which are still overhanging the market. However, world market prices have come under bearish pressure from non-sugar factors despite a constructive fundamental picture. Nevertheless, a statistical deficit is clearly supportive for world prices and *ceteris paribus* the latter can be expected to trend generally higher in the remaining months of 2015/16.

A summary of the third assessment of the world sugar balance in 2015/16 is provided in the table below.

World Sugar Balance
(mln tonnes, tel quel)

	2015/16	2014/15	Change in mln tonnes in %	
Production	166.833	171.180	-4.347	-2.54
Consumption	171.851	168.894	2.957	1.75
Surplus/Deficit	-5.018	2.286		
Import demand	56.759	55.450	1.309	2.36
Export availability	56.749	55.430	1.319	2.38
End Stocks	80.552	85.560	-5.008	-5.85
Stocks/Consumption ratio in %	46.87	50.66		

Export and import figures may not match due to rounding and time lags between exports and imports

Currency Movements

The US dollar rose 10% in 2015 versus a basket of key currencies as investors braced for higher interest rates in the world's largest economy. Meanwhile, most currencies of emerging economies saw sharp devaluations due to slow economic growth prospects and plunging commodity prices.

Domestic Markets and Prices

Most wholesale domestic sugar prices monitored by the ISO saw increases between January 2015 and January 2016, despite an 8% decrease in the ISA price for the same period. In local currencies, wholesale prices in Brazil and Mexico rallied substantially, gaining 64% and 33%, respectively. Indian prices also saw a big jump (16%), followed by smaller increases in China (11%) and Russia (4%).

Special Focus – How are food and beverage companies responding to the sugar backlash?

As the backlash against sugar continues to gain momentum, the threat of government regulation and taxation are issues that the food and beverage industry clearly must address. In this *Special Focus*, we look at the achievements and commitments made by seven of the biggest food and beverage companies globally (Coca-Cola, Danone, Kellogg, Mondelez, Nestle, PepsiCo and Unilever) to self-regulate and adapt to new public guidelines on health and emerging consumer demands. The analysis shows the focus remains on reducing sugars in soft drinks (especially in the fizzy category) and snacks. It also shows that diversification – be it into new product categories or smaller portions – are all looming larger within companies' strategies.

Commodity Prices

Commodity prices continue to slide in recent months, led by another plunge in crude oil prices to less than USD30/barrel in mid-January. Most markets are still operating under a bearish scenario of abundant supplies, weak demand and a strong USD. Cocoa and sugar were the only commodities to post gains in 2015 of 10% and 5%, respectively.

Fuel Ethanol

Tumbling crude oil prices have squeezed margins for biofuels makers while throwing question marks over government subsidies to renewable fuels. Even so, output continued to grow steadily through 2015 and is seen to increase marginally in 2016. This is because most of global demand is still supported by legislative programs which guarantee pockets of consumption and price floors for producers even as gasoline retail prices reach new lows. Additionally, there is new appetite for ethanol in China and India which helps to push global production higher this year. World fuel ethanol *production* is forecast to increase by 0.8% to reach 98.4 bln litres in 2016. Global fuel ethanol *consumption* is forecast to consolidate at 98.0 bln litres in 2016 while fuel ethanol *trade* is anticipated to contract.

Bioplastics and Biochemicals

Global bioplastics production capacity is set to grow from 1.7 mln tonnes in 2014 to around 7.8 mln tonnes in 2019, according to the latest set of forecasts released by industry association European Bioplastics last November.

Cogeneration

In Brazil, biomass-based power plants delivered 22,593 GWh to the national electricity grid in 2015, up 9% from 2014. Despite higher supply, biomass-based projects amassed only 52 MW in capacity contracted through planned public auctions. This represents the third-lowest performance for the sector since 2004. Spot prices also plunged to their regulated floor in recent months, dealing a blow to the sector. In India, 132 MW of bio-power capacity was added to the grid so far in fiscal 2015/16 (April/March). This brings total commissioned capacity to 4,550 MW.

Alternative Sweeteners

In the globe's dominant *HFCS* market – the US – a further contraction in consumption is anticipated in 2016. Production is also forecast to fall, in part reflecting reduced industry capacity and a lacklustre outlook for exports to Mexico. In the world of *stevia* sweeteners another steviol glycoside (Rebaudioside M) has been declared safe by EU authorities. PureCircle reported strong revenue growth, noting the company now has 18 different stevia products. Competitor company GLG Lifetech Corp has announced it will utilise new

technology to tackle bitterness in stevia and monkfruit sweeteners. EU authorities have also given approval for the use of *thaumatin* – a protein sweetener – in a wide range of food and beverage applications.

Molasses

Prices are anticipated to remain flat for much of 2016 with prospects of lower production and availability in key exporters coinciding with flat to lower demand in key importers. The squeeze on export supplies from Asia due to diversion of molasses to fuel ethanol production should not abate whilst in importing countries molasses will likely continue to lose competitiveness in compound livestock feed rations.

WTO

Trade ministers clinched a deal to eliminate agricultural export subsidies at the WTO Ministerial Conference in Nairobi. Ministers also agreed a series of other deliverables on agricultural trade and least developed country issues.

Regional Trade Agreements

Over a year after negotiations were concluded for an *EU-Canada* trade deal, the prospects and timing for ratification remain unclear. After a trade deal was struck last October, the *Trans-Pacific Partnership* (TPP) was signed by ministers from 12 nations in New Zealand on February 4th. Whilst the signing ceremony is another step towards the TPP becoming a reality, the trade pact continues to face opposition. The EU Trade Commissioner has stressed that one of the key areas for progress this year is the *Transatlantic Trade and Investment Partnership* (TTIP).

WORLD SUGAR MARKET

WORLD BALANCE

- **Projected world deficit in 2015/16 revised upwards to 5.0 mln tonnes**
- **World production to decline by 4.3 mln tonnes**
- **Global use to grow by 3.0 mln tonnes**
- **Tight trade balance**
- **World sugar stocks to reduce but stocks-to-consumption ratio still “comfortable”**

In this issue of the *Quarterly Market Outlook*, the ISO presents its second revision of the world market balance for the 2015/16 (October/September) crop cycle.

As early as May 2014, the ISO suggested the world sugar market may be in deficit in 2015/16 (October/September), ending 5 years of consecutive surplus. In August, the ISO expected a relatively small global deficit of 2.487 mln tonnes (the differential between world production and consumption). The first revision increased it to 3.527 mln tonnes. The second revision has strengthened our general view of the global supply/demand situation. World production is now expected to be 5.018 mln tonnes lower than world consumption.

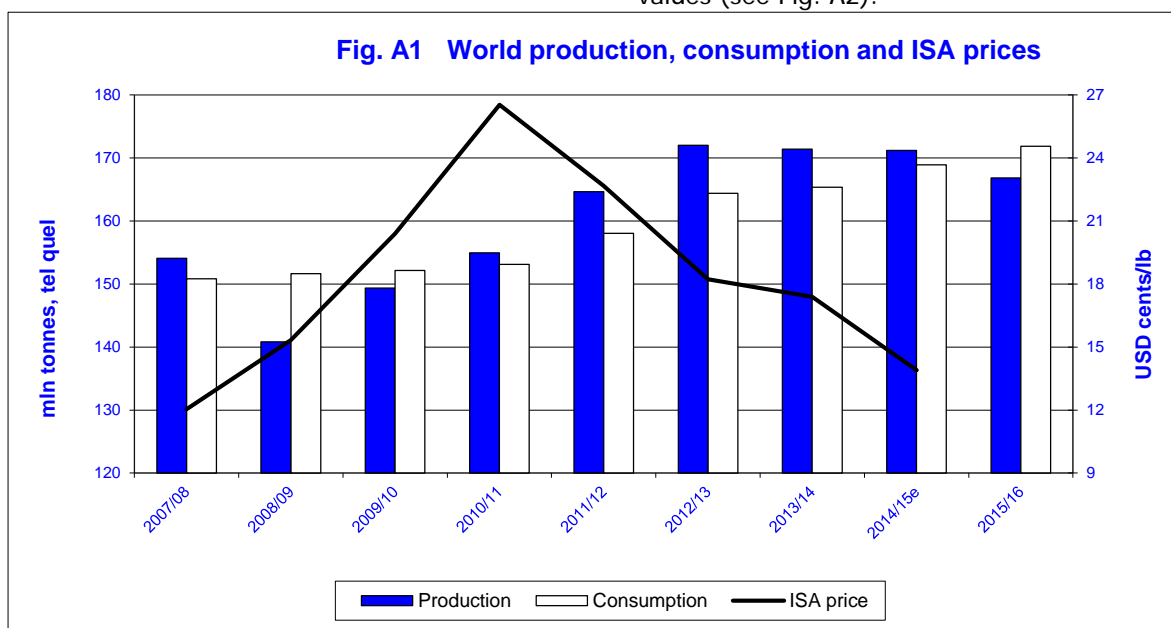
Although 2015/16 is expected to be the third consecutive season of shrinking global output; for the first time since 2008/09 the production fall is so pronounced as to exceed 4 mln tonnes (see Fig. A1). While in November a decline in global output as against 2014/15 was put at less than 2 mln tonnes, the revised projection indicates a decline

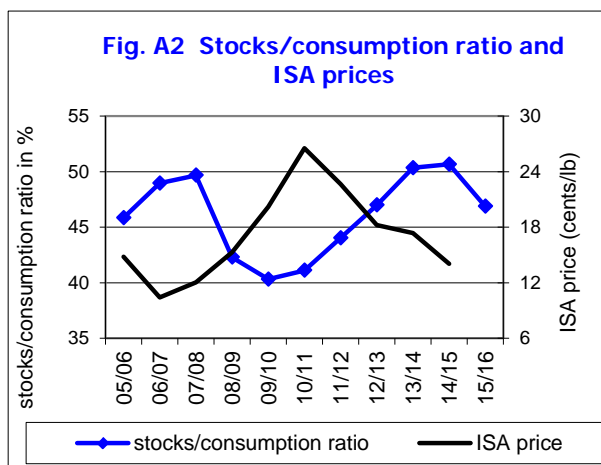
by 4.347 mln tonnes as against 2014/15. This mainly reflects a considerable downgrading of our production projections for the EU (down 898,000 tonnes), Thailand (down 650,000 tonnes), Brazil (down 590,000 tonnes) and India (down 500,000 tonnes) which is compensated only partly by improved sugar output in Russia (up 250,000 tonnes), Ukraine and the US (up 125,000 tonnes, each).

Meanwhile, global consumption is expected to continue rising and reach an estimated 171.851 mln tonnes (including a 3.294 mln tonne adjustment for unknown trade). The anticipated growth rate of 1.75% is lower than the 10-year average of 2.01%. The deceleration in growth is projected on the back of ongoing macroeconomic adjustments including a slowdown in emerging market economies and the collapse of oil prices.

Despite a decrease in sugar output, world export availability is expected to rise from 55.430 mln tonnes in the previous crop cycle to 56.749 mln tonnes. We suggest that world exports may increase mostly due to releases of exporters' stocks while production in exporting countries is likely to remain flat. A higher global deficit is likely to trigger additional import demand. The world total is put at 56.759 mln tonnes compared to 55.450 mln tonnes in 2014/15. Thus, the trade balance is very tight and might result in an actual deficit if there are unforeseen production shortfalls.

A statistical deficit of the projected magnitude is likely to reduce the stocks-to-consumption ratio in 2015/16 by a significant 3.79 percentage points, to 46.87%. It remains, however, well above a seemingly critical level of 40% seen in 2009/10, which coincided with a surge of world market values (see Fig. A2).





previous forecast in November (by 2.538 mln tonnes) and estimated production in 2014/15 (by 4.347 mln tonnes).

The latest adjustments have modified our view on the main supply features of 2015/16 - see Table A1. Reductions in output in the EU and India have been revised upwards to 3.972 mln tonnes and 1.700 mln tonnes, respectively (from 3.079 mln tonnes and 1.200 mln tonnes expected in November). China has replaced Ukraine as the country with the third largest production shortfall. On the credit side, growth in Brazil is put at 1.200 mln tonnes as against 1.805 mln tonnes expected in November. Russia has been added to the list of countries with key anticipated gains in production (up 0.725 mln tonnes year on year).

SUPPLY

The current October/September cycle is reaching its midpoint. The final results of the 2015/16 season are only known for some beet producers in Europe and North America, while cane sugar production has just reached its peak in the equatorial area. Next season's cane sugar production in the Southern hemisphere, which starts in two months but is partly incorporated in our October/September balance, is the major uncertainty for the fundamental outlook of the current cycle.

The ISO has revised world sugar production further downwards in 2015/16 by 2.538 mln tonnes. Despite this, export availability still remains in line with currently expected import demand.

In 2015/16, world **beet** sugar production is expected to decrease by 3.85 mln tonnes (mainly reflecting lower production in Western Europe and Ukraine). World **cane** sugar output is also projected to decrease but only by 0.5 mln tonnes from the previous season, as expected lower output in China, India and Thailand is likely to be nearly compensated by higher production in Brazil and a number of smaller producing countries. In the current season, the share of cane sugar in global production is expected to improve to 80.6% compared to 78.8% in the previous crop year (see Table A2).

Production in **exporting countries** is expected to remain practically flat compared to the previous season (115.743 mln tonnes and 115.579 mln tonnes, respectively). In contrast to exporting countries, a significant decrease in production is projected for **importing countries**. Their output is put at 51.090 mln tonnes as against 55.601 mln tonnes in 2014/15.

PRODUCTION

- **Global output to decrease by 4.3 mln tonnes**
- **Smaller production in EU, India and China ...**
- **... likely not compensated by higher output in Brazil and Russia**

After the second revision of the world sugar balance for 2015/16, world production is forecast at 166.833 mln tonnes, down from both our

Table A1 Main Production Falls and Rises in 2015/16 (October/September)

Falls	Changes from 2014/15 in mln tonnes, tel quel	Rises	Changes from 2014/15 in mln tonnes, tel quel
EU	-3.972	Brazil	+1.200
India	-1.200	Russia	+0.725
China	-0.806		

WORLD PRODUCTION IN 2015/16 – 166.833 mln tonnes, tel quel
WORLD PRODUCTION IN 2014/15– 171.180 mln tonnes, tel quel

	1970s*	1980s*	1990s*	2000s	2013/14	2014/15e	2015/16f
	<i>average</i>						
World production	81.9	101.8	118.4	140.2	171.4	171.18	166.83
From beet	32.6	37.9	37.4	32.0	33.8	36.24	32.39
From cane	49.3	63.9	81.0	108.2	137.6	134.94	134.44
<i>Cane sugar as % of world total</i>	<i>60.2</i>	<i>62.8</i>	<i>68.4</i>	<i>77.2</i>	<i>80.3</i>	<i>78.8</i>	<i>80.6</i>

* Raw sugar value

WESTERN AND CENTRAL EUROPE

After the second revision, sugar production in *Western and Central Europe* is forecast at 14.387 mln tonnes, down from both the previous forecast issued in November (by 0.883 mln tonnes) and estimated production in 2014/15 (by 3.987 mln tonnes).

The beet campaign is practically completed in the **EU-28**. The latest but not yet final official data show a considerable reduction in sugar output. According to the *French* Farm Ministry, beet sugar production in the bloc's largest sugar producer is expected to reach 4.445 mln tonnes, white value, down 13.1% from a year earlier. This includes the sugar equivalent of beets sown for ethanol production, but the Ministry estimates that there will be less beet used for this purpose in 2015/16. In *Germany* production is expected to reduce to 2.985 mln tonnes from 4.050 mln tonnes in the previous season. In *Poland* the 2015/16 campaign was very short, lasting only 90 days. Sugar production will drop by about 700,000 tonnes and will not exceed 1.3 mln tonnes. In the *UK*, after the record crop of 1.45 mln tonnes last year, the only beet sugar processor AB Sugar contracted a smaller area for cultivation this year. This, together with a return to more typical beet yields, will see

sugar production just short of 1.0 mln tonnes.

The ISO currently expects output in the bloc to decrease to 14.387 mln tonnes, down 3.977 mln tonnes or 22% from the previous season (see Fig. A3). The projected total includes about 280,000 tonnes of cane raw sugar produced in French DOM and Azores, but excludes sugar or beet thick juice used for ethanol production.

The 2015/16 sugar beet campaign in **Switzerland** ended just after Christmas. Beet output in 2015/16 amounted to 709,000 tonnes, down 15,000 tonnes from the previous year.

EASTERN EUROPE AND THE CIS

From the very beginning of the beet campaign in *Eastern Europe and the CIS* it was apparent that the situation in Russia, the world's largest beet sugar producer, with expectations of a high crop, differs greatly from poor prospects in the neighbouring countries. After the second revision, sugar production in the region is forecast at 7.687 mln tonnes, up from our November forecast (by 0.375 mln tonnes) and still 0.125 mln tonnes lower than estimated production in 2014/15.

In the current season, the industry in **Russia** achieved a new record output. As reported by the Russian Union of Sugar Manufacturers (Soyuzrossakhar), total beet sugar output in 2015/16, including desugarisation of molasses, is seen reaching 5.23 mln tonnes (see Fig. A4). This can be compared to the previous record of 5.065 mln tonnes achieved in 2011/12. Furthermore, according to the Ministry of Agriculture, in 2016 farmers aim to increase beet area by another 52,000 ha, to 1.07 mln ha and harvest 37.8 mln tonnes of sugar beet.

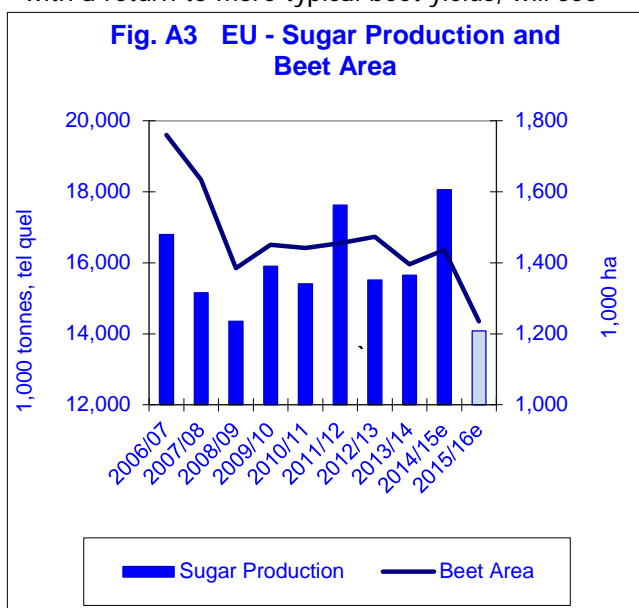
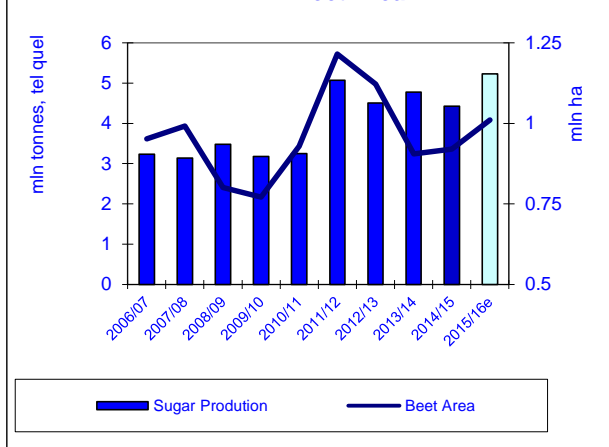
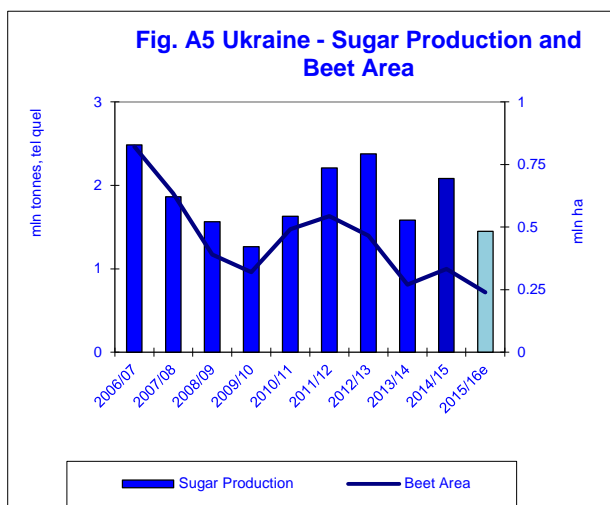


Fig. A4 Russia - Sugar Production and Beet Area



After a significant overproduction in 2014/15, **Ukraine** experienced a severe output shortfall. As reported by the State Statistical Service, harvested sugar beet area fell to 236,900 ha in 2015, which is 93,300 ha (or 28.3%) less than the year before. The beet harvest amounted to 10.725 mln tonnes, down from 15.734 mln tonnes in 2014. The average beet yield dropped to 43.37 tonnes/ha from 47.65 tonnes/ha a year earlier. As a result, sugar production decreased to 1.466 mln tonnes, down 29.6% on the year (see Fig. A5).

Fig. A5 Ukraine - Sugar Production and Beet Area

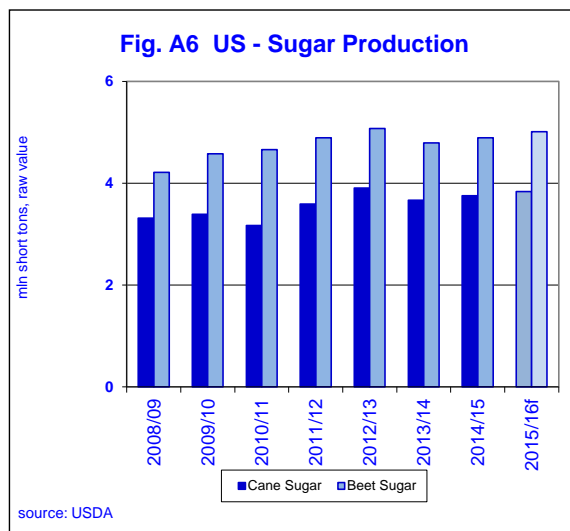


In the third largest sugar producer in the region, **Belarus**, due to a summer drought beet yields have reduced by more than 30%, which could not be compensated by a 4% increase in sugar content. The sugar beet harvest reached only 3.3 mln tonnes in 2015 as the average beet yield fell to 33.0 tonnes/ha from 46.3 tonnes/ha a year earlier. The ISO estimates output to reduce to 425,000 tonnes from 545,000 tonnes in the previous season.

NORTH AND CENTRAL AMERICA

For the time being, we expect sugar output in *North and Central America* to improve by 251,000 tonnes or 1.2% in 2015/16 as against the previous season (21.853 mln tonnes and 21.602 mln tonnes, respectively), mainly due to production gains in the US.

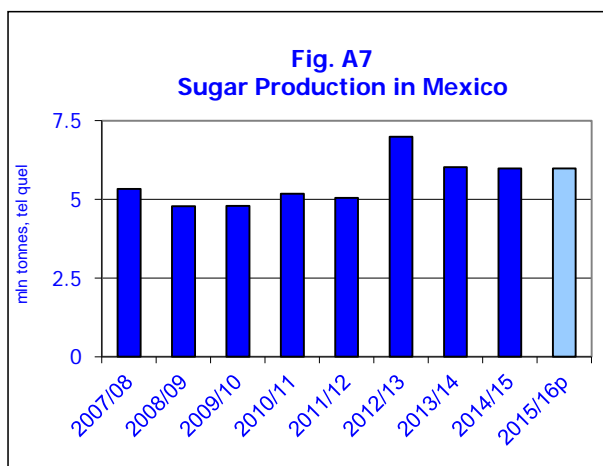
Fig. A6 US - Sugar Production



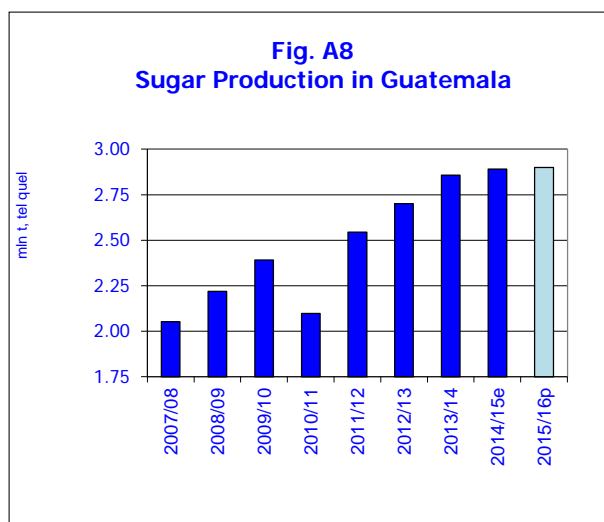
source: USDA

In the February World Agricultural Supply and Demand Estimates (WASDE) report, the USDA forecasts **US** sugar production in 2015/16 at 8.849 mln short tons, raw value, up 2.3% from the previous season. If the forecast eventuates, this is the second biggest harvest in history. Cane sugar production is put at 3.839 mln tons, up from 3.756 mln tons in 2014/15, while beet sugar production is expected to grow by 117,000 tons (see Fig. A6).

The ISO still suggests no significant year-on-year change in sugar output in **Mexico** in 2015/16 (see Fig. A7). As of February 13th, sugar mills produced 2.410 mln tonnes, still slightly down from 2.523 mln tonnes at the same time last year. The change in the sugar extraction rate to 10.40% from 10.42% a year ago is compensated by a rise in cane yield to 78.92 tonnes/ha from 76.04 tonnes/ha. As a result, industrial yields remain marginally higher than last season (8.21 tonnes/ha and 8.15 tonnes/ha, respectively).



Last season (November/May) **Guatemala's** estimated sugar production reached a new record at 2.890 mln tonnes, an improvement from the previous season's 2.858 mln tonnes (see Fig. A8). A further modest increase is projected for the current season attributed to growing use of high-yield cane varieties developed by the Centre for Sugar Cane Research (CENGICANA).



As a result of unseasonal rains following a severe drought last year, sugar production in **Cuba** is expected to remain flat despite earlier plans of AZCUBA to top the previous harvest. The ISO reduced its projection by 100,000 tonnes, to the level of the previous season (1.9 mln tonnes).

SOUTH AMERICA

Our October/September balance cuts through two national campaigns in most of South America. It includes the tail end of the 2015/16 crush (from October to the end of crushing operations in December-January) and the first half of next 2016/17 crush (from April to September 2016). Actual 2015/16 output will therefore largely

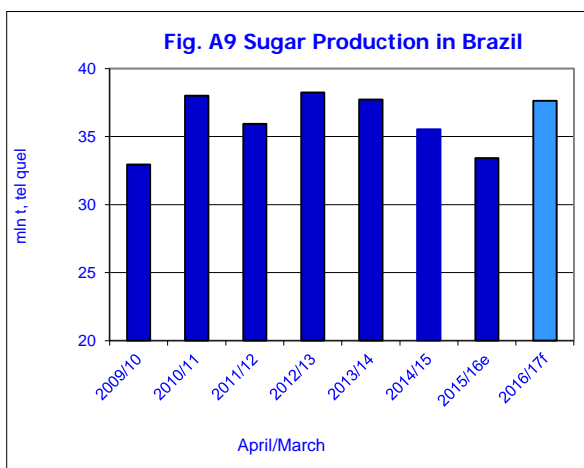
depend on the first half of the next season's harvest, which is still difficult to predict. Consequently, there are many uncertainties imposed by unpredictable weather patterns, developments in the world sugar and crude oil markets, currency movements, etc. At this still early stage of the season, the ISO expects the region to produce 43.537 mln tonnes in 2015/16 (October/September), a 1.880 mln tonne or 4.5% increase from the previous season.

What have been the major developments in **Brazil**, the world's leading sugar producer and exporter, since our last issue of the *Quarterly Market Outlook* in November? Excessive rainfall continued to disrupt the cane harvest across the Centre-South region. The cane crush since the start of the 2015/16 (April/March) harvest until end-January totalled 599.9 mln tonnes, up 5.22% year on year. Mills processed 3.9 mln tonnes of cane in the second half of January and produced 97,000 tonnes of sugar, bringing the harvest total to 30.68 mln tonnes (see Table A3). This season, millers have allocated 40.87% of the sucrose content of cane to sugar production.

	2015/16	2014/15	Change
Cane crush (mln tonnes)	599.873	570.111	5.22%
Sugar output (mln tonnes)	30.683	31.974	-4.04%
ATR (kg/tc)	131.35	136.64	-3.87%

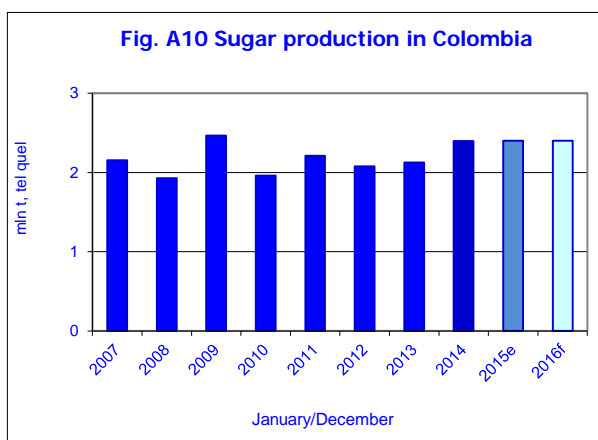
In the North-Northeast region, the cane crush since the start of the harvest (September/August) totalled 40.5 mln tonnes by mid-January, a drop of 2% year on year. Sugar output stood at 2.14 mln tonnes, 3% lower year on year. A dry spell in the months preceding the start of the harvest has hampered cane quality and is likely to result in a 5-10% drop in the total crush versus 2014/15 figures.

Given recent developments, the estimated ATR has been reduced to 131.50 kg/tonne of cane as against 132.5 kg/tonne expected in November while the share of cane for sugar has been reduced to 40.9% compared to earlier expected 41.5%. As a result, sugar output in the Centre South is now put at 30.7 mln tonnes, down from 31.28 mln tonnes expected in November and actual production of 31.99 mln tonnes in 2014/15. For the 2016/17 national crop year, which has to be partly incorporated into our October/September balance, the ISO expects a 12.6% increase in

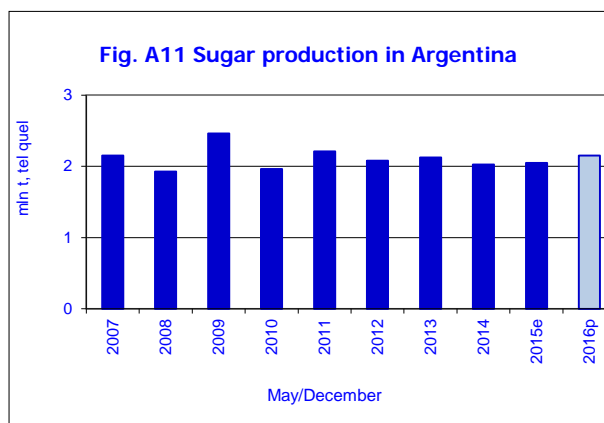


sugar output (see Fig. A9). In terms of the October/September season, the ISO forecasts output in 2015/16 at 35.0 mln tonnes, up 1.20 mln tonnes or 3.6% from the previous season.

Colombia is one of the few countries producing sugar all year round. In the first nine months of 2015, sugar production remained practically unchanged from the previous season (1.800 mln tonnes and 1.817 mln tonnes, respectively). Assuming normal weather conditions in the coming seven months, production is expected to remain similar to the previous year at about 2.4 mln tonnes - see Fig. A10.



In **Argentina**, South America's third largest sugar producer, output is estimated to improve to 2.1-2.2 mln tonnes in 2015 from the previous year's 2.028 mln tonnes (see fig. A11). This year's crop, however, may be affected by the recently announced increase in the required blend of ethanol from the current 10% to 12% which is expected to be derived exclusively from sugar cane.



MIDDLE EAST AND NORTH AFRICA

No revision has been introduced for the region's production forecast. The overall level of output in *the Middle East and North Africa* during 2015/16 is expected to grow by 155,000 tonnes, to 7.135 mln tonnes. Nevertheless, the region remains greatly dependent on imports. This season, domestic production is anticipated to cover less than 38.5% of the internal demand.

Turkey, currently the world's fifth largest beet sugar producer after Russia, France, the US and Germany, produced an estimated 2.245 mln tonnes of white sugar in 2014/15 (September/August), down 143,000 tonnes from the previous season. Thus, output fell short of the production quota. With a return of normal weather, production is expected to rebound to 2.35 mln tonnes in 2015/16.

In **Egypt**, the second largest producer in the region, the outlook suggests no considerable changes in production in 2015/16.

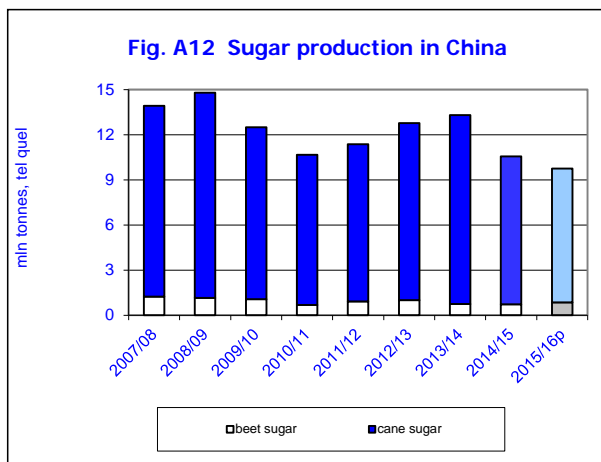
In **Sudan**, despite the opening of the new White Nile Sugar Factory in July 2012, no increase in production was seen in 2013/14 and only a marginal 50,000 tonne increase is currently estimated for 2014/15. A similar increase is projected for 2015/16.

FAR EAST AND OCEANIA

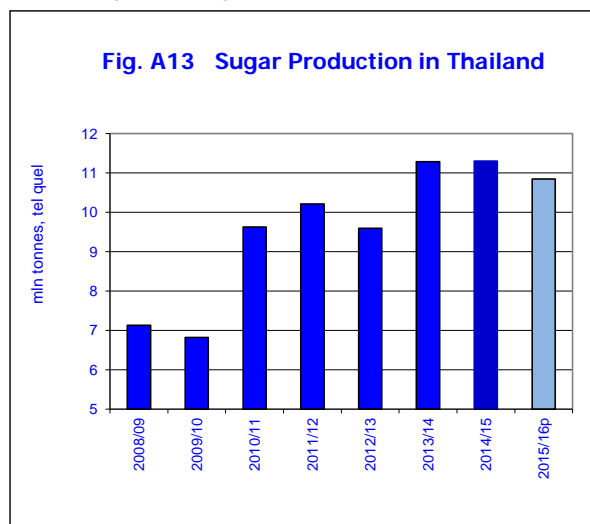
In 2014/15, sugar output in the *Far East and Oceania* showed an estimated 2.177 mln tonne decrease. After the second revision of the world sugar balance in 2015/16, output is expected to fall further by 1.026 mln tonnes on the back of lower production in China and Thailand.

China produced 2.295 mln tonnes of sugar in January, down 11% from 2.575 mln tonnes in the same month of 2015, according to the China Sugar Association (CSA). This brought total sugar output

in the first four months of 2015/16 (October/September) to 4.211 mln tonnes, down from 4.786 mln tonnes in the same period a year ago. Cane sugar production fell to 3.397 mln tonnes from 4.051 mln tonnes while beet sugar output increased to 813,900 tonnes from 734,400 tonnes a year ago. Taking into account the latest campaign reports, the ISO has revised this season's output to 9.75 mln tonnes, down 0.25 mln tonnes from our November projection and 0.806 mln tonnes from estimated production in 2014/15 (see Fig. A12).

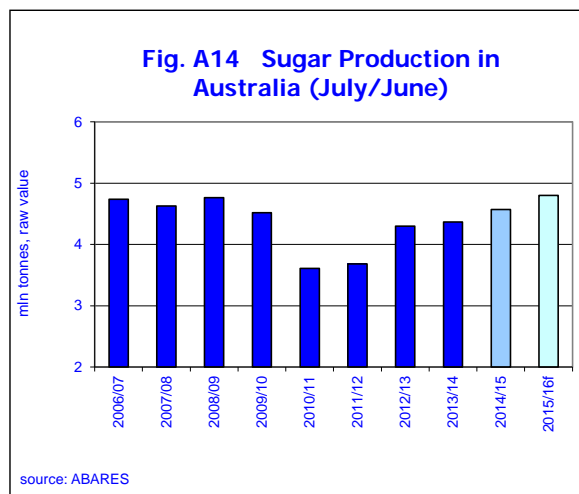


In **Thailand**, the region's largest producer and the world's second biggest sugar exporter, the total cane crush in the 2015/16 (November/October) season reached 64.814 mln tonnes by February 15th, down from 66.528 mln tonnes crushed by the same time last year. Sugar production totalled 6.201 mln tonnes, down from 6.641 mln tonnes on a year-to-year comparison. The sugar extraction rate was down at 9.91% from 10.32% a year ago. The Thai Sugar Millers Corp. expects sugar output to drop to 11.10 mln tonnes, tel quel, in the new season from 11.3 mln tonnes a year ago as drought has reduced yields. Cane output is seen remaining unchanged at 106 mln tonnes. However,



the office of the Cane and Sugar Board forecasts cane production to be limited to 100 mln tonnes, from which about 10 mln tonnes of sugar will be produced. Taking into account the latest campaign reports, the ISO has revised this season's output to 10.850 mln, down from 11.5 mln tonnes projected in November and 11.3 mln tonnes produced in the previous season (see Fig. A13).

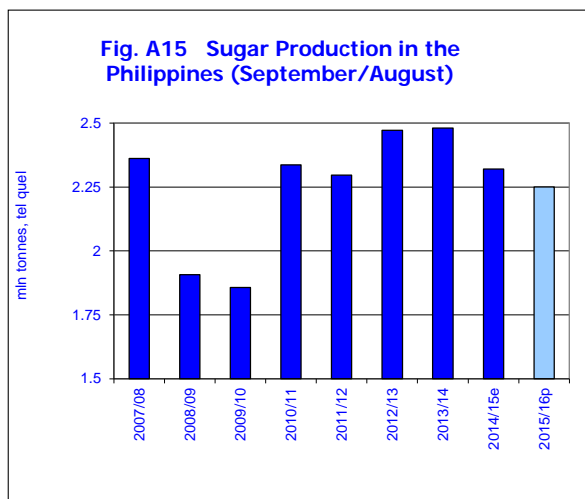
In **Australia**, the Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) in December reduced its projection for sugar production (July/June) to 4.8 mln tonnes, raw value, (see Fig. A14) compared to 5.0 mln tonnes expected in August. This still represents a 5% or 228,000 tonne increase from the previous season. The increase is driven by a 3% growth in harvested area and better industrial yields. Average cane yield is assumed to fall slightly because of dry seasonal conditions and the spread of yellow canopy syndrome in some cane growing regions.



In **Indonesia** during the last campaign (May/December), output stabilized at a level of 2.5 mln tonnes. As projected by the Indonesian Sugar Association (AGI), in 2016 production may decline by 8% due to continuing unfavourable weather conditions.

In the **Philippines**, sugar production in 2015/16 (September/August) in the period to January 10th reached 890,873 tonnes, raw value, down from 1.018 mln tonnes produced by the same time last year, Sugar Regulatory Administration (SRA) data show. Dry conditions due to a strong El Niño are seen pushing output below last season's 2.324 mln tonnes, tel quel (see Fig. A15).

In **Vietnam**, according to the Ministry of Agriculture, domestic production is expected to reach 1.5 mln tonnes, a slight increase from 1.42

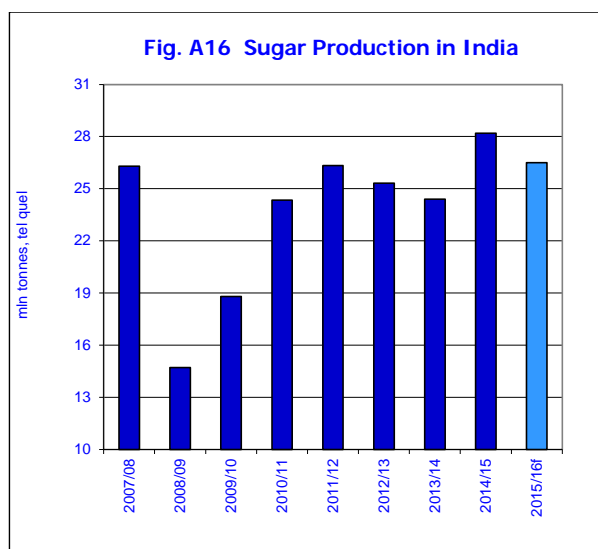


mtn tonnes of cane sugar manufactured in 2014/15.

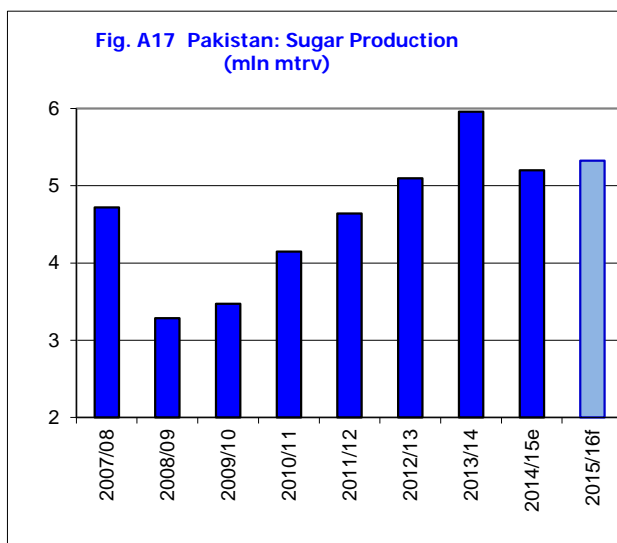
INDIAN SUBCONTINENT

In 2015/16, sugar production in the *Indian Subcontinent* is expected to decrease to 32.491 mtn tonnes, down 1.189 mtn tonnes or 3.5% from the previous season.

India had produced 17.337 mtn tonnes of sugar in the 2015/16 (October/September) season as of February 15th. This is up 0.613 mtn tonnes from 16.724 mtn tonnes produced by the same time last year, according to the Indian Sugar Mills Association (ISMA). In mid-February there were 472 mills crushing cane versus 516 mills that were operational at the same time in 2015. By mid-February 39 mills had already concluded crushing operations for the season. Last year only 11 mills out of a total 527 had ended crushing by the same date. In January, ISMA cut its 2015/16 sugar output estimate by a further 1.0 mtn tonnes, to 26.0 mtn tonnes from 27.0 mtn tonnes estimated in September and an initial outlook in July of 28.0 mtn tonnes. The new forecast is based on satellite images taken on January 9th. If realised, output would contract by about 2.3 mtn tonnes from what was produced in the previous season. In November, the ISO downgraded its forecast for 2015/16 to 27 mtn tonnes, tel quel, down by 0.745 mtn tonnes from the initial forecast issued in August and down by 1.2 mtn tonnes from 2014/15. Taking into account the latest projection of the industry, our production forecast has been revised further down to 26.5 mtn tonnes – see Fig. A16.



In neighbouring **Pakistan**, production prospects have improved since our previous projection due to good weather conditions. Output in 2015/16 is therefore now seen rising to 5.325 mtn tonnes, which is 125,000 tonnes higher than expected before and produced last season (see Fig. A17).

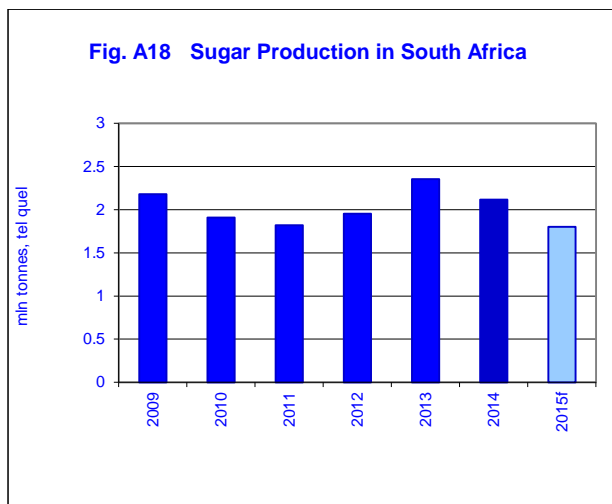


EQUATORIAL AND SOUTHERN AFRICA

The ISO currently forecasts a 611,000-tonne increase in sugar production in *Equatorial and Southern Africa* in 2015/16 (October/September). This is mainly attributed to a considerable advance in Ethiopia's large-scale expansion plan as well as a gradual improvement of production in South Africa with the expected return of normal weather in 2016, after two seasons of drought. The region houses a number of sugar producing nations, but only South Africa produces more than 1 mtn tonnes a year.

In **South Africa**, as reported by the South African Cane Growers Association in February, drought in

the main cane-producing region of KwaZulu-Natal cut sugar production in 2015 to 1.53 mln tonnes, against 2.11 mln tonnes a year earlier (see Fig. A18). The 12-month total rainfall in 2014/15 (November/October) was nearly 30% short of the long term average. The new crushing campaign will start in March. The rainy season, now under way, is so far better than last year. Assuming some recovery of output in the 2016 crush, the ISO expects October/September output to improve to 1.85 mln tonnes as against the estimated 1.55 mln tonnes in 2014/15.



In **Swaziland**, the region's second largest producer, output during the first nine months of the 2015 campaign (April-January) was slightly higher year on year (695,409 tonnes and 688,541 tonne, respectively). However, cane growers are anticipating a 10% decline in yields due to the prevailing drought. Reservoirs had nearly dried up and ground water levels have drastically fallen in several regions, especially in the Lowveld where a large swathe of both small and large scale cane farmers are situated.

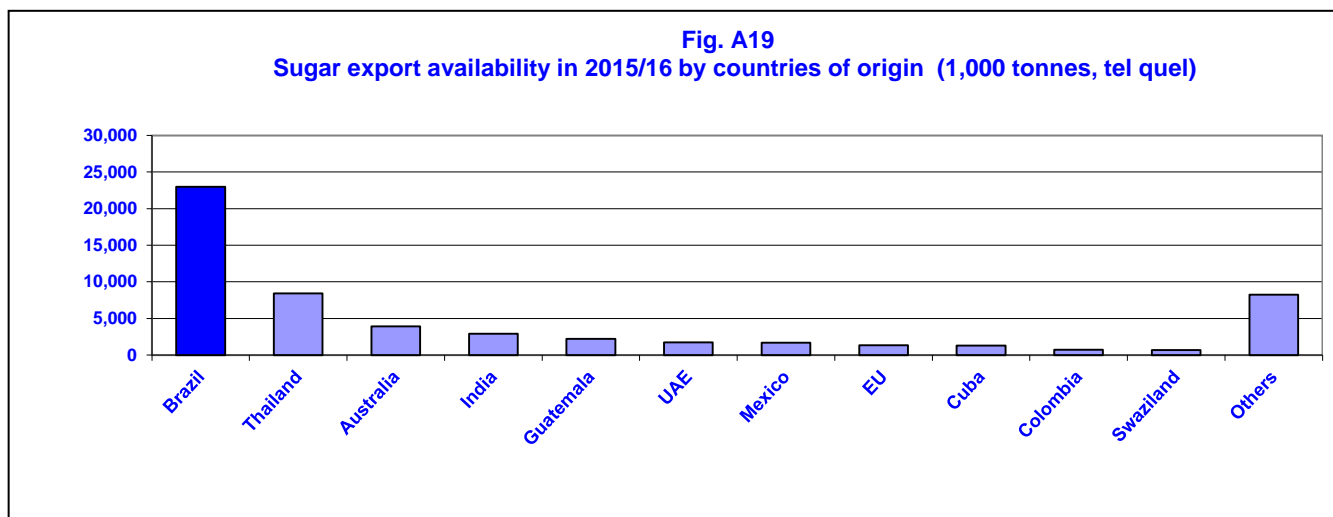
In **Ethiopia**, a large-scale expansion project has been facing delays due to financial constraints, lack of infrastructure and capacity of construction companies. Thus, none of the newly-erected plants had completed the trial phase in 2014/15. However, the new Kessem Factory has recently finished the trial phase and is expected to become fully operational in February 2016. Two more mills are expected to come into operation in the near future. The Omo Kuraz project incorporates five sugar factories and is part of the 10 sugar factories planned to be constructed across the country in the coming five years. If during the coming season three new mills reach only half of planned capacity for the first phase, national annual output may exceed 625,000 tonnes and the country may become a sugar net-exporter.

EXPORT AVAILABILITY

- **Global export availability to improve**
- **Large increases in projected exports by India and Thailand**

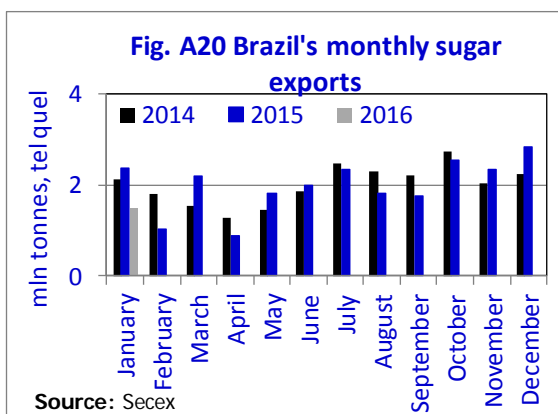
The second revision of export availability for 2015/16 suggests that world exports may increase as against the level achieved in the previous season due to releases of stocks rather than higher production. Indeed, their nominal export availability of net-exporting countries (the differential between production and domestic use) is projected to grow by only 91,000 tonnes, but we expect exporters to release up to 1.7 mln tonnes from stocks. A new total is 56.749 mln tonnes, compared to 54.430 mln tonnes estimated for the previous season.

The main change on the export map in 2015/16 (October/September) compared to the previous season is a still expected large increase of export availability in India (+1.025 mln tonnes) and Thailand (+0.658 mln tonnes). Other changes are below 500,000 tonnes and counterbalance each

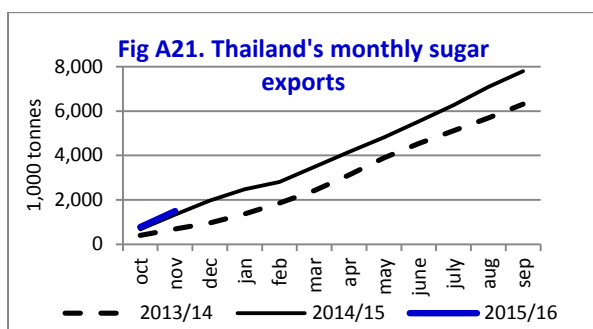


other. Brazil remains by far the largest and dominant world sugar exporter (see Fig. A19). In the current season, the share of the Latin American giant in the world sugar turnover is projected at 40.5% as against 42.1% and 42.0% in 2014/15 and 2013/14, respectively.

According to official statistics, in January **Brazil** exported only 1.496 mln tonnes of sugar, tel quel, down sharply from 2.843 mln tonnes a month earlier and also below 2.362 mln tonnes shipped in the same month last year (see Fig. A20). From April to January, exports decreased 5% year on year, to 19.90 mln tonnes. In terms of the October/September season, in 2014/15 shipments amounted to 23.273 mln tonnes, 1.068 mln tonnes down from the previous season. At present, the ISO does not expect significant changes in Brazil's exports in 2015/16 (October/September) compared to the previous season.



Thailand, the world's second largest exporter, is expected to deliver a record 8.425 mln tonnes of sugar to the world market in 2015/16 despite an expected decrease in production. The ISO's projection is based on the forecast release of 0.475 mln tonnes of sugar from stocks. In the previous October/September season the country shipped 7.792 mln tonnes of sugar, up 1.483 mln tonnes year on year. Nevertheless, actual shipments during 2014/15 did not exceed nominal export availability of 8.5 mln tonnes, adding about 0.7 mln tonnes to this season's opening stocks.



A better crop in **Australia**, the world's third largest exporter, is expected to result in a higher export availability (up by 350,000 tonnes or 10% from 2014/15, to 3.915 mln tonnes).

In **India** mills have already contracted to export 1 mln tonnes of domestically produced sugar in the 2015/16 (October/September) season and expect to sign deals for another million tonnes. As reported by the ISMA, 950,000 tonnes have been shipped. These figures do not include exports of sugar refined from imported raws. ISMA pointed out that the recent fall in global prices has slowed down the pace of sealing new export contracts. The ISO puts exports in 2015/16 at 3.4 mln tonnes as against an estimated 2.375 mln tonnes in the previous season. This season's export availability includes about 1.5 mln tonnes of white sugar refined from imported raws by four port refineries. For the time being, our working assumption is that exports will reduce stocks by about 0.550 mln tonnes.

In **Guatemala**, the world's fifth largest sugar exporter, no significant change in production is likely to lead to a flat level of exports currently projected at nearly 2.2 mln tonnes.

Finally, in 2015/16 the **EU** exports remain capped by the WTO limit of 1.35 mln tonnes. In January the Commission opened the tendering procedure for a second tranche of 2015/16 (October/September) sugar export licences of 700,000 tonnes. The first tranche of 650,000 tonnes was approved in early October. There has been some speculation whether the full amount of licences will be taken up in the second round due to tightening supplies within the bloc, but it seems unlikely that producers will miss the opportunity to get rid of their non-quota sugar. For the time being we are therefore maintaining our initial projection that the WTO limit will be used in full.

DEMAND

Economic and population growths are the key drivers of global sugar consumption. Global economic growth remained below trend in the first three quarters of 2015. The moderation of economic growth in China has weakened economic performance in many emerging markets. However, the IMF's latest World Economic Outlook (WEO) published in January foresees higher global growth in 2016 compared to last year. Thus, according to the IMF, global growth is currently estimated at 3.1% in 2015 and projected at 3.4% in 2016 and 3.6% in 2017. Meanwhile, global population is currently growing on average by 1.18% annually.

After the second revision of the world sugar balance in 2015/16, the ISO anticipates global use of sugar to grow by 1.75%, up 2.957 mln tonnes from the previous season. It also shows an increase in global import demand after two seasons of contraction on the back of lower domestic production in importing countries. (source: UN Department of Economic and Social Affairs, Population Division - World Population Prospects, the 2015 Revision).

CONSUMPTION

- **World consumption to grow by 1.75% in 2015/16**
- **Slower growth on the back of ongoing macroeconomic concerns**

Global sugar consumption in 2015/16 is put at 171.85 mln tonnes, raw value, up 1.75% from the previous year. The world total includes a 3.293 mln tonne adjustment for unknown trade. Since November, we have revised our consumption projection for only ten countries, mainly based on statistical updates of consumption figures for previous seasons. The anticipated growth rate is lower than the 10-year average of 2.01% (see Table A4). The deceleration in growth is projected on the back of ongoing macroeconomic concerns including a slowdown in emerging market economies and the collapse of oil prices. For example, the ISO expects Brazil' sugar consumption to decrease by 1% for the second consecutive season, on the back of rising unemployment and a weak macroeconomic performance. For the time being a possible negative impact of recipes' reformulations declared by some food manufacturing transnationals (see *Special Focus*) is not factored into the ISO forecast.

Table A4 Geographical Distribution of World Sugar Consumption

	2015/16	.2014/15	2013/14	2012/13	2011/12	2010/11
Total consumption (in 1,000 tonnes, tel quel)						
Western and Central Europe	19,047	18,912	18,739	18,678	18,951	18,348
Eastern Europe and CIS	10,349	10,210	10,119	10,280	10,261	10,298
North America	15,775	15,685	15,679	15,510	15,051	14,843
Central America	3,553	3,476	3,389	3,298	3,216	3,152
South America	19,862	19,850	19,851	19,601	19,369	19,440
Middle East and North Africa	18,526	17,964	17,384	17,649	17,041	15,947
Far East and Oceania	37,922	36,969	36,003	34,848	33,593	32,150
Indian Subcontinent	33,348	32,640	31,576	30,031	29,527	27,488
Equatorial and Southern Africa	10,176	9,895	9,324	9,532	8,545	8,245
WORLD	171,851	168,894	165,357	164,384	158,034	153,254
						<i>10-year average</i>
Annual growth rate in%						
Western and Central Europe	0.71	0.92	0.33	-1.44	3.29	1.04
Eastern Europe and CIS	1.36	0.90	-1.57	0.19	-0.36	-0.79
North America	0.57	0.04	1.09	3.05	1.40	1.10
Central America	2.22	2.57	2.76	2.55	2.03	1.60
South America	0.06	-0.01	1.28	1.20	-0.37	1.58
Middle East and North Africa	3.13	3.34	-1.50	3.57	6.86	2.58
Far East and Oceania	2.58	2.68	3.31	3.74	4.49	3.18
Indian Subcontinent	2.17	3.37	5.14	1.71	7.42	3.28
Equatorial and Southern Africa	2.84	6.12	-2.18	11.55	3.64	3.78
WORLD	1.75	2.14	0.59	4.02	3.12	2.01

At present, the highest growth rate of consumption in 2015/16 is projected for **Middle East and North Africa** (3.13%), **Equatorial and Southern Africa** (2.84%) and **Far East and Oceania** (2.58%). These three regions are currently responsible for 61% of world sugar use.

The **Indian subcontinent** and **Central America** show very similar annual rates of growth (2.17% and 2.22%, respectively), which are also slightly higher than the world average. In these two regions 27% of the world total is consumed.

Reflecting an expected slowing in sugar use in Brazil, annual growth rate for **South America** is projected to be as small as 0.06% this season, and is estimated to be negative (-0.01%) in 2014/15.

In the saturated markets of the remaining three regions with per capita consumption higher than the world average, annual growth in sugar use is significantly below the world average. In **Eastern Europe and CIS** the growth rate is expected to show a slight recovery from -1.57% in 2013/14 to 0.90% in 2014/15 and further to this season's 1.36%. In **Western and Central Europe** and **NAFTA** it is expected to grow by only 0.74% and 0.57%, respectively.

IMPORT DEMAND

- **World import demand to rise**
- **China's appetite for imports to stay buoyant**

In the current crop year, consumption in importing countries is expected to grow by 2.087 mln tonnes while production is forecast to decrease by 3.732 mln tonnes, leaving importing countries with a 5.819 mln tonne growth in their combined deficit. However, a significant part of the gap between consumption and production in importing countries is still expected to be covered from stocks. As shown in Table A5, between 2011/12 and 2014/15, importers purchased an implied 12.5 mln tonnes to replenish stocks (at least in statistical terms). The ISO expects that in 2015/16 nearly 2.8 mln tonnes may be released from stocks in importing countries.

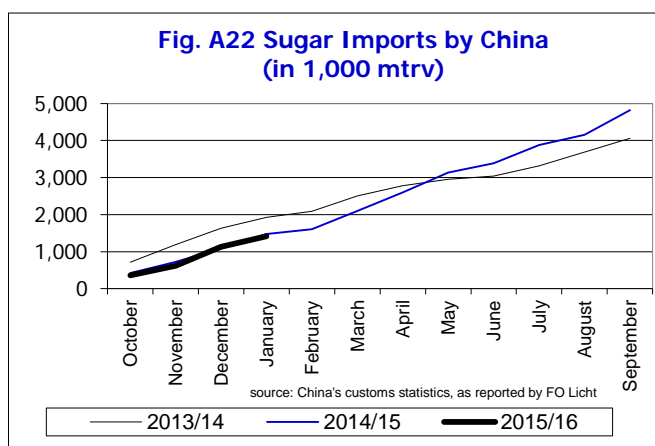
Moreover, as we have identified from the very beginning of the season, the higher global deficit forecast is likely to trigger additional import demand too. Our third assessment of the world sugar balance in 2015/16 shows global import

Table A5 Importing Countries: Nominal Deficit, Import Demand and Changes in Stocks (in mln tonnes, tel quel)

	2011/12	2012/13	2013/14	2014/15e	2015/16f
Production	59.735	54.881	54.913	55.415	51.683
Consumption	94.832	93.069	94.250	96.113	98.200
Nominal Deficit	35.097	38.188	39.337	40.698	46.517
Imports	48.473	50.428	50.448	48.041	49.821
Exports	8.721	8.670	8.090	6.119	6.100
Changes in Stocks	+4.655	+3.570	+3.064	+1.224	-2.796

demand at 56.759 mln tonnes as against 55.450 mln tonnes in the previous season.

For the fifth consecutive season, **China** is expected to remain the world's largest sugar importer with 4.575 mln tonnes of sugar forecast to enter the country in 2015/16 compared to the last season's 4.775 mln tonnes. The country imported 290,000 tonnes of sugar in January, down 25.1% from the same month a year ago. This brought total imports in the first four months of the 2015/16 (October/September) season to 1.417 mln tonnes, raw value, compared with 1.478 mln tonnes imported during the same period last season. It has to be noted, that the amount of sugar entering the country may be considerably higher than officially reported imports. According to Thai and Indian exporters, up to 1.5 mln tonnes have been contracted for Myanmar as a destination, from where sugar is likely to be smuggled into China.



For the time being, the **EU** is projected to regain its position as the world's second largest importer in 2015/16. The bloc's imports are put at 3.975 mln tonnes in the current season as against an estimated 3.025 mln tonnes in 2014/15. A 950,000-tonne increase is expected on the back of lower domestic production.

Indonesia, the world's third largest sugar importer, is seen importing 3.950 mln tonnes of sugar in 2015/16, up from 3.740 mln a year earlier. Domestic consumption is on the rise due to economic and population growth, while domestic production is expected to drop somewhat due to continuing unfavourable weather conditions.

By contrast, the **US** is not expected to import more in 2015/16. Higher domestic production reduces annual import demand to 2.650 mln tonnes, assuming a 195,000 tonne reduction in ending stocks. The February WASDE report puts sugar imports in the current marketing year at 3.162 mln short tons, raw value, including 1.540 mln short tons imported from Mexico. In 2014/15, the US imported an estimated 3.553 mln short tons, including 1.532 mln tonnes from Mexico in line with the suspension agreement.

For the second consecutive season, **Bangladesh** is expected to remain the world's fifth largest sugar importer. Domestic production is stable at the level of about 100,000 tonnes, while consumption is growing by nearly 7% a year and forecast to exceed 2 mln tonnes in 2015/16. The ISO puts this season's import demand as high as 2.089 mln tonnes of mainly raw sugar.

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TRADE BALANCE FOR RAW AND WHITE SUGAR

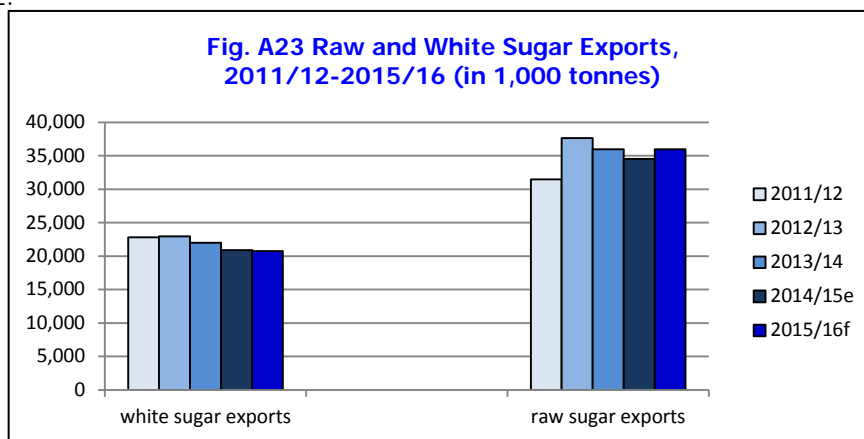
In this *Brief* we provide our third assessment of the sugar trade balance by raw sugar and white sugar segments in 2015/16.

In 2015/16, *world total export availability* is projected to reach 56.749 mln tonnes. Growth is expected to come from both higher output and releases of stocks in exporting countries. A higher nominal deficit forecast for importing countries will likely result in increased import demand. The ISO projects *world total import demand* at 56.759 mln tonnes, up 1.309 mln tonnes, or 2.36% from 2014/15. In a nutshell, we are still expecting tightly balanced import demand and export availability in 2015/16. Despite an increase of the projected world statistical deficit from about 3.5 mln tonnes in November to more than 5.0 mln tonnes, it seems possible to cover production shortfalls by stocks accumulated during several seasons of global surplus. It may be noted, however, that the second revision of the world trade balance shows a nominal *global trade deficit* (the difference between anticipated levels of imports and exports) of 10,000 tonnes. Obviously, in global terms the gap of this magnitude still allows us to qualify the world trade as fairly balanced. Nevertheless, it is also obvious, that the trade balance is very tight and might result in an actual deficit if there are some currently unforeseen production shortfalls. It can be stressed that the white sugar segment looks more vulnerable, as the forecast trade balance is already showing a small deficit (-291,000 tonnes), while the raw sugar segment remains in a small surplus (+281,000 tonnes).

Raw sugar export availability is expected to increase by 1.462 mln tonnes from the previous season, to 35.979 mln tonnes (see Fig. A23). The main changes for individual countries include a better availability due to larger crops in Thailand, Brazil and Australia (+983,000 tonnes, +430,000 tonnes, and +350,000 tonnes, respectively) on the one hand. High white sugar premium and falling world prices for raw sugar are expected to reduce raw sugar exports from India (-425,000 tonnes). Smaller exports are also projected for South Africa (-265,000 tonnes). *Import demand for raw sugar* is also expected to surge by 1.225 mln tonnes to 35.698 mln tonnes. The main year-on-year changes include higher demand by Iran (+770,000 tonnes), and Iraq (+300,000 tonnes). The ISO also expects that the currently high white sugar premium is likely to bring additional import demand for raws by refineries in the MENA region with an overall increase in the region's imports by nearly 1.3 mln tonnes. On the other hand, we expect a 300,000 tonne drop in raw sugar purchases by the US while Russia's imports are expected to more than halve to 225,000 tonnes compared to 550,000 in 2014/15.

Global *white sugar export availability* is forecast to reduce only slightly from the estimated 20.913 mln tonnes in 2014/15 to 20.770 mln tonnes. The largest year-on-year changes are a projected increase in availability of white sugar from India (+1.450 mln tonnes), but a likely reduction in deliveries from Brazil (-700,000 tonnes), Thailand (-325,000 tonnes), and South Africa (-242,000 tonnes). Meanwhile, *import demand for white sugar* is also forecast to remain nearly flat at 21.061 mln tonnes compared to 20.978 mln tonnes estimated for 2014/15. The most significant individual country year-on-year changes include an increase in projected imports by the EU (+670,000 tonnes), while lower white sugar purchases are projected for a number of importers with port refineries, including Nigeria, Iraq and Iran, due to a high white sugar premium.

Individual country estimates for 2013/14-2015/16 are given in the "Trade Balance for Raw and White Sugar" on pages 60 to 62.

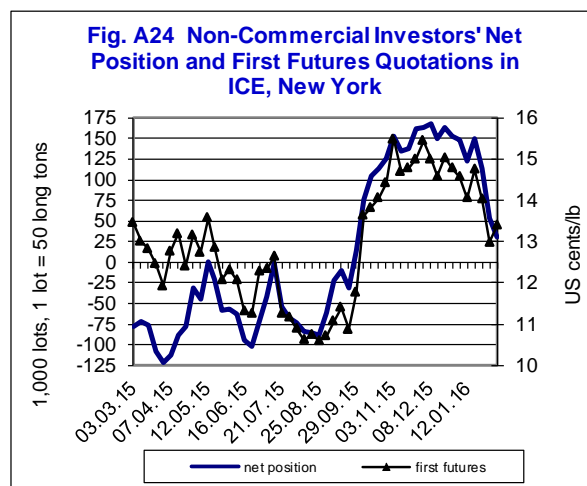


WORLD MARKET EVENTS AND PRICES

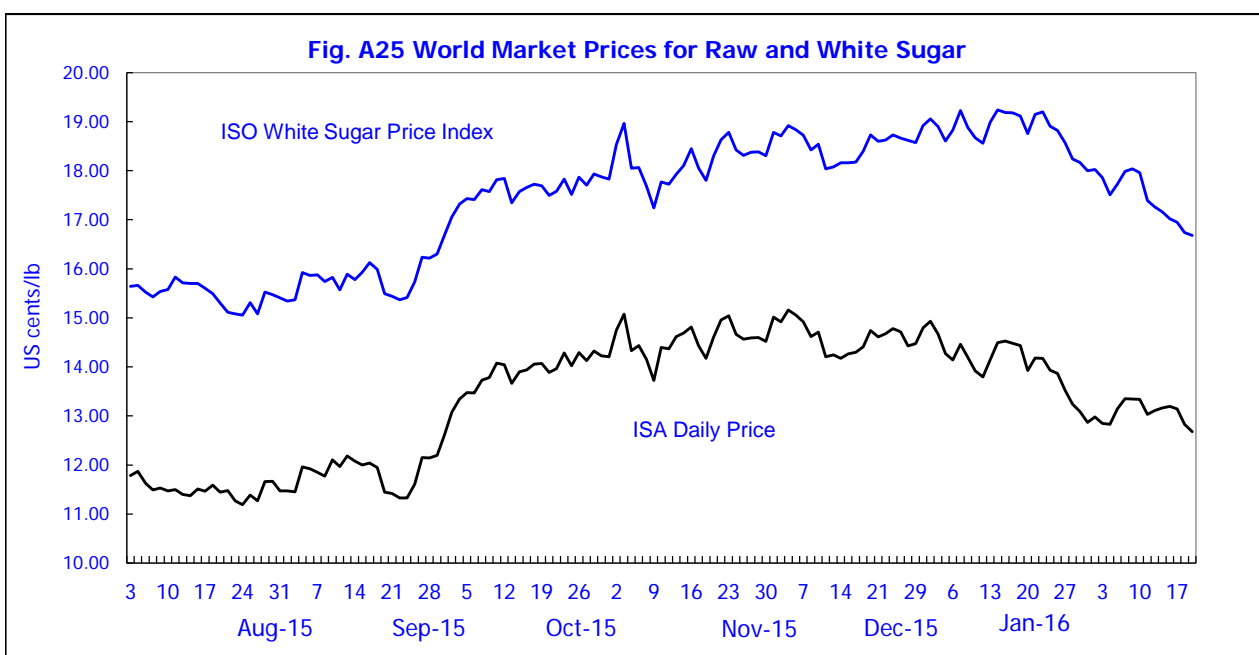
- Short-lived price recovery in November followed by downward drift
- Stronger nominal white sugar premium
- Will global fundamentals provide support to the market in 2015/16?

Since the last *Outlook* in November, world market prices have shown a downswing despite expectations for the world sugar balance to return to a deficit in 2015/16 after five seasons of surplus. A downward drift of prices can be mainly attributed to generally weak commodity markets (discussed later in the *Commodity Price* section) and the recent collapse of oil prices to 12-year lows, in particular. Technical factors were not supportive either. Ahead of the expiry of the ICE March No11 contract, **hedge funds** reduced considerably their net-long position from the record high 167,833 lots held on December 8th to 21,934 lots on February 16th (see Fig. A24).

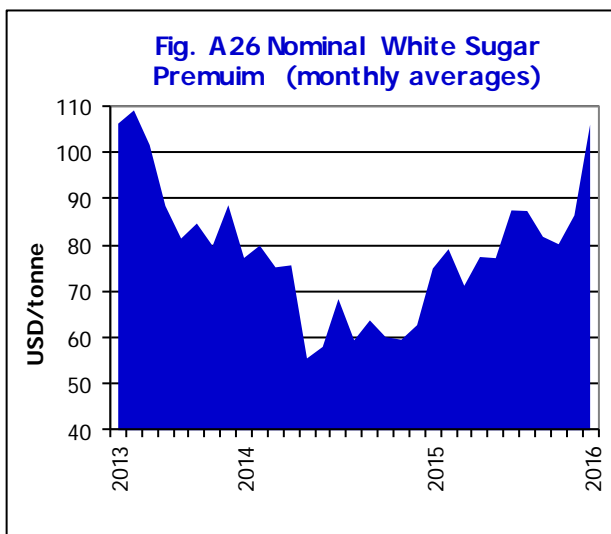
At the time of the release of our November *Quarterly Market Outlook*, world market prices for raw sugar were hovering around 14.25 cents/lb. By December 3rd the **ISA daily price** improved to a 10-month high of 15.16 cents/lb. Then a downswing started. As shown by Fig. A25, two month later the price was as low as 12.65 cents/lb, the lowest since end September 2015. In terms of monthly averages, the ISA daily price improved from 13.91 cents/lb in October to 14.55 cents/lb in November and further to 14.64 cents/lb in December but was as low as 14.05 cents/lb in January.



Spot white sugar prices (the *ISO White Sugar Price Index*) have developed according a different scenario. They remained more resilient to pressure from macroeconomic factors and kept growing through the last quarter of 2015 and January 2016. At the beginning of November, prices for white sugar floated around USD400/tonne (18.14 cents/lb). In mid-January, the ISO White Sugar Price Index was as high as USD424.15/tonne (19.24 cents/lb), the best daily price since November 2014. However, in February the index suffered a significant downward correction and on February 19th was as low as USD379.65/tonne (16.68 cents/lb). Prices averaged USD388.48/tonne (17.62 cents/lb) in October, improved to USD400.87/tonne (18.18 cents/lb) in November and further to USD409.23/tonne (18.56 cents/lb) in December. The January average was USD415.73/tonne (18.86 cents/lb).



As illustrated by Fig. A26, the **nominal white sugar premium** (the differential between the ISO White Sugar Price Index and the ISA daily price) continued its surge during the period under review. In January it rose to USD106.04/tonne as against USD86.42/tonne in December. In the recent past, a premium higher than USD100/tonne has lasted from six to nine months. Sooner or later, a high white sugar premium will have a knock-on effect on the raw sugar market. Refiners will be encouraged to raise the supply of white sugar which boosts demand for raw sugar. For the time being, taking into consideration a projected trade deficit in the white sugar segment discussed in Brief(16)01, a significant reduction in the white sugar premium does not look imminent.



How can our current understanding of fundamentals (an apparent statistical deficit and very tight trade balance, accompanied by a significant decrease in the global stocks/consumption ratio) be interpreted in terms of future market values? A larger than previously expected global deficit indicates a fundamental move towards a reduction in global stocks still overhanging the market. In November, the ISO cautioned that the move could be accelerated if crops in major Asian producers including China, India and Thailand came in below the initial expectations. This looks to be the case, but world market prices have come under growing bearish pressure from non-sugar factors despite a constructive fundamental picture. Nevertheless, a statistical deficit is clearly supportive for world prices and *ceteris paribus* the latter can be expected to trend generally higher in the remaining months of 2015/16.

Table A6 summarizes estimates of world sugar production and consumption in 2015/16 released to date by leading sugar analysts. Sugar spot prices and price differentials are given in Tables A7 and A8.

Table A6 World Sugar Production and Consumption 2015/16 (mln mtrv)				
		Production	Consumption	Surplus/deficit
Czarnikow (c)	16-Jun	186.03	187.72**	-1.69
ABARES (b)	16-Jun	182.60	184.70	-2.10
USDA (c)	16-Jun	173.41	173.41*	-3.75
ISO (b)***	20-Aug	170.91	173.40	-2.49
ABARES (b)	16-Sep	182.00	184.70	-2.70
Czarnikow (c)	29-Sep	183.20	187.30**	-4.10
F.O. Licht (b)	27-Oct	181.72	179.12	-5.20
ISO (b)***	3-Nov	169.37	172.90	-3.53
ABARES (b)	8-Dec	178.00	183.80	-5.80
Czarnikow (c)	17-Dec	178.92	186.11**	-8.19
F.O. Licht (b)	5-Feb	176.91	181.66*	-6.49
ISO (b)***	22-Feb	166.83	171.85	-5.02
# October/September				
(b)=balance; (c)=individual crop years aggregated				
* excluding unrecorded disappearance				
** including 1 mln tonne allowance for unrecorded disappearance				
*** tel quel basis				

Table A7 DAILY SPOT PRICES AND SELECTED ECONOMIC INDICATORS

		ISA DP	ISO White Sugar Price Index	White Sugar Differential	Indicators		
		USD cents/lb		%	UN Index (1)	SDR/USD	
	2011	26.01	31.29	5.28	20	137	0.6330
	2012	21.54	26.35	4.81	22	124	0.6525
	2013	17.69	22.14	4.45	25	131	0.6582
	2014	17.00	20.18	3.18	19	131	0.6573
	2015	13.43	16.93	3.50	26		
2013	Nov	17.68	21.38	3.70	21		0.6534
	Dec	16.55	20.39	3.84	23		0.6500
2014	Jan	15.63	19.25	3.62	23		0.6526
	Feb	16.61	20.63	4.02	24		0.6495
	Mar	17.90	21.40	3.50	20		0.6402
	Apr	17.61	21.24	3.63	21		0.6459
	May	18.27	21.68	3.41	19		0.6464
	June	18.17	21.60	3.43	19		0.6489
	July	18.26	20.78	2.52	14		0.6488
	Aug	17.22	19.85	2.63	15		0.6552
	Sep	16.02	19.12	3.10	19		0.6671
	Oct	16.75	19.44	2.69	16		0.6728
	Nov	16.19	19.08	2.89	18		0.6817
	Dec	15.33	18.05	2.72	18		0.6864
2015	Jan	15.34	18.04	2.70	18		0.7093
	Feb	14.59	17.43	2.84	19		0.7080
	Mar	13.16	16.55	3.39	26		0.7220
	Apr	13.08	16.66	3.58	27		0.7226
	May	13.43	16.57	3.14	23		0.7120
	June	12.46	15.97	3.51	28		0.7119
	July	12.77	16.27	3.50	27		0.7163
	Aug	11.50	15.47	3.97	35		0.7131
	Sep	11.86	15.82	3.96	33		0.7111
	Oct	13.91	17.62	3.71	27		0.7112
	Nov	14.55	18.18	3.63	25		0.7234
	Dec	14.64	18.56	3.92	27		0.7214
2016	Jan	14.05	18.86	4.81	34		0.7237

(1) USD unit values of manufactured goods exports, 2000=100

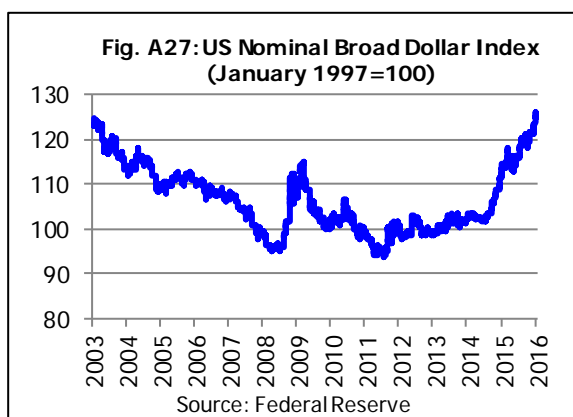
**Table A8 FREE MARKET HIGHEST AND LOWEST DAILY SPOT PRICES IN 2012-2016
(USD cents/lb)**

	ISA Daily Price					ISO White Sugar Price Index				
	2012	2013	2014	2015	2016	2012	2013	2014	2015	2016
Jan	23.56	18.89	15.63	15.34	14.05	28.15	22.92	19.25	18.04	18.86
Feb	24.12	18.28	16.61	14.59		28.80	22.64	20.63	17.43	
Mar	24.10	18.46	17.90	13.16		28.95	23.50	21.40	16.55	
Apr	22.75	17.80	17.61	13.08		27.36	22.72	21.24	16.66	
May	20.81	17.62	18.27	13.34		25.18	21.87	21.68	16.57	
June	20.47	17.09	18.17	12.64		25.90	21.91	21.60	15.97	
July	22.88	16.84	18.26	12.77		28.17	21.66	20.78	16.27	
Aug	20.88	17.03	17.22	11.50		25.80	21.98	19.85	15.47	
Sep	19.99	17.40	16.02	11.86		25.43	22.01	19.12	15.82	
Oct	20.31	18.66	16.75	13.91		25.30	22.68	19.44	17.62	
Nov	19.34	17.68	16.19	14.55		23.67	21.38	19.08	18.18	
Dec	19.31	16.55	15.33	14.64		23.52	20.39	18.05	18.56	
Annual averages	21.54	17.69	17.00	13.43		26.35	22.14	20.18	16.93	
Daily quotations										
Highest	25.53	19.78	18.90	16.15		29.92	24.08	22.45	19.05	
Lowest	18.68	16.05	14.90	11.19		22.82	19.83	17.64	15.06	

CURRENCY MOVEMENTS

- **US dollar rises 10% in 2015 as Federal Reserve hikes interest rates**
- **Most currencies still under pressure from loose monetary policies, tumbling commodity prices and weak global economic growth**

The US dollar (USD) closed 2015 with substantial gains versus a basket of key currencies as investors braced for higher interest rates in the world's largest economy. The US nominal broad dollar index as published by the Federal Reserve rose 10% through 2015 to a 12-year high of over 122 in December (see Fig. A27). The index continued to rise in January, moving upwards of 125. Most of the 10% increase seen last year took place ahead of the US central bank's decision to raise benchmark interest rates for the first time since 2004 at its December meeting. In contrast, a growing number of central banks, including the European Central Bank and the Bank of Japan, have implemented negative interest rates on deposits to try and stimulate spending. In most developing countries, a sharp drop in commodity prices – chiefly crude oil – and large capital outflows due to concerns over global economic growth have put sustained pressure on currencies. These include the Argentinean Peso (ARS), which depreciated 34.6% in 2015, the Brazilian Real (BRL, -33.59%), the South African Rand (ZAR, -26.15%), the Turkish Lira (TRY, -21.4%) and the Russian Ruble (RUB, -16.73%).



Exporters

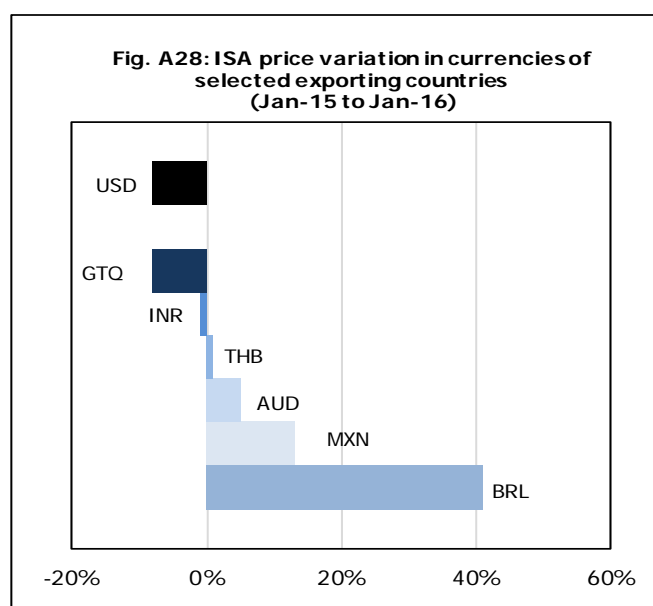
The BRL was the worst performing currency of 2015 among key sugar exporters, shedding more than 30% of its value against the USD (see Table A9) as the country continues to struggle with a severe economic recession and surging inflation. Investment bank SocGen said in January that the BRL/USD could soon be heading to 4.25 if Brazil's

economy fails to improve. The BRL/USD hit a record low of 4.14 in September 2015, the lowest level since the currency was introduced in 1994. In a recent presentation, US agricultural giant Bunge noted that the weaker BRL has lowered the estimated ex-factory sugar production cost in Brazil from 18.00 cents/lb in the last season to around 12 cents/lb in the current season. In a separate presentation, consultancy LMC International pegged Brazil's current full cost of production (including fobbing expenses) between 10 and 12 cents/lb. All estimates were based on a BRL/USD exchange rate of 4. A weaker BRL has also given a significant boost to the profitability of the Brazilian sugar industry, with the ISA price jumping 41% in BRL terms from January 2015 to January 2016 (see Fig. A28). Across other exporting countries, the ISA price rose 13% in Mexican Pesos (MXN), 5% in Australian dollars (AUD), 1% in Thai Bahts (THB), but fell 1% in Indian Rupees (INR) and 8% in Guatemalan Quetzales (GTQ).

Table A9: USD in currency units of major exporters

	Brazil	Thailand	Australia	Mexico	Guatemala
Jan-15	2.63	32.75	1.24	14.69	7.63
Feb-15	2.80	32.57	1.28	14.92	7.65
Mar-15	3.12	32.65	1.29	15.23	7.63
Apr-15	3.06	32.52	1.29	15.22	7.68
May-15	3.05	33.56	1.27	15.26	7.70
Jun-15	3.12	33.73	1.29	15.48	7.66
Jul-15	3.21	34.34	1.35	15.96	7.65
Aug-15	3.50	35.43	1.37	16.54	7.65
Sep-15	3.89	36.02	1.42	16.85	7.69
Oct-15	3.89	35.73	1.39	16.57	7.69
Nov-15	3.78	35.79	1.40	16.64	7.65
Dec-15	3.87	36.01	1.38	17.07	7.61
Jan-16	4.05	36.15	1.42	18.06	7.65

Fig. A28: ISA price variation in currencies of selected exporting countries (Jan-15 to Jan-16)



Importers

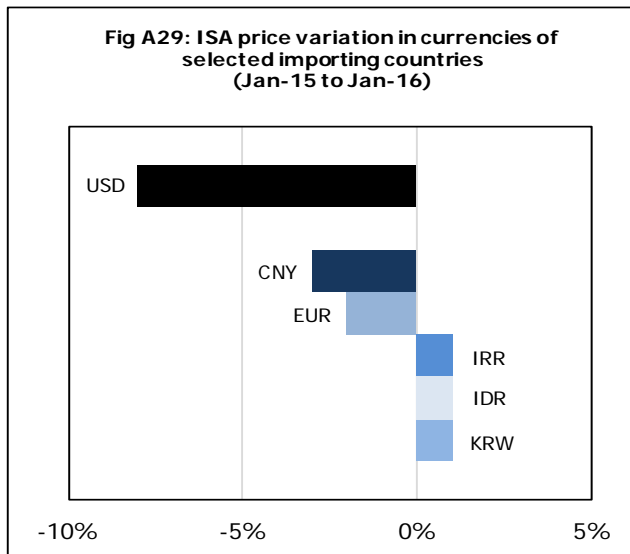
While the ISA price fell 8% in USD terms between January 2015 and January 2016, most sugar importing countries saw the benefits of this drop eroded by local weaker currencies (see Table A10). In South Korea, Indonesia and Iran, ISA sugar prices rose 1% when expressed in local currencies (See Fig. A29). Countries in the Euro zone saw a 3% decrease, while China experienced a 5% drop.

	China	S. Korea	Indonesia*	Iran	EU-19
Jan-15	6.22	1,089	12,583	27,372	0.86
Feb-15	6.25	1,098	12,750	27,600	0.88
Mar-15	6.24	1,113	13,069	27,939	0.92
Apr-15	6.20	1,089	12,948	28,256	0.93
May-15	6.20	1,093	13,138	28,562	0.90
Jun-15	6.21	1,112	13,313	29,106	0.89
Jul-15	6.21	1,144	13,378	29,509	0.91
Aug-15	6.34	1,179	13,782	29,798	0.90
Sep-15	6.37	1,184	14,404	29,957	0.89
Oct-15	6.35	1,148	13,812	29,954	0.88
Nov-15	6.37	1,153	13,665	29,974	0.93
Dec-15	6.45	1,172	13,855	30,113	0.92
Jan-16	6.57	1,201	13,887	30,173	0.93

Import costs & Export revenues

(c/lb)	USD	BRL	INR	THB	AUD	GTQ	MXN
Jan-15	15.34	40.40	953.16	502.35	18.98	117.11	225.31
Feb-15	14.59	40.92	904.99	475.19	18.73	111.56	217.74
Mar-15	13.16	41.05	821.84	429.61	17.02	100.38	200.40
Apr-15	13.08	40.00	820.81	425.31	16.90	100.49	199.06
May-15	13.34	40.71	851.23	447.70	16.88	102.71	203.63
Jun-15	12.46	38.82	795.70	420.30	16.13	95.39	192.92
Jul-15	12.77	41.05	812.76	438.50	17.22	97.68	203.86
Aug-15	11.50	40.28	748.33	407.42	15.77	87.96	190.20
Sep-15	11.83	46.03	783.03	426.17	16.76	90.98	199.35
Oct-15	13.91	54.05	905.20	496.97	19.31	106.93	230.50
Nov-15	14.55	55.07	961.03	520.67	20.36	111.35	242.17
Dec-15	14.64	56.64	974.96	527.15	20.20	111.48	249.86
Jan-16	14.05	56.84	945.47	507.96	20.02	107.51	253.80
Jan-15/ Jan-16 change	-8%	41%	-1%	1%	5%	-8%	13%

(c/lb)	USD	EUR	CNY	IDR	KRW	IRR	MYR
Jan-15	15.34	13.23	95.41	193,022	16,704	419,881	55.04
Feb-15	14.59	12.86	91.21	186,021	16,025	402,683	52.44
Mar-15	13.16	12.15	82.13	171,959	14,641	367,680	48.44
Apr-15	13.08	12.14	81.12	169,360	14,240	369,588	47.55
May-15	13.34	11.96	82.76	175,261	14,558	381,011	48.07
Jun-15	12.46	11.11	77.32	165,883	13,858	362,663	46.59
Jul-15	12.77	11.62	79.29	170,838	14,611	376,825	48.55
Aug-15	11.50	10.33	72.90	158,490	13,560	342,681	46.69
Sep-15	11.83	10.54	75.34	170,402	14,012	354,375	50.99
Oct-15	13.91	12.39	88.34	192,130	15,964	416,660	59.43
Nov-15	14.55	13.54	92.67	198,833	16,772	436,124	62.83
Dec-15	14.64	13.46	94.48	202,831	17,162	440,848	62.67
Jan-16	14.05	12.94	92.36	195,110	16,868	423,927	61.04
Jan-15/ Jan-16 change	-8%	-2%	-3%	1%	1%	1%	11%

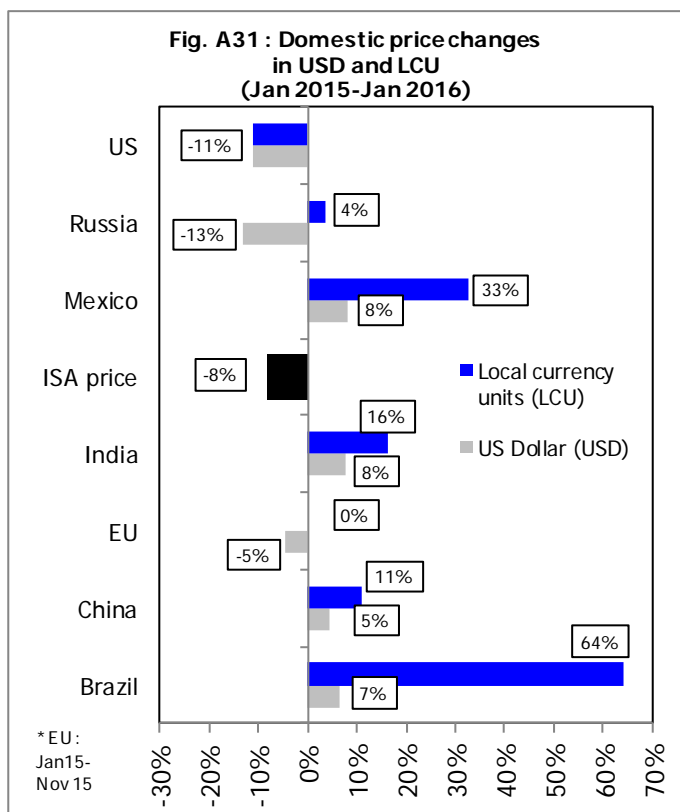


DOMESTIC MARKETS AND PRICES

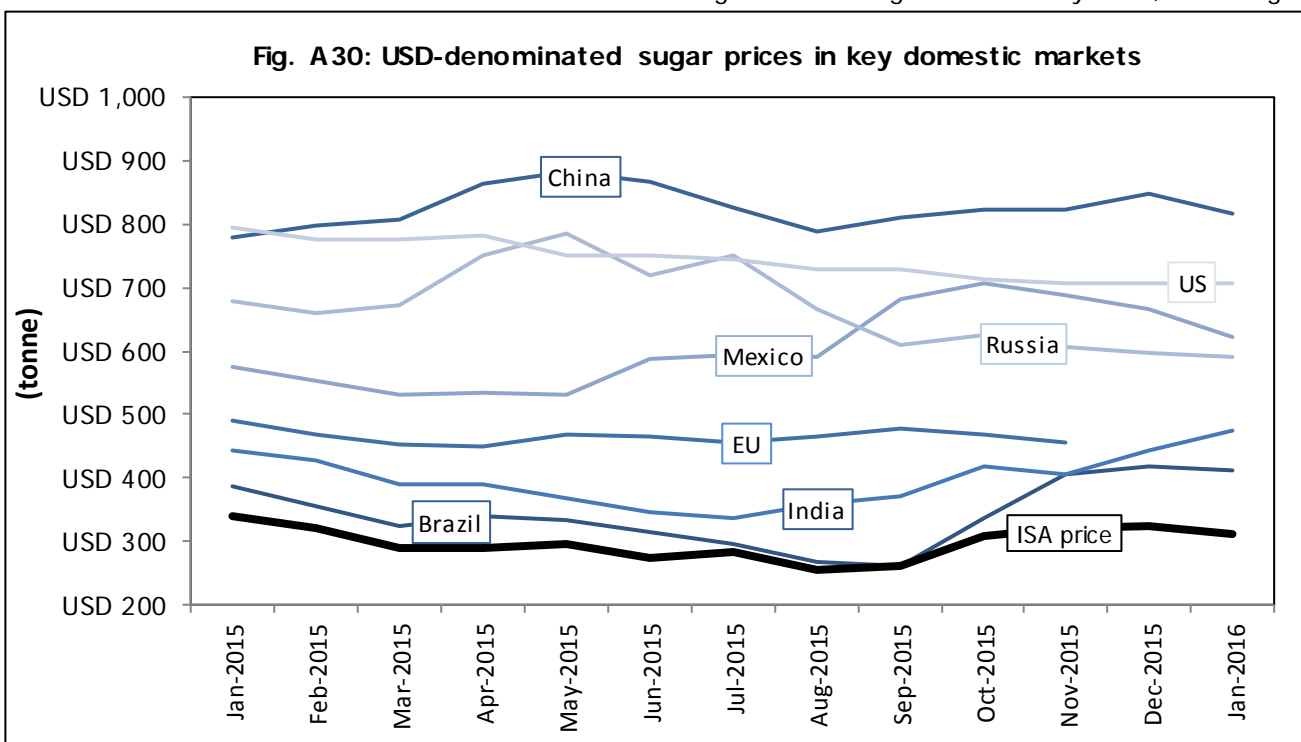
- Domestic sugar prices rally in Brazil and Mexico
- India and China also experience marked increases

Most domestic sugar prices monitored by the ISO rose between January 2015 and January 2016, despite an 8% decrease in the ISA price for the same period (see Fig. A30). In local currency units (LCU), wholesale prices in Brazil and Mexico rallied substantially, up by 64% and 33%, respectively (see Fig. A31). India also saw a big jump (16%), followed by smaller increases in China (11%) and Russia (4%). Prices remained largely stable in the EU, while falling by 11% in the US. In USD terms, swings were more moderate. Prices rose in Brazil (7%), China (5%), India (8%) and Mexico (8%); and declined in the EU (-5%), Russia (-13%) and the US (-11%).

In January 2016, wholesale domestic prices were the highest in China (USD816.26/tonne) and the lowest in Brazil (USD413.22/tonne) when monthly averages are compared. In **China**, prices remained firmly above the USD800/tonne mark for the fifth straight month. The high premium carried by China's domestic sugar price over London white sugar futures continued to make the country an attractive destination. After freight and taxes are accounted for, margins of more than USD200/tonne for cargoes attracting a 15% in-quota import tariff can be achieved. According to



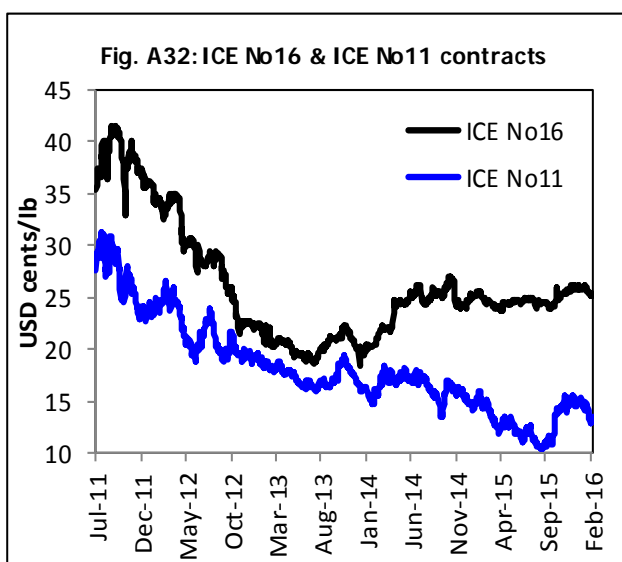
trade estimates, between 0.5 mln and 1 mln tonnes of white sugar could be smuggled into the country through its borders with Myanmar and Vietnam. In a separate statement, the Indian Sugar Mills Association recognized that most of its exports of white sugar to Myanmar were likely to end up in China. In LCU, China's domestic sugar prices averaged CNY5,378.90/tonne in January, slightly lower than the CNY5,482.74/tonne recorded in December. December's price was the highest on average since January 2013, according



to data compiled by the ISO. China's domestic prices began to rise at the start of 2014/15 as the government reduced the minimum price paid for cane, causing a sizeable drop in planting intentions. Combined with adverse weather, production so far in 2015/16 has lagged 12% that of last season's.

US refined beet sugar prices stood at USD705.48/tonne in January, just behind China. Prices in the US have been stable since November after a gradual downward trend seen through most of 2015. In fact, in January 2015, US prices were the highest among all those monitored by the ISO. In February, the USDA revised down its outlook for domestic sugar supplies following lower imports and poorer output. Imports for the season 2015/16 were projected at nearly 2.8 mln tonnes. The stronger pace of imports for direct consumption (rather than refining) reflect a pick-up in deliveries from Mexico and the continuing weakness in US beet sugar deliveries to consumers. These are down nearly 10% year on year.

US sugar imports are expected by the USDA at 3.162 mln tonnes for 2015/16, down from 2014/15's 3.553 mln tonnes, but still accounting for attractive refining margins as gauged by the gap between domestic (ICE No16) and world (ICE No11) raw sugar prices (See Fig. A32).



Put together, the USDA projections result in a decrease in 2015/16's ending stocks-to-use ratio to 12.8%, down from 14.4% in both 2014/15 and 2013/14.

In neighboring **Mexico**, domestic sugar prices for the *estandar* quality sustained a gradual fall between September and January in LCU terms and October and January in USD terms. However,

prices remained markedly higher when compared to the previous periods one year ago. In January, *estandar* sugar averaged MXN11,217.71/tonne, up by nearly a third from the MXN8,455.49/tonne the same month of 2015. When expressed in USD, prices stood at USD622.29/tonne in January, up from USD574.77/tonne one year before. For the current 2015/16 season, the government set the sugar reference price at MXN8,130.65/tonne, up from MXN7,099.83/tonne. The reference price is used to calculate cane payments to growers. Last year, the Mexican government announced that domestic sugar consumption increased to 4.408 mln tonnes in 2014/15 from 4.098 mln tonnes a year earlier despite the introduction of tax on soft drinks.

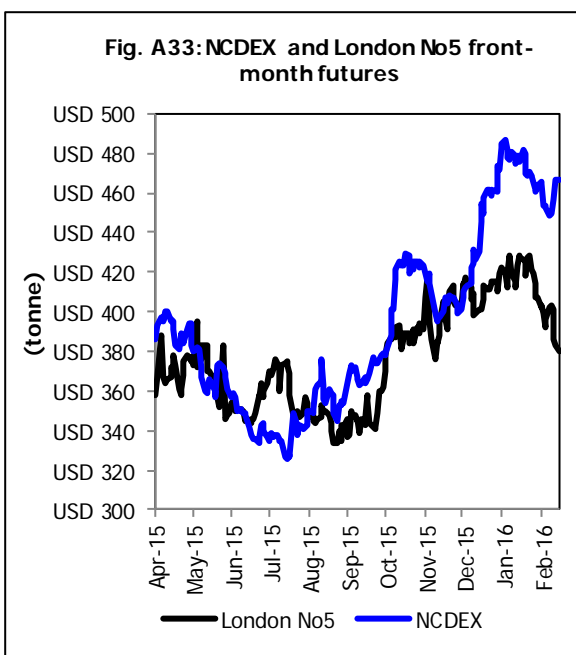
Russia's January domestic sugar price was the fourth highest within the countries monitored by the ISO. It stood at an average of USD589.52/tonne, the lowest since February 2009. However, in local currency terms, prices surged to RUB46,130.18/tonne, surpassing a previous all-time high of RUB44,545.77/tonne set in January 2015. Better prices sent Rusagro's revenue in the sugar business up by 46% in 2015 to RUB32.9 bln. Total sugar sales also went up from 752,275 tonnes in 2014 to 783,809 tonnes in 2015.

In the **EU**, sugar prices rose slightly in November (last month for which data is available) to EUR423/tonne according to the European Commission (see Table A13). This is EUR6/tonne above the previous month but still EUR26/tonne below November 2014. The reported EU white sugar price bottomed out at EUR414/tonne in June 2015, the weakest level since records began in 2006. In January, Associated British Foods (ABF) said the end of the downturn to EU prices would have no material impact on its operations because it is supplying customers with deals done at lower levels. Nonetheless, ABF said there is increasing evidence that sugar prices will be governed by stability ahead of EU quota removals in 2017. Meanwhile, rival Südzucker said in January it expects operating losses of EUR60 mln to EUR80 mln in its sugar segment.

	EUR/tonne	USD/tonne
Nov-2014	449	560
Dec-2014	435	536
Jan-2015	423	490
Feb-2015	414	470
Mar-2015	419	454
Apr-2015	417	449
May-2015	419	467
Jun-2015	414	464
Jul-2015	415	456

Aug-2015	419	467
Sep-2015	425	477
Oct-2015	417	468
Nov-2015	423	455
Source: European Commission		

In **India**, domestic sugar prices averaged INR31,970/tonne in January, a level not seen since April 2014. Prices escalated 20% since November on a combination of downward revisions to the 2015/16 harvest and measures announced by the government to draw down stocks. While rising domestic prices have been helping mills clear arrears with farmers, export deals have been running below the government’s 4-mln tonne target. This is because mills are reluctant to sell sugar to the world market at a discount to the domestic market. In USD terms, Indian wholesale white sugar prices averaged USD475.43/tonne in January, the highest level since mid-to-late 2014. This compares with a January average of USD415.73/tonne for the White Sugar Price Index. Fig. A33 shows that the gap between NCDEX and London No5 front-month white sugar futures has widened significantly in previous months, discouraging mills from exporting.



Earlier this year, ISMA said the average sugar production costs in India (including the cost of finance) was between INR33,000/tonne (21.74 USD cents/lb) and INR35,000/tonne (23.06 USD cents/lb).

Lastly, **Brazil**’s average crystal sugar price surged to a record level of BRL1,674.90/tonne in January. When inflation is factored in, prices had not been this high since November 2011. A rally began in

October 2015 due to a delayed Centre-South cane crush and the continuing weakness in the BRL/USD exchange rate, which boosted the incentive for exports. In USD terms, prices averaged USD413.22/tonne in January, the lowest among domestic markets monitored by the ISO. Despite a sharp price rebound, Brazilian mills will end the 2015/16 season with a projected debt of BRL95 bln, 18% higher than in 2014/15, according to Itau BBA. This is because many milling groups hold USD-denominated debt, which soared with a weaker BRL. The sector’s debt now exceeds its revenue, estimated by Unica at BRL85 bln for 2015/16.

Additionally, a record high number of mills had to file for bankruptcy protection in 2015, according to Valor Economico. A total of 13 companies sought court protection from creditors versus a six-year average of 11. Combined, they hold bank debts close to BRL8 bln. Since 2008, 79 mills have filed for bankruptcy protection. The 2015 list includes Shree Renuka, Abengoa, Tonon Bioenergy and Unialco.

***Sources for price data:** Brazil: Cepea/Esalq (Crystal Sugar 99.7° pol, colour 130-180 ICUMSA Units); China: Zhengzhou Commodity Exchange (ZCE) white sugar front-month futures; EU: white sugar reference price as reported by the European Commission; India: National Commodity & Derivatives Exchange Limited (NCDEX) M200 sugar front-month futures; Mexico: *estandar* sugar prices as reported by the Sistema Nacional de Información e Integración de Mercados (SNIIM); Russia: ISCO white sugar price index; US: refined beet sugar price as reported by the USDA.

SPECIAL FOCUS

How are food and beverage companies responding to the sugar backlash?

- **Sector steps up efforts to self-regulate amid threat of anti-sugar policies and taxation**
- **Trend towards “healthier” products and smaller servings gains momentum**

In reviewing the many complex events that had shaped the sugar industry in 2015, one trend is clear: sugar has been getting a lot of bad press. The topic of sugar and health once again rose to the headlines in March after the World Health Organization (WHO) reinstated guidelines recommending both adults and children to cut daily intake of free sugars to less than 10% of total energy consumption. A reduction to 5% could bring further benefits, the WHO said, but evidence was insufficiently strong to yield a public health recommendation. So far, few governments have taken concrete measures aimed at limiting sugar consumption. However, as negative public opinion grows, politicians across all regions – from North America to Europe to Asia – have indicated that taxing foods and drinks could become part of their strategy to combat public health issues such as obesity and diabetes.

Therefore, as 2016 begins, the threat of further regulation and taxation are issues that the food and beverage industry clearly must address. Although the science behind the real impact of sugar on current obesity and diabetes epidemics remains a divisive issue and largely inconclusive, consumers are already responding by switching to “healthier” product categories. In this *Special Focus*, we look at the achievements and commitments made by seven of the biggest food and beverage companies globally (Coca-Cola, Danone, Kellogg, Mondelez, Nestle, PepsiCo and Unilever) to tackle the so-called sugar backlash. This analysis shows the focus remains on soft drinks (especially in the fizzy category) and snacks. It also reveals that diversification into new product categories, smaller portions, increased attention to nutrition, labelling transparency as well as innovation are all gathering momentum.

Among key initiatives to self-regulate are:

- Increased availability of low-calorie or zero-calorie versions of traditional products;
- Gradual reduction of sugar content of full-calorie product offerings;
- Trend towards smaller or half-portion servings;

- Improved transparency in labelling and on-pack nutritional information, even when not demanded by local legislation;
- Replacement of sugar with artificial or natural intense sweeteners (e.g. stevia);
- Diversification and expansion of portfolio into *good-for-you* and *better-for-you* products;
- Launch of regional and global campaigns to educate consumers and foster healthy lifestyles.

Among other details, the following section provides a brief description of targets companies are pursuing as part of their strategies to address the sugar backlash. While a major consumer shift away from sugar may be years away (sugar consumption globally has grown steadily at around 2% over the last five years), consumer demands are quickly changing, particularly in higher-income markets. Alongside a growing preference for reduced-sugar use in food and beverage formulations, buyers are also shying away from artificial sweeteners (such as aspartame) in favour of natural intense sweeteners (such as stevia). A growing number of consumers are also demanding smaller and “healthier” offerings and more transparent information in nutritional and social responsibility messages.

Coca-Cola

Despite the growing backlash against soft drinks, Coca-Cola said in its latest set of results that takings for sparkling beverages remained stable in 2015. Globally, regular Coca-Cola sales volumes rose by 1% last year, Sprite was up by 3% while Coca-Cola Zero increased by 6%. In contrast, Diet Coke and Coke Light sales slipped 6% as consumers sought other options.

Coca-Cola has also continued to launch lower- and mid-calorie drinks such as Coke Life (sweetened with a mixture of sugar and stevia) in many markets. In September, the company disclosed it had spent USD21.8 mln in funding scientific research and USD96.8 mln to support health and well-being partnerships. The disclosure followed criticism by anti-sugar campaigners that Coca-Cola had been trying to shift the focus of the debate to suggest that more physical activity was the only way to beat the obesity crisis.

Company X-ray
Size:
USD46 bln in revenues in 2014; 129,200 employees; own/license more than 500 non-alcoholic beverage brands
Product categories:
Non-alcoholic beverages (primarily sparkling)
Brands:
Coca-Cola, Diet Coke, Coca-Cola Light, Coke Zero, Coca-Cola

Life; Fanta; Sprite, Nestea, Minute Maid, Schweppes, Bonaqua
Achievements:
<ul style="list-style-type: none"> • Introduction of 400 new beverage options in 2014; of which more than 100 are reduced, low- or no-calorie • Expansion in 2014 portfolio of beverages available in small packages in 81 countries • Introduction of Coca Cola Life (sweetened with a mixture of sugar and stevia) in more markets • Launch in 2014 of transparency website about research, initiatives and programs supported by the company
Targets:
<ul style="list-style-type: none"> • Timeline: 2020 <ul style="list-style-type: none"> ○ Offer low- or no-calorie beverage options in every market ○ Provide transparent nutrition information featuring calories on all packages ○ Support physical activity programs ○ Market responsibly, including no advertising directly to children under 12 anywhere in the world

Danone

Danone has reduced sugar in a handful of products over recent years. In 2014, it committed to slash the sugar content of its best-selling children’s product (*Danimals*) by 25% by 2016. The company also pledged to reduce the total sugar content of 70% of its products to 23g or less per 170g servings and invest USD3 mln in nutrition education and research related to healthy eating habits.

Company X-ray
Size:
USD21 bln in revenues in 2014; 101,558 employees
Product categories:
Fresh dairy products; early life nutrition; waters; medical nutrition
Brands:
Activia; Danonino; Oikos; Actimel; Danette
Achievements:
<ul style="list-style-type: none"> • 75% of offerings for infants and young children contain no added sugar • Decrease in added sugar in the <i>Growing Up Milks</i> segment from 12,600 tonnes in 2008 to 8,600 tonnes in 2014 • In Europe, this equates to a reduction of 6.5 mln teaspoons of sugar • In the UK, reduction of 15% of added sugars in Actimel, allowing the product to be advertised to children • 95 % of Danone’s Aquadrinks have less than 8g of sugar/100 ml and 87% are already at or below 5g /100 ml • 99% of sales have nutritional on-pack information • 30% of products were improved in 2014 to meet higher nutritional standards, including reduced sugar
Targets:
Danone aims “to give consumers products which not only taste good, but whose superior nutritional profiles do them good.”
Danone’s Food, Nutritional & Health Charter:
<ul style="list-style-type: none"> • Offer solutions tailored to nutritional needs & recommendations, tastes, and incomes • Develop products with relevant, scientifically proven health benefits • Inform consumers clearly and factually and advertise responsibly • Promote healthy diets and lifestyles • Address major health and nutrition-related societal

challenges

Kellogg

Even though breakfast cereals have been singled out by anti-sugar campaigners as a key contributor to sugary diets, a UK National Dietary Survey showed that cereals in fact contribute just 7% of extrinsic dietary sugars. Despite that, Kellogg said it had already reduced sugar content in top-selling US kids’ cereals by 20 to 30% in recent years. In the UK and across Europe, Kellogg has since 2010 reduced sugar content in product offerings by 30% in *Bran Flakes*; 10% in *Special K flakes* and 16% in *Coco Pops Rocks*. The company said more reductions are planned for 2016.

In its own research, Kellogg concluded that reducing sugar content in cereals or snack bars has a minimum impact on calorie content as carbohydrates coming from starch remain a key contributor¹. It said that, for example, 30g *Frosties* (11g sugar) contains the same calories (113kcal/bowl) as a bowl of *Corn Flakes* (2.4g sugar).

Company X-ray
Size:
USD14.6 bln in net sales in 2014; 33,000 employees
Product categories:
Ready-to-eat cereal and convenience food such as warm breakfast, bars, crackers, beverages and fruit flavoured snacks
Brands:
Kellogg’s Corn Flakes, Frosties, Froot Loops, Mueslix, Rice Krispies, Nutri-Grains
Achievements:
<ul style="list-style-type: none"> • Percentage of cereals with or less than 10g of sugar per 30g servings increased from 77% in 2007 to 84% in 2014 • 70% of products launched since 2007 fall under the low to medium sugar category • In 2015, 168 tonnes of sugar were removed from UK diets through reformulation of adult cereals
Targets:
<ul style="list-style-type: none"> • Timeline: 2016 <ul style="list-style-type: none"> ○ Pledge to cut 723 tonnes of sugar across all its cereals in 2016 ○ Improve front-of-pack labelling with objective, fact- and science-based information in a visible format • Timeline: 2020 <ul style="list-style-type: none"> ○ Increase percentage of cereals with or less than 10g of sugar per 30g servings to 90% ○ Increase nutrition education and active lifestyle communications by 50%

Mondelez

Mondelez is targeting goals set by the WHO to reduce salt and saturated fat consumption, while managing caloric and sugar intake. In March 2014, Mondelez launched its *Mindful Snacking* initiative

¹ https://www.kelloggsnutrition.com/en_UK/knowledge/featured/reducing_sugar.html

while committing USD50 mln to healthy-lifestyle community partnerships over the next several years. The company announced last year that it had exceeded environmental and nutritional goals set in 2013 while making progress towards its well-being targets by 2020.

Company X-ray	
Size:	
USD30 bln in revenues in 2014; 100,000 employees; 58 brands	
Product categories:	
Chocolate , Biscuits, Cheese & Grocery, Beverages, Gum & Candy	
Brands:	
Cadbury, Belvita, Club Social, Clight, Halls, Lacta, Bubbaloo, Mikado, Nabisco, Philadelphia, Milka, Tang, Oreo, Toblerone	
Achievements:	
<ul style="list-style-type: none"> In 2014, 22.4% of revenue was from <i>Better Choice</i> options, which meet a stricter nutrition criteria Since 2012, <i>Mindful Portion</i> products (individually wrapped snacks that have 200 calories or less) grew by 16% 	
Targets:	
<ul style="list-style-type: none"> Timeline: 2016 <ul style="list-style-type: none"> Front-of-pack calorie information on packaging globally by the end of 2016 No advertisement to children under age 12 as well as advertising where 35% of audience are children (irrespective of the product nutritional profile) Timeline: 2020 <ul style="list-style-type: none"> Increase availability of <i>Mindful Portion</i> products by 25% to help consumers to manage calories 	

Nestlé

Nestle has reduced sugar content in many products, especially children’s offerings, for several years. Between 2000 and 2013, the company claims it had cut the amount of table sugar (or free sugars) in their products by 32%. Nestlé’s target is to further reduce sugar contents by an average of at least 10% between 2014 and 2016 in products that do not meet the *Nestlé Nutritional Foundation* criteria for sugars as defined in the company’s own nutritional profiling system.

Company X-ray	
Size:	
USD99.96 bln in sales in 2014; 339,000 employees; over 2,000 brands	
Product categories:	
Powdered and liquid beverages, milk products and ice cream, prepared dishes and cooking aids, chocolate , cereals, nutrition and health science, pet care, confectionery, bottled water	
Brands:	
Nesquik, Kit-kat, Aero, ToffeeCrisp, AfterEight, Carnation, Herta, Maggi, Pure Life	
Achievements:	
<ul style="list-style-type: none"> 2011: 9,000 tonne sugar reduction in breakfast cereals versus 2003 2014: 98% of children’s products met the <i>Nestle Nutritional Foundation</i> sugars criteria 2014: Nesquik Powder products underwent sugar reduction of 1,200 tonnes 2015: Reduction of sugar content in any serving of 	

children’s or teenagers’ breakfast cereal brands to 9g or less per serving
Targets:
<ul style="list-style-type: none"> Further reduce sugar content by 10% (2014-2016) in products that do not meet Nestle Nutritional Foundation criteria, especially in children’s products Commitment to print Guideline Daily Amounts on all relevant packaging Support parents in raising healthier children, with growing understanding of importance of good nutrition to help manage health and treat disease

PepsiCo

PepsiCo recognizes that reducing sugar content in key global brands remains challenging because of consumer preferences and a trend away from diet sodas. The company claims consumers are demanding more natural alternatives, which led to the introduction of Pepsi Next (sweetened with a mixture of sugar and stevia) in Australia, France, Canada and Netherlands over recent years. PepsiCo also reported good progress in cutting back on sugar in Russia, Brazil, Saudi Arabia, the UK and Canada. In 2013, *Trop50* with 50% less sugar was launched in the UK. *Lipton Ice Tea* with a 30% sugar reduction was introduced in Russia, while *Mirinda* and *Manzanita Sol* in Mexico saw a decreased of 25% in sugars per serving.

PepsiCo says it remains committed to bringing balance to their beverage portfolio by increasing low-o or zero-calorie option, introducing further small-portion sizes and providing clear calorie labelling.

Company X-ray	
Size:	
USD66.68 bln in net revenues in 2014; 271,000 employees; 22 brands	
Product categories:	
Snacks and beverages	
Brands:	
Pepsi, Walkers, Doritos, Quaker Oats, Tropicana, Copella, Naked Juice, Gatorade	
Achievements:	
<ul style="list-style-type: none"> Aim to reduce added sugars in key global brands was established in 2009 Increase appeal of <i>Fun-For-You</i> Products by eliminating trans fats, reducing salt, fat and added sugar content in key brands By 2013, PepsiCo had removed 402,000 tonnes of sugars from beverage portfolio in North America versus 2006 Also in 2013, PepsiCo Mexico cut sugar in Mirinda by 25% Launch of Pepsi Next (sweetened with a mixture of sugar and stevia) in Australia, Canada, Finland, the Netherlands and New Zealand 	
Targets:	
<ul style="list-style-type: none"> Reduce the average amount of added sugars per serving in key local beverage brands in key countries by 25 % by 2020 (against 2006 baseline) 	

Unilever

Unilever believes energy intake from sugars should be limited in line with recommendations made by organisations such as the WHO and the American Heart Association. The company has focused its efforts on beverages and ice cream as areas with the biggest potential for sugar reduction. Among its initiatives, Unilever has pledged to reduce sugar levels in ready-to-drink tea by 25% by 2020 while doubling the proportion of products that meet their highest nutritional standards.

Company X-ray
Size:
USD48.4 bln in revenues in 2014; of which 25% were from food and 19% from refreshments, 172,000 employees, over 400 brands
Product categories:
Food, refreshments (ice cream), soaps, shampoos, care products
Brands:
Knorr, Hellmann's, Lipton, Magnum, Carte Dor, Ben & Jerry's, Cornetto, Wall's, Solero, Pot Noodle
Achievements:
<ul style="list-style-type: none"> • Introduction in 2014 of <i>Lipton Ice Tea Black</i> (30% less sugar, sweetened with stevia) • Reduction in calories in children's ice cream brands to 110g or less per serving by 2014 • By 2015, limit 80% of packaged ice cream products to 250 kilocalories or less per portion • Reduction of sugar in many <i>Brisk Fountain</i> drinks • Commitment to clear, simple nutrition labelling • Restrict the marketing of food and drinks to children under 12 years old, which do not meet nutritional criteria • Do not use any materials that undermine promotion of healthy, balanced diets and lifestyles
Targets:
<ul style="list-style-type: none"> • Timeline: 2020 <ul style="list-style-type: none"> ○ Double the proportion of portfolio that meets highest nutritional standards ○ Reduce by 25% the sugar content of ready-to-drink teas ○ Increased use of non-nutritive sweeteners (e.g. stevia)

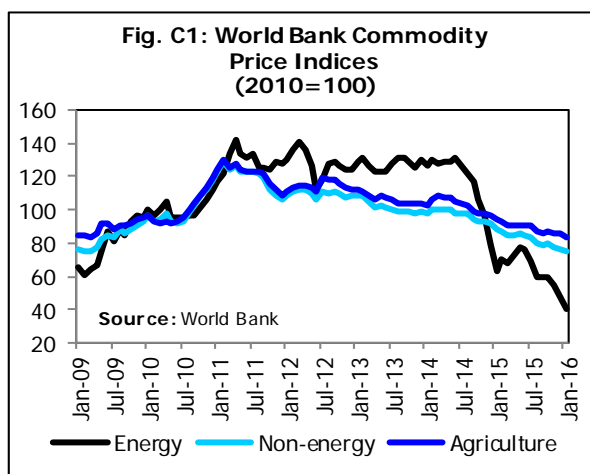
Conclusion

A lot has been achieved so far by food and beverages companies globally to address public health concerns and the growing backlash against sugar. In fact, most are heavily committed to delivering on ambitious targets in the years to come, reinforcing the argument of those who believe that self-regulation can be an effective way of addressing issues of public concern. But as the sugar backlash continues to gain priority to policy makers, it will be up to the food and beverage sector to prove they have the right tools and expertise to accommodate the concerns of both consumers and regulators.

COMMODITY PRICES

- **Commodity prices continue to slide away from 2011 peaks**
- **Oil prices plunge below USD30/barrel in mid-January**
- **As a whole, energy prices tumbled 45% in 2015**

Commodity prices extended their downward trend in recent months (see Fig. C1), led by another plunge in crude oil to less than USD30/barrel in mid-January. Most markets continued to operate under abundant supplies, weak demand and a strong USD. Cocoa and sugar were the only commodities to post gains in 2015 of 10% and 5%, respectively. Other agricultural products such as coffee and wheat saw declines of nearly 30% and 20% over the year, according to the S&P GS Commodity Index. Energy prices as a whole (including natural gas and coal) saw a 45% decrease last year. In addition to falling crude oil prices, energy markets also suffered from a mild winter in the northern hemisphere and the continuous introduction of policies to curb coal consumption in power generation.



In agriculture, El Nino-related concerns did little to boost prices on a global level. In fact, the World Bank noted in its latest *Commodity Markets Outlook* that agricultural prices have recorded their seventh quarter of declines in the last three months of 2015 to levels 30% below their 2011 peaks. In aggregate, non-energy commodities are now 40% below their 2011 highs.

Biofuels

The World Bank pointed to weak growth in biofuels production as a contributing factor to softness in agricultural prices. After several years of strong growth, demand for ethanol and biodiesel is expected to be significantly slower in the foreseeable future. At a global level, low crude oil prices could deliver a short-term boost

to transport fuel sales and a consequent increase in biofuels consumption in countries which have adopted mandated blending targets. However, the World Bank sees biofuels markets at risk of regulatory reforms as policy makers reconsider their benefits to the environment and their net contribution to energy independence.

Weather

In its latest forecast, the US National Weather Service's Climate Prediction Center (CPC) predicted that the El Nino phenomenon recorded in 2015 will weaken in the coming months and give way to La Nina, although considerable uncertainty remains. Opposite to El Nino, La Nina is characterized by unusually cold ocean temperatures in the equatorial Pacific Ocean. In 2015, the El Nino weather pattern led to dryness in the Philippines and Indonesia and brought unseasonable rains to parts of South America, hurting the progress of the cane harvest in Brazil. El Nino is likely to keep affecting temperatures and precipitation levels across the US in upcoming months, according to CPC.

Food prices

The FAO Food Price Index stood at 150.4 points in January, down 16% year on year to the lowest level since April 2009. Food prices have fallen for four straight years and remain under pressure from ample agricultural supply, the FAO said.

Price projections

The World Bank expects most commodity prices to continue to fall in 2016. With the exception of crude oil, a modest rebound is expected only by 2017. Persistently high inventories and weak growth prospects in emerging economies are likely to weigh on both energy and non-energy markets. Specifically, agricultural prices are projected to drop by 1.4% in 2016 compared to an October forecast of 1.3%. This outlook reflects adequate supplies despite the intensification of El Nino in 2015.

	Actual		Forecast	
	2013	2014	2015	2016
Energy	127	118	65	49
Non-Energy	102	97	82	79
Metals	91	85	67	60
Agriculture	106	103	89	88
Food	116	107	91	89
Beverages	128	102	94	93
Raw materials	116	92	83	83
Fertilizers	114	100	95	92

Source: World Bank

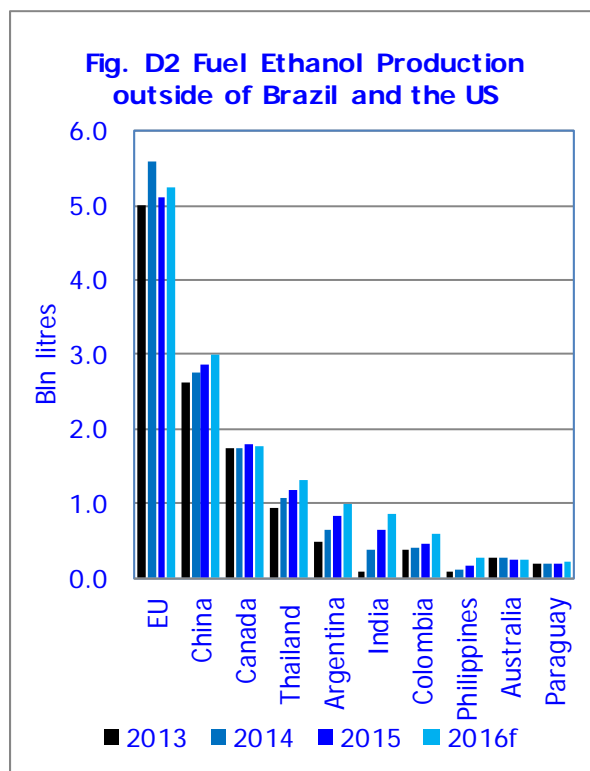
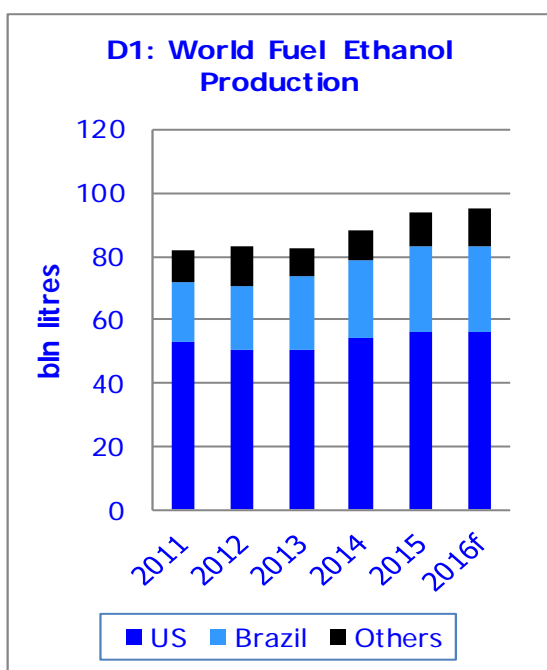
Table C2 – Selected Commodity Prices – February 2012 to January 2016 (Source: IMF)										
	Sugar	Cocoa	Wheat	Soybeans	Coffee	Maize	Oranges	Crude oil	Cotton	Barley
Feb-12	24.12	2,356.24	244.96	461.56	225.49	279.46	778.64	119.70	100.75	213.46
Mar-12	24.10	2,359.25	243.49	496.29	201.85	280.66	802.57	124.93	99.50	222.68
Apr-12	22.75	2,266.78	228.56	529.42	193.35	274.21	822.89	120.59	100.10	237.27
May-12	20.81	2,113.09	231.14	520.93	186.35	268.79	755.83	110.52	88.53	236.98
Jun-12	20.47	2,265.84	241.91	522.33	169.79	267.23	952.76	95.59	82.18	234.70
Jul-12	22.88	2,349.82	309.73	609.45	190.77	332.95	1,015.16	103.14	83.97	242.53
Aug-12	20.88	2,512.26	315.38	622.91	175.97	332.17	970.39	113.34	84.40	258.64
Sep-12	19.99	2,620.28	316.57	615.18	179.60	320.72	1,000.89	113.38	84.15	254.68
Oct-12	20.31	2,463.54	318.38	565.53	172.37	321.63	980.85	111.97	81.95	250.04
Nov-12	19.34	2,478.16	319.40	533.03	160.64	321.54	846.84	109.71	80.87	249.06
Dec-12	19.31	2,431.82	302.85	534.79	154.22	308.72	758.09	109.64	83.37	248.22
Jan-13	18.89	2,275.44	288.07	526.05	158.27	303.29	750.03	112.93	85.51	236.96
Feb-13	18.28	2,197.70	279.02	536.38	153.00	302.50	819.58	116.46	89.71	240.51
Mar-13	18.46	2,153.36	263.21	536.08	153.01	309.49	908.10	109.24	94.45	240.78
Apr-13	17.80	2,294.72	264.04	517.79	152.96	280.27	980.49	102.88	92.54	232.42
May-13	17.62	2,345.73	277.06	542.20	151.43	295.29	1,057.01	103.03	92.62	231.43
Jun-13	17.09	2,283.58	266.80	560.16	138.86	297.06	1,157.65	103.11	93.08	230.59
Jul-13	16.84	2,308.53	257.36	548.35	138.44	278.93	1,121.23	107.72	92.62	222.12
Aug-13	17.03	2,483.61	258.79	498.05	135.63	234.89	1,190.81	110.96	92.71	194.74
Sep-13	17.40	2,616.05	259.74	503.24	132.78	207.41	1,119.72	111.62	90.09	174.82
Oct-13	18.68	2,730.70	271.99	472.83	128.83	201.73	997.26	109.48	89.35	159.28
Nov-13	18.04	2,755.17	259.10	476.66	122.75	199.14	766.00	108.08	84.65	156.34
Dec-13	16.55	2,824.54	243.84	488.67	126.74	197.50	739.98	110.63	87.49	156.35
Jan-14	15.63	2,819.43	228.21	476.10	135.03	198.72	753.15	107.57	90.96	162.55
Feb-14	16.61	2,992.76	242.76	496.80	176.28	209.32	770.93	108.81	94.05	163.33
Mar-14	17.90	3,041.67	275.57	522.00	216.06	222.33	808.11	107.41	96.95	162.15
Apr-14	17.61	3,050.61	273.47	547.19	226.99	222.36	846.89	107.88	94.20	163.40
May-14	18.27	3,030.00	287.85	546.03	215.24	216.92	834.98	109.68	92.71	173.89
Jun-14	18.17	3,174.31	261.59	528.00	198.91	202.56	834.56	111.87	90.90	163.33
Jul-14	18.26	3,196.04	238.53	463.23	198.59	182.23	783.04	106.98	83.84	141.68
Aug-14	17.22	3,270.27	229.10	432.99	214.50	176.43	768.17	101.92	74.00	129.63
Sep-14	16.02	3,221.27	211.16	368.85	212.01	163.06	771.03	97.34	73.38	127.20
Oct-14	16.75	3,100.83	212.78	354.44	227.06	163.31	732.15	87.27	70.34	117.56
Nov-14	16.15	2,909.09	215.95	379.34	212.93	178.67	717.87	78.44	67.53	121.55
Dec-14	15.33	2,946.95	232.97	378.78	200.59	178.67	769.23	62.16	68.30	126.79
Jan-15	15.34	2,915.60	210.61	367.49	190.90	174.71	758.02	48.42	67.35	133.05
Feb-15	14.59	2,961.94	201.71	364.74	179.94	173.70	704.17	57.93	69.84	129.84
Mar-15	13.16	2,878.03	202.68	359.60	160.02	174.23	633.29	55.79	69.35	133.84
Apr-15	13.08	2,868.27	195.90	356.93	164.95	172.05	612.13	59.39	71.70	131.05
May-15	13.34	3,096.00	193.15	351.95	158.17	166.30	608.64	64.56	72.86	128.80
Jun-15	12.46	3,239.88	199.82	354.82	159.77	166.72	629.90	62.35	72.35	124.45
Jul-15	12.77	3,325.96	199.20	372.35	153.29	179.60	640.11	55.87	72.35	134.65
Aug-15	11.50	3,154.02	173.47	347.02	158.78	162.74	684.28	46.99	71.82	126.37
Sep-15	11.83	3,278.45	163.83	323.55	147.65	166.01	631.91	47.23	68.74	122.72
Oct-15	13.91	3,197.34	165.39	327.42	153.88	171.39	660.69	48.12	69.03	123.55
Nov-15	14.55	3,360.84	157.74	319.08	148.94	166.03	768.49	44.42	69.22	124.47
Dec-15	14.64	3,345.66	163.79	323.32	149.52	163.95	768.70	37.72	70.39	121.59
Jan-16	14.05	2,952.42	164.56	323.20	146.32	161.03	689.41	30.80	68.75	117.95
	ISA Daily Raw Sugar Price, cents/lb	ICCO, CIF US Europe. Ports USD/tonne	Wheat Hard Red Winter, FOB Gulf of Mexico, USD/tonne	US soybeans, Chicago, No2 yellow and par, USD/tonne	Coffee Mild Arabicas, ICO, US cents/pound	Maize US No 2 Yellow, FOB Gulf of Mexico USD/tonne	Oranges, French import price, USD/tonne	Crude oil, petroleum, Dated Brent, FOB UK, USD/barrel	Cotton, CIF UK, US cents/lb	Barley Canadian spot price USD/tonne

WORLD FUEL ETHANOL

OVERVIEW

Tumbling crude oil prices have squeezed margins for biofuels makers while throwing question marks over government subsidies to renewable fuels. Even so, output has continued to grow steadily through 2015 and is seen to increase marginally in 2016. This is because most of global demand is still supported by legislative programs which guarantee pockets of consumption and price floors for producers even as gasoline retail prices reach new lows. Additionally, there is new appetite for ethanol in China and India which helps to push global production higher in 2016.

World fuel ethanol **production** is forecast to increase by only 0.8% to reach 98.4 bln litres in 2016 (see Fig. D1 and Table D2). Relatively flat production is forecast in the globe's three dominant producers – the US, Brazil and the EU. Anticipated higher output in several smaller scale producers such as Argentina, China, India, Philippines and Thailand underpin the small gain in global output (see Fig. D2).



Global fuel ethanol **consumption** is forecast to consolidate at 98.0 bln litres in 2016 (see table D3). Offtake is anticipated to be flat in the US, Brazil and the EU. Despite the ongoing low oil price environment, gains in consumption are expected in several smaller consumers including Argentina, Colombia, India, Japan, Philippines and Thailand. Should crude oil and petroleum prices remain weak throughout the year there is a possibility of gasoline consumption rising and consequent higher demand for fuel ethanol than presently anticipated in countries with mandated blending targets.

Global fuel ethanol **trade** is forecast to contract in 2016 (exports falling to 4.0 bln litres). The US will continue to dominate world fuel ethanol exports with ample domestic supplies and competitive prices.

PRODUCTION

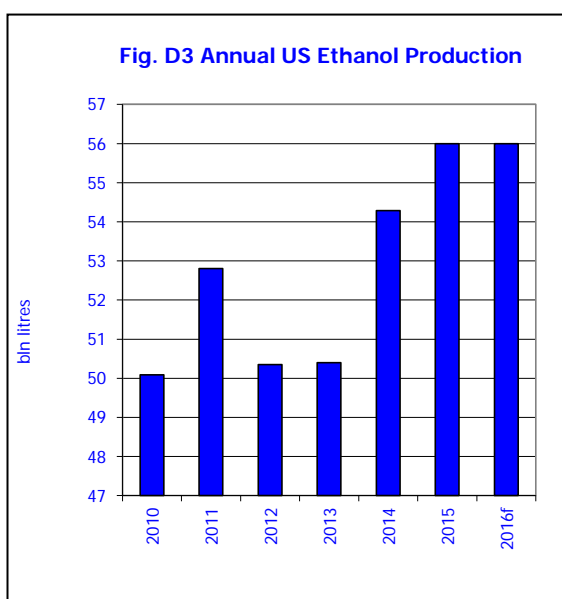
- No growth forecast in US, Brazil and the EU
- Gains centred in Argentina, China, India, Philippines and Thailand

Pivotal Producers

US

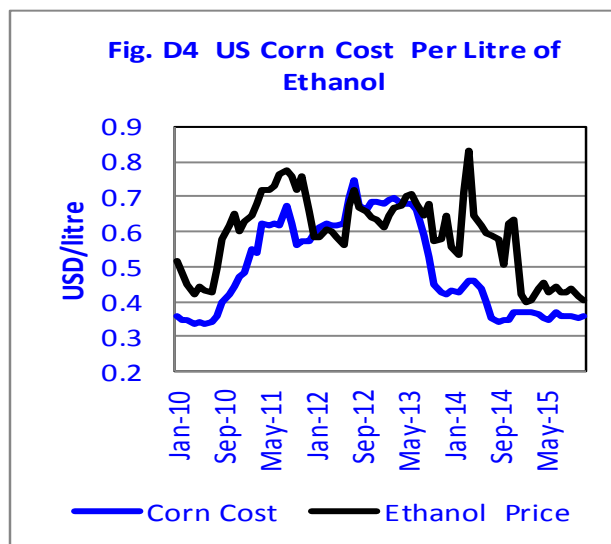
Production of fuel ethanol in 2016 is anticipated to stagnate at the 2015 level of 56 bln litres (see Fig. D3). Support from the Renewable Fuels Standard

(RFS) is firmer because the Environmental Protection Agency's (EPA) final RFS rule for 2016 mandates inclusion of 54.9 bln litres of conventional ethanol into gasoline, 1.7 bln litres more than in 2015. Whilst discretionary blending, together with a rise in gasoline consumption, meant offtake (and output) exceeded the RFS mandate in 2015, for 2016 the incentives for discretionary blending have eased (ethanol is not competitive against gasoline). Furthermore, sales of higher ethanol blends – E15 and E85 remain limited by logistical and other issues. Ultimately, should physical blending of ethanol be insufficient, the RFS mandate can be met by destocking of surplus Renewable Identification Number (RIN) credits accumulated in the past and also by biodiesel/hydrotreated vegetable oil (HVO).



The 2016 production outlook is also being shaped by the likelihood of ongoing soft crude oil prices. Production margins remain squeezed (see Fig. D4). Projections of continued ample corn supplies suggest ongoing relatively low corn prices in the coming year but even so the fortunes of the ethanol industry in the face of falling crude oil and gasoline prices remains a key question. Analysis by the University of Illinois² shows estimates of ethanol production profits (pre-tax) net of all variable and fixed costs in 2015 averaged USD0.02/litre (USD0.07/gallon). This is much smaller than in 2014 when the combination of relatively high ethanol prices and relatively low corn prices drove profits to a record USD0.14/litre (USD0.54/gallon). There was also a distinct pattern in 2015 of higher average profits in the first half of the year, at USD0.03/litre (USD0.10/gallon) versus the second half at USD0.01/litre (USD0.03/gallon).

² <http://farmdocdaily.illinois.edu/2016/01/the-profitability-of-ethanol-production-in-2015.html>



The year also ended on a sour note, with losses during the last four weeks. The downturn in profits can be directly traced to weakness in both ethanol and DDGS prices. It would seem that the record profits of 2013-2014 were a temporary blip due to a unique set of circumstances rather than a new norm driven by surging ethanol exports.

Recently US agribusiness Archer Daniels Midland Co. (ADM) reported poor ethanol margins and cautioned that tough market conditions could persist in the year ahead. The company's Corn Processing segment reported a sharp decline in operating profit, mainly due to the Bioproducts division which includes its ethanol business. Operating profit from Bioproducts fell to USD24 mln from USD227 mln in the fourth quarter of 2015, the lowest for three years. Steep declines in crude oil prices drove ethanol prices lower. This, combined with continued high industry production levels, progressively reduced industry margins through the quarter, ADM reported.

In response, the company would consider options, including a sale of some ethanol plants, all of which are dry mills. The three dry-mill ethanol plants possibly going on sale (Cedar Rapids/Iowa, Peoria/Illinois and Columbus/Nebraska), which are some of the largest in the country, represent just under half of ADM's 6.8 bln litre/year US ethanol capacity. Divesting from the mills would leave the company with five wet mills, which experts say are more flexible in terms of changing products.

Brazil

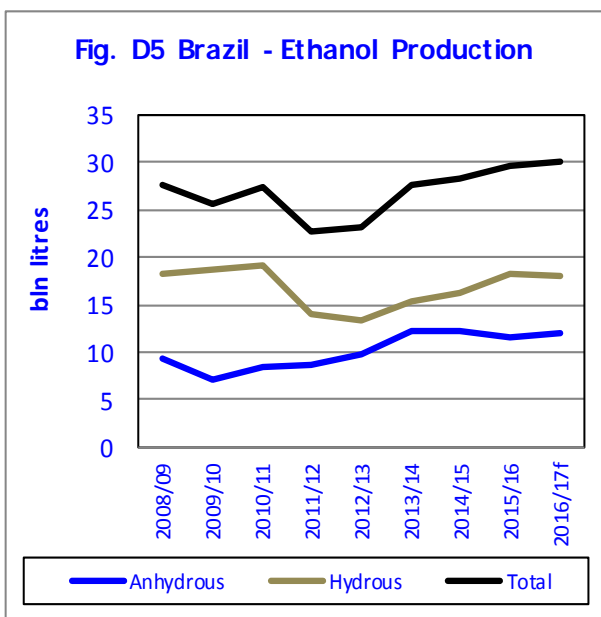
The 2015/16 (April/March) cane crop has drawn to a close in the Centre-South. Whilst El Niño related rains negatively impact the final result, the country still produced a record amount of ethanol this year. Output in 2015/16 rose from 28.4 to 29.7 bln litres, a rise of 4.6% (see Fig. D5). Millers allocated

a higher share of cane to ethanol production on the back of much stronger domestic ethanol offtake. Mills used 59% of total cane crushed to produce ethanol, up from 56% in 2014/15 and the highest allocation since 2008/09.

For the upcoming 2016/17 crop, assuming normal weather the cane crush may rise, especially as mills have stand-over cane from the last campaign. The ISO expects that most of the extra cane will be directed to sugar output (the devaluation of the BRL against the USD, together with stronger world sugar prices have boosted relative returns). Ethanol output is forecast to rise only marginally to 30 bln litres (up 1.2%) of which 11.9 bln litres would be anhydrous and the balance hydrous. In terms of fuel ethanol only, on a calendar year basis, Brazil's production in 2016 is forecast to contract slightly from 27.4 bln litres in 2015 to 27.3 bln litres.

EU

Production is anticipated to consolidate in 2016, after having contracted in 2015 by an estimated 500 mln litres to reach only 5.1 bln litres. Analysts note that over 700 mln litres of annual capacity have been taken off the market in the last three years. The fuel ethanol sector has been affected by reduced gasoline consumption and adjusted blending mandates. Another factor has been the boosted blending of biofuels which are counted twice towards the Renewable Energy Directive (RED) mandate. This together with poor margins (from relatively low ethanol prices) worked to take capacity offline.



A major EU fuel ethanol producer Abengoa SA, the Spanish renewable energy developer, seemingly on

the verge of insolvency, is seeking to sell its biofuel business as part of a debt restructuring plan to avoid bankruptcy.

Looking forwards, after 18 months of falling or stagnating values, fuel ethanol prices have risen over recent months (reflecting contracting domestic production and lower imports). Sugar producer Suedzucker, for instance, said in January it expects a sharp rise in full-year earnings partly due to a firm rise in ethanol prices. But the higher prices may be an incentive to re-start idled capacity. At the same time during 2016 some delayed capacity additions are also slated to come on stream in Germany and Hungary.

Other Countries

India

Sugar mills have contracted to supply 1.040 bln litres of fuel ethanol so far in 2015/16 (October/September), according to ISMA. This would be up 33% on the 780 mln litres that were contracted last season. The oil majors had originally floated an expression of interest (EoI) seeking 2.66 bln litres of ethanol from sugar mills to achieve the 10% vol. mandatory blending target this year. With 1.04 bln litres, oil majors will be able to achieve less than 4% ethanol in gasoline. To achieve the blending target sugar mills have urged state governments to ease current restrictions. These include lack of permission to produce fuel ethanol or delaying excise permissions or creating impediments on inter-state movements by imposing taxes and duties on biofuel. On a calendar year basis, India's fuel ethanol production is forecast to rise from 650 mln litres to 850 mln litres in 2016.

Philippines

Although production will likely be ramped up in 2016, the country will remain dependent on imports. Production in 2016 is forecast to rise from 165 mln litres to 280 mln litres, but this compares to expected domestic offtake of over 500 mln litres. The SRA reportedly said three fuel ethanol plants will come online in the course of 2016. For the first quarter, two new cane molasses-based units are forecast to operate: Absolute Distillery and Emperador Distillery in Batangas. Cavite Biofuels should follow by the end of the year. This will increase capacity by 100 mln litres/year, bringing domestic fuel ethanol production capacity to 322 mln litres (at 11 plants). Domestic production could then meet around 80% of the nationwide demand under the current E10 mandate.

Thailand

Fuel ethanol production is forecast to rise from 1.18 bln litres to 1.3 bln litres in 2016 (a rise of 10%), directly driven by anticipated rises in consumption. During January-November of 2015, 1.073 bln litres were produced, a record level, compared with 968.5 mln litres one year earlier (January/December 2014: 1.058 bln litres). Fuel ethanol output from molasses was up 9% on the year at 696 mln litres, while in the cassava-based segment, a growth of 16% (314 mln litres) was achieved. This means the cassava share in fuel ethanol production rose from 28% to 29%.

CONSUMPTION

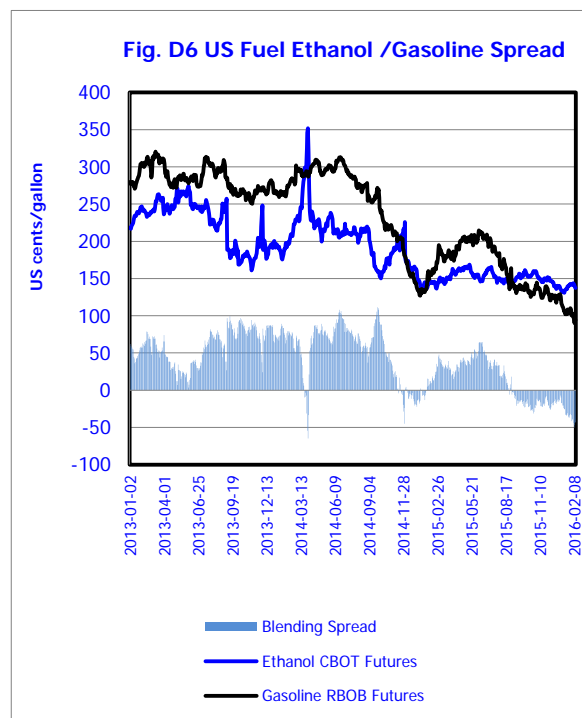
- **Original US RFS fuel ethanol blending mandate lowered for 2016**
- **Higher ethanol prices could undermine offtake in Brazil**
- **High fuel ethanol premium to constrain demand in the EU**
- **Increased consumption in Thailand and India**

Pivotal Consumers

US

Fuel ethanol consumption is forecast to consolidate at around 53 bln litres in 2016 (table D3), with little prospect of higher gasoline offtake and use of higher ethanol blends (E15 and E85) still likely to be constrained. Incentives for discretionary blending have waned with gasoline prices falling faster than ethanol prices (see Fig. D6). Consumption will therefore approximate the E10 blend wall (set by the physical limits of blending 10% ethanol with gasoline). The RFS mandate will need to be met by destocking surplus RINs accrued from previous years and also by RIN generation from biodiesel and possibly Brazilian cane ethanol which qualifies as an advanced biofuel.

The US EPA announced final volume requirements under the RFS program on November 30th last year for the years 2014, 2015 and 2016, and final volume requirements for biomass-based diesel for 2014 to 2017. The RFS statutes require the EPA to establish biofuel volume requirements in four categories for each year from 2008 through 2022: cellulosic biofuel, biomass-based diesel (BBD), total advanced biofuel (which includes BBD), and conventional biofuel. The difference between the total advanced mandate and the total of the cellulosic and biodiesel mandate is referred to as the undifferentiated advanced mandate and can be satisfied by a combination of qualified advanced



biofuels. Conventional biofuel is generally assumed to be corn-based ethanol but this is actually not explicitly required by the RFS legislation. Instead, corn-based ethanol has been the cheapest alternative for this category that also meets the environmental requirements of the RFS. Typically analysts refer to conventional biofuel as conventional ethanol. In addition, the conventional portion of the mandate can also be satisfied with discretionary blending of advanced biofuels, so the conventional mandate is often referred to as an implied mandate.

The RFS rule finalised higher volumes of renewable fuel than the levels EPA earlier proposed in June 2015. The rule finalised 2014 and 2015 standards at levels that reflect the actual amount of domestic biofuel used in those years, and standards for 2016 (and 2017 for biodiesel) that represent significant growth over historical levels. The increases in the ethanol mandates in the final rulemaking were consistent with the stated intention of the EPA to a "push" mandates above the E10 blend wall.

The total RFS requires growth from 2014 to 2016 of more than 6.8 bln litres of biofuel, which is 11% higher than 2014 actual volumes. For conventional biofuels (mostly corn ethanol) the EPA rule requires refiners to blend 54.88 bln litres in 2016. This is higher than the earlier proposed volume of 53.0 bln litres but still lower than 56.8 bln litres under the original legislation. Note that the statutory ceiling on the implied conventional mandate is 56.8 bln litres for the remaining life of the RFS.

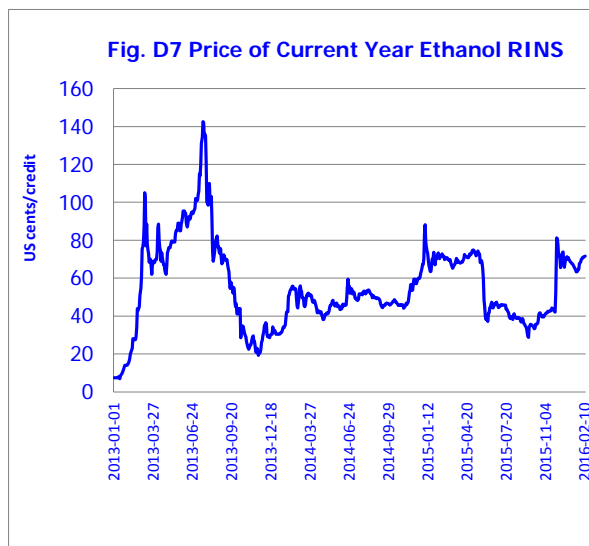
Table D1: Final Renewable Fuel Volumes

	2014	2015	2016	2017
Cellulosic biofuel (bln litres)	0.12	0.47	0.87	n/a
Biomass-based diesel (bln litres)	6.17	6.55	7.19	7.57
Total Advanced biofuel (bln litres)	10.11	10.90	13.66	n/a
Implied Conventional biofuel (bln litres)	51.51	53.18	54.88	n/a
Renewable fuel (bln litres)	61.62	64.08	68.54	n/a

Note: Units for all volumes are ethanol-equivalent, except for biomass-based diesel volumes, which are expressed as physical gallons.

Fuel ethanol RIN values collapsed (Fig. D7) after release of the preliminary RFS rule last June which saw mandated levels declared at much lower levels than expected. Values generally traded in a sideways fashion thereafter, suggesting market participants did not expect the existing stock of RINS to be depleted in the near future. RINs prices represent the marginal cost of complying with RFS mandates. However, RIN values rose sharply in November last year in response to the announcement of the final RFS rule by the EPA, suggesting market participants expect higher demand for RINS for RFS compliance in coming months. Current holders of RINS can choose to pass on gains in RIN values to consumers (by lowering the price of ethanol) which could help boost volumes beyond the blend wall.

Meanwhile, the fuel ethanol industry has filed a lawsuit against the RFS for 2014, 2015 and 2016. The action undertaken by seven biofuel and agriculture groups kicked off a widely expected legal battle over whether the EPA was able to set requirements for volumes of biofuels use below the original levels set in 2007. The petitioners are Americans for Clean Energy, American Coalition for Ethanol, Biotechnology Innovation Organization, Growth Energy, National Corn Growers Association, National Sorghum Producers and the Renewable Fuels Association. Court challenges were widely expected after the EPA in late November 2015 finalised biofuels requirements that disappointed both biofuels and oil groups. Controversy over the RFS has mounted, with petroleum groups saying standards set in the 2007 law are not achievable, while biofuels groups have said regulators are caving in to "Big Oil" and have misused their authority to lower volumes. Petroleum groups have said the 2007 requirements are not achievable without an infrastructure overhaul. Meanwhile, American Fuel & Petrochemical Manufacturers (AFPM) said it decided to intervene in the lawsuit by ethanol industry groups against the EPA. AFPM said it filed a motion to intervene to support EPA's



interpretation and use of its legal waiver authority to reduce the mandated amounts of renewable fuels to be blended into the nation's fuel supply. EPA's decision to lower volume requirements was the only justifiable option given market realities, and the failure to do so would have been "arbitrary and capricious", AFPM stated.

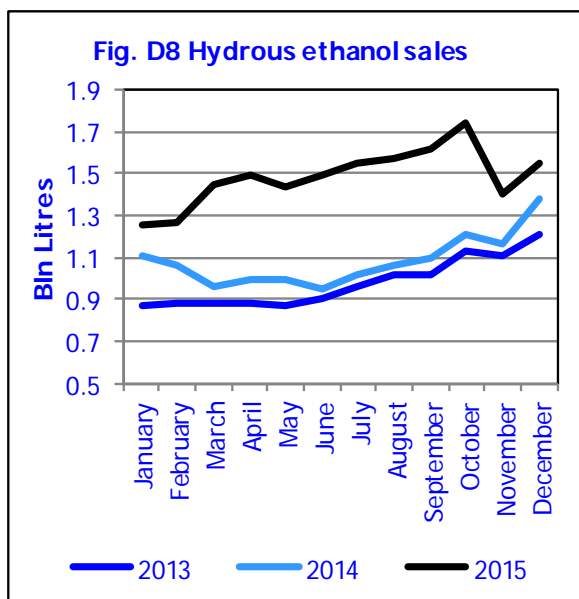
Brazil

Fuel ethanol consumption is forecast to ease from the record level in 2015 of 28.75 bln litres to reach 27.63 bln litres. In March 2015 the government increased the blend rate of anhydrous ethanol in gasoline from 25% to 27%. Moreover, higher gasoline taxes made hydrous ethanol much more competitive, triggering substantial additional demand by the flex fuel vehicle fleet – see Fig. D8. Later in the year (end-September) the government also increased the ex-refinery gasoline price by 6% as well as provided additional fiscal measures supportive to ethanol. Hydrous ethanol offtake was 17.820 bln litres, a sharp increase from 13 bln litres in 2014. At the same time anhydrous ethanol consumption eased from 11.1 bln litres to 10.9 bln litres.

Demand for hydrous ethanol has suffered since November with far higher ethanol prices, but the changes in fuel taxation and the higher mandate introduced in 2015 remain supportive. Even so, a loss of competitiveness against gasohol and an overall contraction in fuel sales across all categories due to the economic crisis will likely undermine offtake to some extent.

Sales of hydrous ethanol in January in the Centre-South fell year on year, according to Unica, marking a shift in the growth trend seen during the preceding months. Volumes dropped to 1.261 bln litres in January, down 3%. At the same time the market for gasolina C fell by 13.9% to 3.32 bln

litres and total consumption of all fuels by the light vehicle fleet (otto cycle) contracted by 11.9%.



Looking forwards, further fiscal measures could be announced in 2016 that would result in higher gasoline prices at the pump. For instance, the federal government could increase the CIDE excise tax on gasoline again. Conversely, if oil prices remain depressed and the BRL/USD exchange rate strengthens, the government could decide in favour of a reduction in gasoline refinery prices which would hurt ethanol's competitiveness.

EU

Fuel ethanol consumption in 2016 is forecast to consolidate at around 5.2 bln litres. Lower gasoline use and the adjustment of blending mandates has seen offtake fall since a peak of 5.7 bln litres in 2012. Another factor easing ethanol inclusion has been the boosted blending of biofuels which are counted twice towards the Renewable Energy Directive (RED) mandate. Presently, high bioethanol premiums over gasoline have raised blending costs, boosting further the incentive to use double counting biofuels instead. While use of ethanol could come from wider use of E10 in more member states, again, given the high premium for ethanol, wider use of E10 seems remote.

Other Countries

Argentina

The government has lifted the mandatory ethanol blend to 12% vol. from 10%. All of the additional mandate will be allocated to cane ethanol producers. This means that the market will now be evenly split between sugarcane-based and corn-based ethanol. The boosted ethanol blend will

likely lift consumption to 1 bln litres. Currently there are five corn distilleries in operation in the country compared with nine units using sugarcane juice and molasses.

Australia

Fuel ethanol consumption is forecast to rise modestly to 240 mln litres in 2016. Offtake remains centred in the state of New South Wales (NSW) where the government has implemented an E6 mandate. The state parliament of Queensland on December 1st last year passed laws legislating that E10 fuel will have to make up at least 30% of gasoline available for sale in the state from January 2017. Parliament also agreed to increase the fuel ethanol target to 4% from July 2018. Two of the three fuel ethanol producers in Australia are based in Queensland - one a grains-based facility at Dalby on the Darling Downs, the other a molasses-based facility at Sarina in north Queensland.

Thailand

Consumption is forecast to rise modestly from 1.3 bln litres in 2015 to reach a fresh record of 1.35 bln litres in 2016. Further gains are probable because the government in early October last year approved higher subsidies for E85 and E20 (see previous edition of the *Quarterly Market Outlook* for details). Moreover, the investment incentives for E85 vehicles have been raised.

ETHANOL TRADE

- **World trade to shrink**
- **US to remain dominate exporter**

US

Even though the US is anticipated to remain the most competitive ethanol supplier to the world market, a mixed outlook suggests that the it may **export** less in 2016 than in the current year: with volumes forecast down from 3.2 bln litres to 3.0 bln litres. Growth opportunities exist in Asia, whereas exports to Brazil may shrink given the strength of the USD. Opportunistic markets, where imports are driven by incentives for discretionary blending, might contract because the price advantage of ethanol compared to gasoline has diminished.

Exports in 2015 are likely to end down for the year. Exports (all types but excluding blends) in November were down from 272.7 mln litres to 225.7 mln litres. This brought the year to date volume to 2.887 bln litres, down from 2.908 bln litres, due to USD strength. Of this 877.9 mln litres went to Canada. Other key destinations were Brazil (416.3 mln litres) the Philippines (237.5 mln litres),

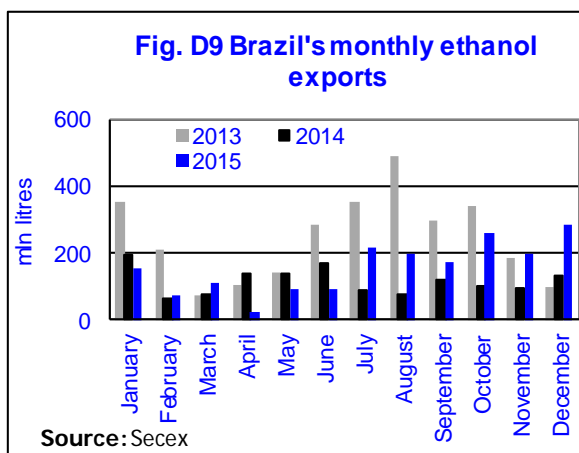
South Korea (223.9 mln litres), China (227.0 mln litres) and India (177.6 mln litres).

Imports of fuel ethanol are forecast to ease slightly in 2016 to around 200 mln litres. Imports of Brazilian cane ethanol as an advanced biofuel will continue but remain limited by competitive domestic biodiesel supplies. For 2015 imports will end higher. Ethanol imports (all types) in November 2015 rebounded from 80.3 mln litres to 134.0 mln litres. Supportive for imports were temporarily elevated prices on the US market in the second half of October, the stronger USD and a rally in RIN values for the advanced biofuel mandate which started in mid-September. Between January and November, 949.4 mln litres were imported, up from 837.3 mln one year earlier. Of this, 86% was from Brazil.

Brazil

Brazil is not expected to improve its export performance in 2016 because of relatively resilient domestic demand and limited availability with millers expected to show a stronger preference for sugar production. Shipments of fuel ethanol could fall from an estimated level of 950 mln litres in 2015 to 700 mln litres in 2016.

Ethanol **exports** (all types) for calendar year 2015 reached 1.86 bln litres up nearly 33% from 1.40 bln litres one year earlier. A depreciated BRL raised the attractiveness of Brazilian supplies in international markets, with exports particularly strong in July, October and December – see Fig. D9. Higher prices on the domestic market are thought to have cut the competitiveness of Brazilian ethanol on the world market. For 2016 Brazil is thought likely to export no more than 1.1 bln litres.



During 2015, Brazil's **imports** of ethanol (all types) rose to 510 mln litres, up from 450 mln litres in the previous year. Nearly all of this was corn ethanol

from the US. Imports were higher despite the fact that Brazil's government increased the tariff on imported ethanol to 11.75% from an effective nil on July 22nd, 2015. Imports of fuel ethanol in 2016 are forecast to reach 500 mln litres, little changed from the estimated 2015 volume.

EU

EU fuel ethanol **imports** are expected to remain low again in 2016 at 50 mln litres only. EU imports from the US will continue to be restricted by anti-dumping duties. As a result of this duty, imports from origins with preferential access to the EU market in 2013 and 2014 were boosted to varying degrees from Guatemala, Peru, Pakistan and Bolivia. Between January and October 2015, total ethanol imports (all types) reached, 433.2 mln litres, down from 507.9 mln litres one year earlier. The 2014 total had been 590.0 mln litres.

Over the same period ethanol **exports** reached 172.7 mln litres, down from 214.8 mln litres one year earlier. The main destination was Switzerland, followed by Saudi Arabia and Brazil. Exports are supported by restricted domestic demand and the weakened EUR against the USD.

China

China sharply boosted ethanol imports (all types) in 2015, as buyers sought to take advantage of significantly lower prices in Brazil and the US. Import demand was also supported by low output in China. Imports reached a record volume of over 180 mln litres in December as traders tried to squeeze in as much product as possible ahead of a potential tariff increase in the first quarter of 2016. Imports during October-December 2015 reached 275 mln litres, so there are expectations for imports to recede in January. Analysts note that what started as a buying spree for industrial ethanol earlier in 2015 later increasingly focused on fuel ethanol. Overall it can be estimated that of the total imports of 690 mln litres about 350-400 mln litres will have ended up in the fuel market.

PRICES

- Ethanol-gasoline price spread turns negative in the US
- Sharp price uptick in Brazil

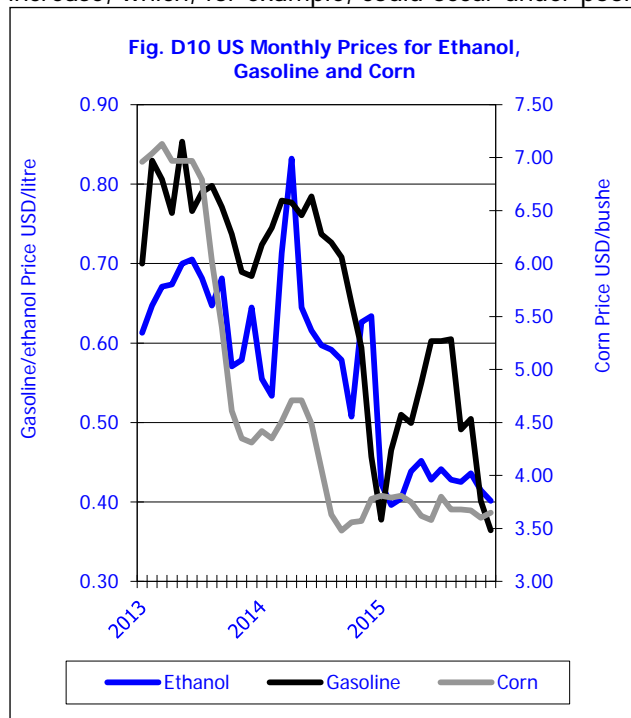
US

After moving sideways for much of the year (see Fig. D10), US ethanol prices were pushed down by the marked retreat in gasoline prices late last year,

and have remained lower in a relatively soft corn price environment.

The decline in crude oil prices that began in the summer of 2014 has taken crude oil prices as low as USD30/ barrel. Wholesale gasoline prices have largely followed crude oil prices down and presently are near USD1/gallon, a level not seen in over a decade. This has raised questions about the competitiveness of ethanol in gasoline blends and the role of ethanol as a relatively cheap source of octane. Analysts in the past have argued that ethanol prices were not likely to move above gasoline prices for any length of time and that market adjustments to maintain the competitive position of ethanol would be rapid. Higher ethanol production and lower ethanol prices had been effective in the past at maintaining ethanol's place in gasoline blends and this was expected to continue in the future.

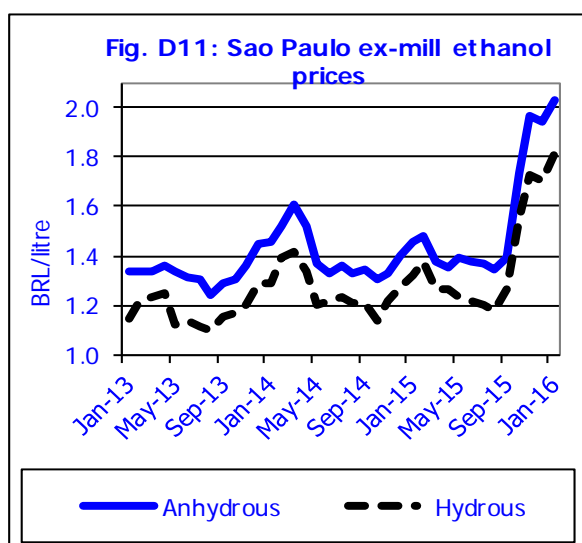
However, ethanol prices have remained well above gasoline prices for several months. In short, a combination of circumstances has effectively turned upside down the historical relationship between ethanol and gasoline prices for the foreseeable future. With ethanol demand stuck near the E10 blend wall, due to the "safety net" feature of the RFS conventional ethanol mandate, ethanol prices cannot fall below the "shutdown" price of ethanol plants because this would result in less production than is needed to fulfill the mandate. Unless crude oil and gasoline prices rebound this appears to be the "new norm" going forward. Furthermore, the ethanol/gasoline price ratio could increase even more if gasoline prices stay low and corn prices increase, which, for example, could occur under poor



summer growing conditions in the US.

Brazil

With falling stocks, prices have increased sharply to curb consumption levels. Whilst prices moved sideways after a relatively modest inter-harvest peak late in 2014 and early 2015, the magnitude of the rise since October has been exceptional. Prices for anhydrous ethanol have moved from BRL 1.39/litre back in September to reach BRL 2.03/litre in January this year – the highest since April 2011. Similarly prices for hydrous ethanol moved from BRL1.26/litre in September to reach BRL1.82/litre in January – a new record (in nominal terms). Ethanol prices have edged higher still in the first two weeks of February.



Crucially, ethanol stocks in the Centre-South fell by a record 1.1 bln litres in the first half of January as mills tried to maximise cash flow. The extent of the draw-down is such that overall stock levels fell below those of the previous two campaigns when consumption was very much lower. Should the rate of stock depletion not diminish substantially the country may have to start the new crop with very low inventories. There are two factors that could help prevent this. Higher prices could reduce demand further and an early start of the season could help replenish stocks. Total stocks in the Centre-South as of January 16th were 5.6 bln litres against 7.5 bln litres last year and 6.1 bln on the same day in 2014. Given high demand for hydrous ethanol over the last twelve months, its share of overall stocks is at a record low of 46%, about ten percentage points less than in a normal season.

Argentina

The Energy Secretariat issued new reference prices for fuel ethanol for November 2015-January 2016. The new prices included an upward revision for both cane- and grains-based fuel grades by 5% on

the month to ARS10.32 and ARS8.02/litre, respectively. This the maximum monthly increase allowed under the national legislation. The local corn-based fuel ethanol sector is suffering from the devaluation of the ARS and the removal of the export quota system for the grain which came after the new government took over power.

EU

The Commission has opened a formal antitrust investigation to look into suspicions that three fuel ethanol producers have colluded to manipulate benchmark prices used by the industry. The Commission said it was assessing the actions of Spanish producer Abengoa, Belgium's Alcogroup

and Lantmännen of Sweden after unannounced inspections over the past three years. It had concerns that the companies may have colluded to manipulate ethanol benchmarks published by price reporting agency Platts, such as by agreeing to submit or support bids to hike the benchmark and so drive up prices. In April, EU antitrust regulators raided several ethanol companies and at the same time stepped up a two-year investigation into biofuel price benchmarks. The Commission is also reportedly looking into whether producers or traders of ethanol fixed prices or shared markets and customers, with a series of unannounced inspections carried out in March.

Table D2: World Fuel Ethanol Production (mln litres)

Country	2011	2012	2013	2014	2015	2016f
Argentina	165	236	473	642	830	1000
Australia	290	280	275	270	230	240
Brazil	19,132	19,986	23,369	24,469	27,380	27,290
Canada	1,345	1,695	1,730	1,745	1,800	1,760
China	2,255	2,509	2,635	2,767	2,850	3,000
Colombia	337	370	388	407	455	600
EU	4,100	4,400	5,000	5,600	5,100	5,250
India	269	200	80	369	650	850
Paraguay	130	165	180	200	200	215
Peru	123	235	240	245	210	195
Philippines	4	32	72	110	165	280
Thailand	510	656	949	1,058	1,180	1,300
US	52,805	50,350	50,398	54,286	56,000	56,000
Others	451	540	721	940	630	570
Total	81,917	81,654	86,509	93,108	97,680	98,550

Source: ISO Ethanol Yearbook 2015: ISO forecasts

Table D3: World Fuel Ethanol Consumption (mln litres)

Country	2011	2012	2013	2014	2015	2016f
Argentina	166	221	476	653	804	1000
Australia	288	265	245	230	230	240
Brazil	19,290	17,790	21,456	24,085	28,750	27,630
Canada	2,023	2,585	2,943	3,106	3,000	3,000
China	2,255	2,509	2,635	2,767	3,150	3,300
Colombia	351	368	394	431	500	600
EU	5,435	5,718	5,430	5,333	5,170	5,200
India	365	305	382	350	675	850
Japan	315	305	340	485	550	600
Paraguay	150	165	180	200	170	170
Peru	58	128	138	130	155	160
Philippines	197	307	363	442	475	500
Thailand	450	509	948	1,185	1,302	1,350
US	48,684	49,405	50,280	50,900	52,550	53,000
Others	340	485	548	229	545	540
Total	80,368	81,047	86,758	90,526	98,026	98,140

Source: ISO Ethanol Yearbook 2015; ISO forecasts

Table D4 : World Fuel Ethanol Trade (mln litres)

Country	2011	2012	2013	2014	2015	2016f
Imports						
US	533	1,853	1,159	274	250	200
Brazil	1,150	546	132	452	510	500
Canada	926	1,005	1,067	1,360	1,400	1,400
EU	1,300	750	400	50	50	50
Philippines	216	248	297	339	350	250
Other	1,152	1,623	1,800	1,730	1,800	1,800
Total	5,277	6,025	4,855	4,205	4,360	4,200
Exports						
Brazil	992	2,742	2,044	836	950	700
EU	50	45	10	110	95	90
US	4,075	2,807	2,353	3,207	3,200	3,000
Other	350	400	300	150	200	250
Total	5,467	5,994	4,707	4,303	4,545	4,040

Source: ISO Ethanol Yearbook 2015; ISO forecasts

BIOPLASTICS AND BIOCHEMICALS

- **Global bioplastics production capacity to grow to 7.8 mln tonnes by 2019**
- **Expansion to be driven by trend towards bio-based packaging**

Global bioplastics production capacity is set to grow from 1.7 mln tonnes in 2014 to around 7.8 mln tonnes in 2019 (see Fig. D12), according to the latest set of forecasts released by industry association European Bioplastics last November. The association expects the bulk of growth to be driven by bio-based versions of PE and PET. Packaging remains the biggest field of application for bio-plastics worldwide, accounting for nearly 70% of the market. Growing consumer demand for products with a reduced environmental impact will likely push this share to 80% by 2019, according to European Bioplastics. Production capacity for bio-based plastics which are also bio-degradable is projected to rise from 0.7 mln tonnes in 2014 to over 1.2 mln tonnes in 2019. Plastics in this category – such as PLA, PHA and starch blends – are gaining market share in line with the ramp-up of new capacities in the US and Asia. On the demand side, European Bioplastics found that uptake of bio-based plastics is increasing in many sectors, including textiles, automotive applications and consumer goods, however no figures were provided. Asia will expand its role as a key production hub in 2019, housing over 80% of bio-plastics production capacity, leaving Europe with less than 5%.

Overall plastics production is likely to reach 1.12 bln tonnes by 2050 from just over 310 mln tonnes currently, according to a report presented during the World Economic Forum in Davos, Switzerland, in January. The report also noted that only 14% of plastic packing is collected for recycling, despite the launch of the universal recycling symbol over 40 years ago. An estimated 40% of global packaging material is sent to landfills, while 32% is leaked into the environment and 14% is used in power recovery plants.

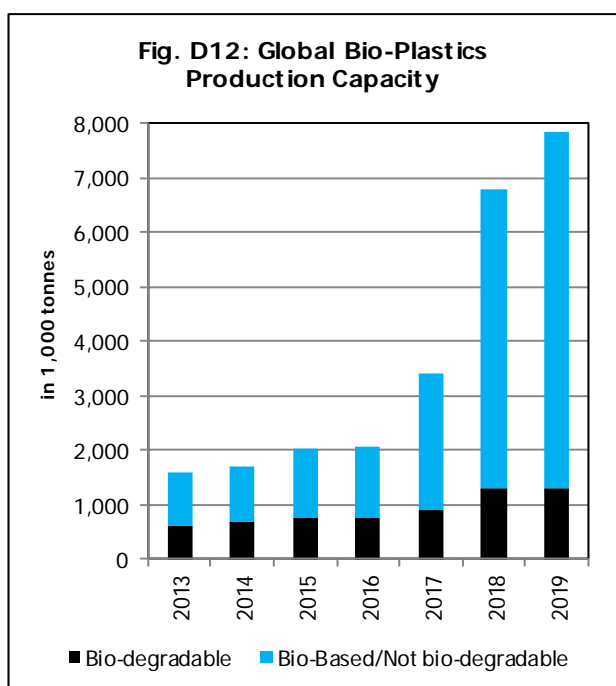
For 2016, research and advisory firm Lux Research expects technology developers to continue to improve bioplastics' mechanical, thermal and barrier properties to meet specific end-user requirements. Concerns related to these properties have been a roadblock for the wider adoption of bio-plastics over recent years. Manufacturers like Japan's Toray are now working with bio-resins that can withstand temperatures of up to 200 degrees Celsius and with a bio-based content greater than 50%.

JAPAN

Beverage maker Suntory and chemical producer Anellotech have announced intentions to advance the development and commercialization of 100% bio-based plastics for use in bottles. Suntory's brands include Orangina, Schweppes, Ribena, Lucozade as well as major alcohol labels such as Yamazaki, Jim Beam, and Château Lagrange.

US

Bio-tech firm Amyris said in January it had signed a multi-million dollar farnesene supply agreement for the global nutraceuticals and vitamins market, without disclosing the name of the buyer. First volumes were delivered in the last quarter of 2015 for conversion into final products. At the end of last year, Amyris said it had achieved record-low costs of USD1.75/litre for farnesene, a chemical building block produced from fermented sugars. In a press release, Amyris said the global market value for low-cost and high-performance materials produced from sugarcane could soon exceed USD20 bln.

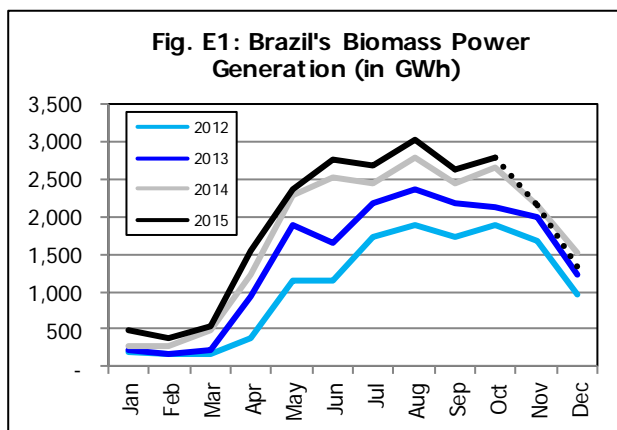


COGENERATION

- Brazil's biomass power generation grows 9% in 2015...
- ...but spot prices fall to regulated floor
- India's cogeneration capacity expands to 4,550 MW

BRAZIL

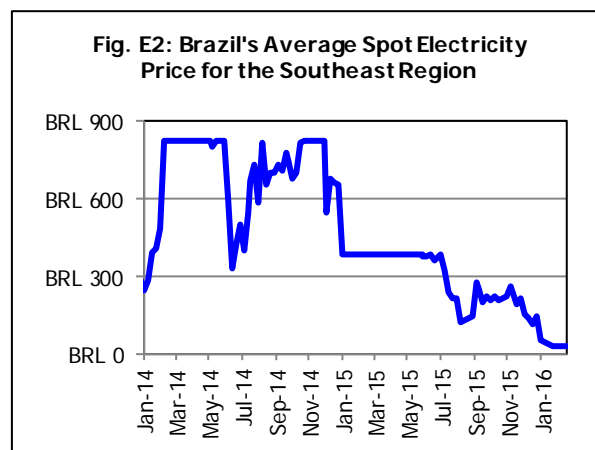
Biomass-based power plants delivered 22,593 GWh to the national electricity grid in 2015 (see Fig. E1), up 9% from the 20,801 GWh supplied in 2014, according to data from Unica. Also according to Unica, around 80% of biomass-based power generated in Brazil comes from bagasse. Biomass-based power supply peaked in August, when a record of 3,027 GWh was delivered to the national grid, representing 8% of the country's overall electricity demand. In 2015 as a whole, biomass sources met 5% of Brazil's power consumption compared to 4% in 2014.



*Dotted line represents estimated values

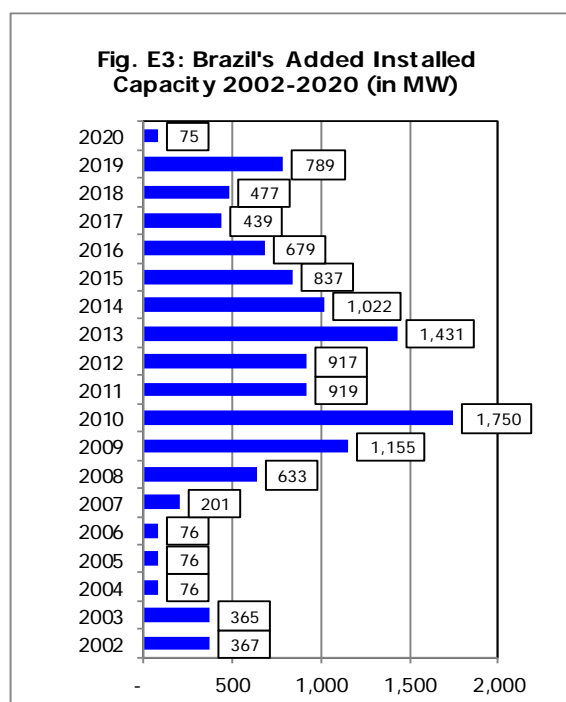
Despite higher supply, biomass-based projects amassed only 52 MW in capacity contracted through planned public auctions in 2015. This represents the third-lowest performance for the sector since 2004, just behind 2012 (when no biomass-based capacity was contracted) and 2009 (when 10 MW were contracted).

Meanwhile, in the spot market, electricity prices remained suppressed. The so-called PLD price for sales of spot electricity in Central-west and southern regions finished 2015 below the BRL40/MWh mark versus almost BRL400/MWh at the end of 2014. In January, prices plunged to their regulated floor of BRL30.25/MWh (see Fig. E2). Projections by clearing-house CCEE show that prices for these regional markets are likely to remain suppressed through most of 2016. Prices collapsed in recent months as rains replenished reservoirs to major hydropower plants. Additionally, Brazil's ongoing economic recession



has been keeping a lid on energy demand. Distributors are now facing a surplus of energy ranging from 7 to 10% in key demand centres, according to the press. Some forecasters note that energy consumption may slip nearly 2% year on year in 2016.

Growth in 2015 co-generation activity was attributed by Unica to investments made during the last decade, when prospects for the cane industry were more positive. Between 2010 and 2014, mills added just over 6,000 MW in co-generation capacity connected to the national grid (see Fig. E3). But only half of that, or about 3,300 MW, are projected to be added until 2020, according to Brazil's energy agency ANEEL. For 2016, a further 679 MW should be available, bringing the country's overall capacity to 10,504 MW.



The slower pace of investments in recent years also means biomass-based electricity is projected to contribute 6% of Brazil's capacity expansion in 2016, down from a peak of 32% in 2009 and an estimated 15% in 2015. Unica sees the share of biomass in overall added capacity falling to 1% by 2020.

ETHIOPIA

Wolqayt Sugar factory is expected to start supplying energy to the grid in April. Ethiopian Electric Power (EEP) announced that the installation of power distribution and transmission lines is 70% complete. The government-led project has an estimated cost of ETB37 mln (or USD1.74 mln).

INDIA

In India, 132 MW of bio-power capacity was added to the grid so far in fiscal 2015/16 (April/March), according to the ministry of new and renewable energy. This has brought total commissioned capacity to 4,550.55 MW (see Fig. E4). The central government has set a target of adding 400 MW capacity from bio-power sources in 2015/16, which include biomass & gasification and bagasse co-generation.

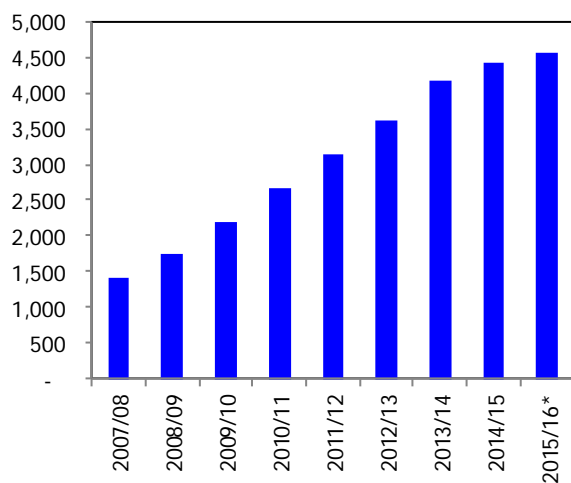
PAKISTAN

Nine companies and sugar mills in Pakistan have been issued letters of intent (LOI) to generate 271 MW of biomass-based electricity across different areas of the country, according to the Alternate Energy Development Board (AEDB). The National Electric Power Regulatory Authority (Nepra) had announced an upfront tariff of PKR10.7291/KWh (equivalent to USD0.10/KWh) for bagasse-based co-generation projects.

UGANDA

Mayuge Sugar Industries Limited is set to start construction of a 23-MW co-generation plant in the second quarter of the year, according to the press. Construction is expected to take two years to complete. The company will sell power to the Uganda Electricity Transmission Company at a fixed price of USD0.095/KWh.

Fig. E4: India's Bio-power Installed Capacity (in MW)



PHILIPPINES

Global Business Power and sugar producer Roxas Holdings are planning the construction of a 40 MW bagasse-based plant in Negros at an estimated cost of USD100 mln. If the project goes ahead, the co-generation facility would sell excess power to the national grid under the country's feed-in-tariff regime.

ALTERNATIVE SWEETENERS

HIGH FRUCTOSE CORN SYRUP

- US producers face lacklustre domestic demand and stagnant imports by Mexico

US

Consumption

HFCS offtake is forecast to contract again in 2016, falling from an estimated 7.2 mln short tons (dry weight) in 2015 to 7.1 mln short tons – see Fig. F1. HFCS use has consistently trended lower over the past decade, with consumption in 2015 around 22% lower than in 2002 when it peaked at 9.2 mln short tons. The USDA has identified several factors as contributing to falling HFCS use including relatively higher costs for corn in the wet milling process; the lack of price competitiveness of HFCS compared with refined sugar and other caloric sweeteners; and changing preferences of customers and food manufacturers. Shrinking consumption of carbonated soft drinks (CSD) – the largest market for HFCS-55 - is the key change in consumer preferences driving HFCS offtake lower.

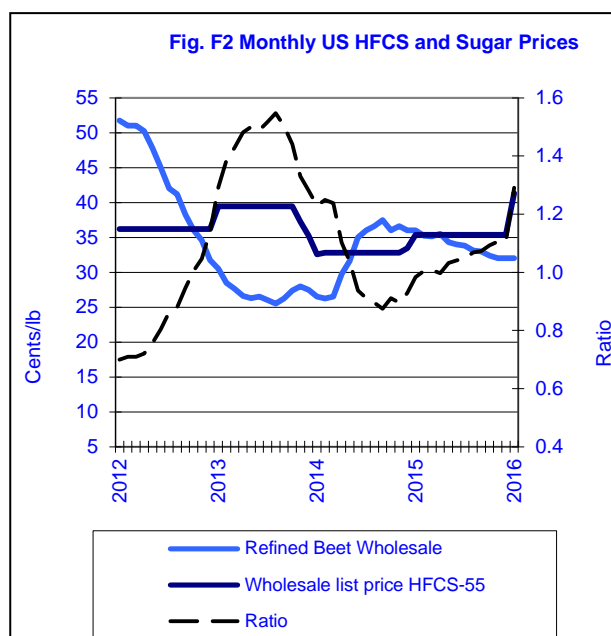
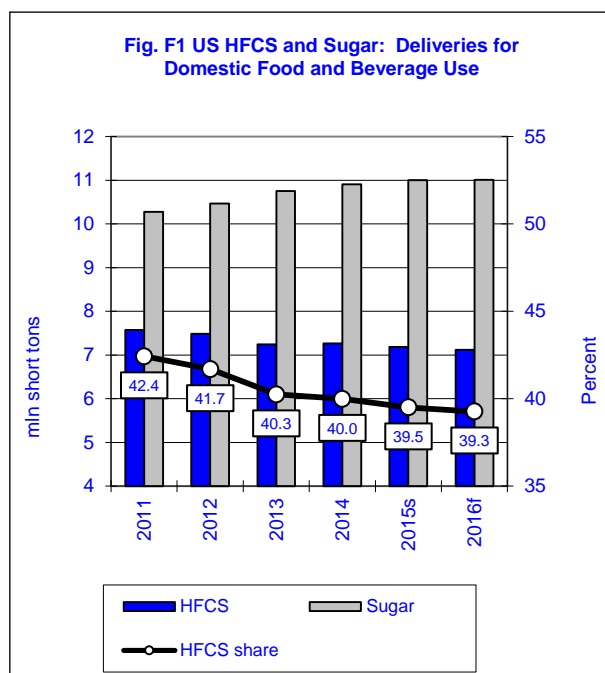
As noted in the previous issue of the *Quarterly Market Outlook*, HFCS producers were reportedly able to pass on higher prices to major users in the beverage and food sectors. Negotiations over annual contracts for calendar year 2016 reportedly saw a price rise of around 15%. With these pricing gains HFCS producers will likely enjoy improved margins as corn prices are anticipated to remain low during the 2015/16 marketing year.

The higher prices for HFCS are in part due to a loss of production capacity following the closure of Cargill's facility in Memphis. Furthermore, in July 2015 Ingredion sold its facility in Ontario to Jungbunzlauer (a food ingredients company) which intends to cease HFCS production and instead focus on corn glucose for further processing in higher value products such as citric acid.

As can be seen in Fig. F2, with higher prices agreed in 2016, HFCS has further lost competitiveness with sugar, particularly since domestic refined beet sugar prices have continued to weaken during the course of 2015.

Production and Exports

HFCS production is anticipated to fall from 8.5 mln short tonnes (dry weight) to 8.4 mln short tons. Production has also been declining over the past



decade but not to the same extent as domestic offtake. This is because exports of HFCS, especially to **Mexico**, have shielded HFCS producers from the full impact of a shrinking domestic market. However, exports to Mexico have fallen off in recent years as the country has produced more sugar, impacting HFCS use. The USDA forecasts that consumption of HFCS in Mexico during 2015/16 will rise slightly from the 2014/15 level of 1.45 mln tonnes to 1.50 mln tonnes. Low corn prices but relatively high sugar prices in Mexico are supporting firm HFCS offtake, despite the continued imposition of the government's tax on sugary drinks. Whilst there is consensus that the tax reduced per capita softdrink demand (estimates ranging between 2%-12%) in the first year, there is evidence that lower consumption is transitory and growth in offtake will likely resume this year.

Feedstock costs

Net corn sweetener costs (determined by the price of corn minus revenue from co-product) fell during the last quarter of 2015. Lower corn prices coincided with a modest firming in co-product credits – see Fig. F3. On a full year basis, net corn sweetener costs averaged 4.84 US cents/lb in 2015, slightly lower than the 2014 level of 4.89 US cents/lb. Costs remained far below those seen during 2011, 2012 and much of 2013 (ranging between 10.5-13.6 US cents/lb).

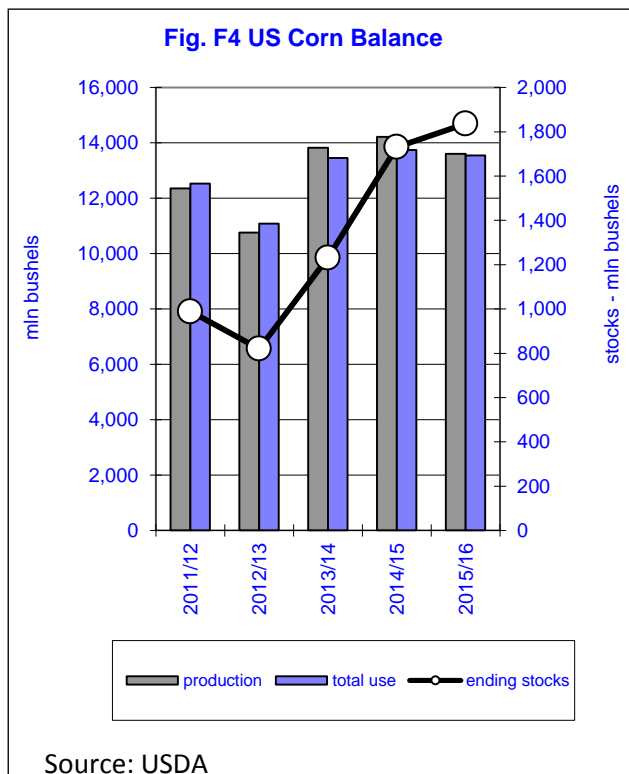
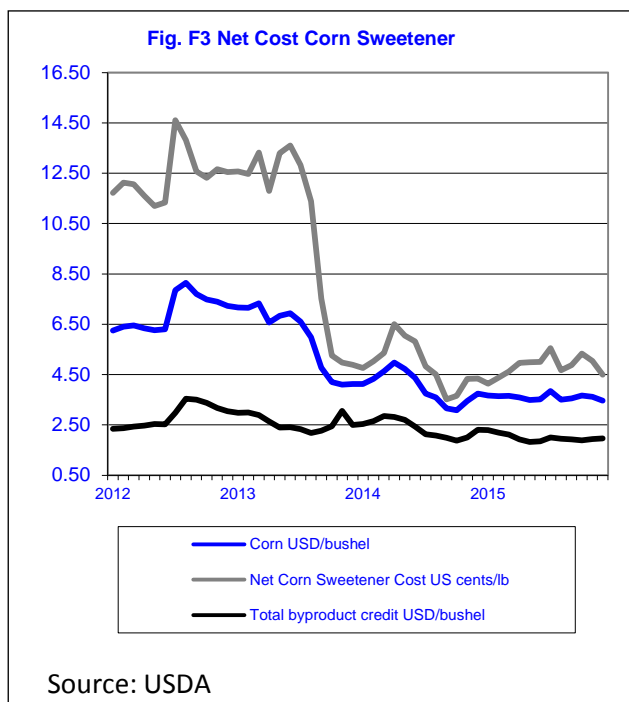
Looking forwards, feedstock costs are anticipated to remain low during 2016. The USDA estimates adequate supplies from the 2016 harvest (second largest on record). The USDA also projects no increase in corn use by ethanol producers and lower exports. The net result is a rise in ending stocks (see Fig. F4), which are forecast at their highest level for a decade. The season-average farm price for corn is anticipated by the USDA to remain relatively low, ranging between USD3.30-3.85/bushel, as against the 2014/15 average level of USD3.70/bushel.

EU

EU isoglucose production remains capped at 720,000 tonnes (white sugar equivalent) until the quota system expires in September 2017. Also because of the current quota system, isoglucose is priced based on its sweetness equivalence with sugar. The profitability of isoglucose producers is therefore dictated by the relative prices of sugar and grains (corn and wheat are the key feedstocks). The decline in EU sugar prices since 2014 squeezed the differential between grains and sugar prices, narrowing margins for HFCS producers. A recovery in sugar prices which began in the last quarter of 2015 might continue (depending on how the European Commission manage the tight quota sugar balance), which would improve the fortunes of isoglucose producers.

China

In China, the starch sector is estimated to produce each year about 1.8 mln tonnes of HFCS (in addition to considerable production of glucose and malt sugar). The HFCS sector suffered in 2013 and 2014 due to very high corn prices and consequent low capacity utilisation. Last year however, several key developments have boosted production prospects. First, sugar prices have improved on the back of a poor 2014/15 crop and a prospective even smaller sugar production in 2015/16. Second, China's government early in the year increased the



tax rebate for exports of corn and corn-based products by the starch sector. Third, the government late in the year decreased corn prices in order to encourage use of domestic corn rather than imported corn. With relatively high sugar prices but soft corn prices production and use of HFCS may increase in 2016.

Table F1: United States: Corn - Food and industrial uses (mln bushels)

Marketing year	HFCS	Glucose & dextrose	Starch	Fuel Alcohol	Beverage & MFG	Cereals & other products	Total
2007/08	490.3	235.6	261.8	3,049.2	135.4	192.4	4,386.5
2008/09	489.1	245.1	234.1	3,708.9	134.0	192.1	5,025.2
2009/10	512.1	257.3	250.4	4,591.2	134.0	193.7	5,961.0
2010/11	521.1	272.4	258.4	5,018.8	135.0	197.0	6,425.5
2011/12	513.4	296.6	254.0	5,000.0	136.5	203.2	6,428.4
2012/13	491.5	292.0	249.4	4,641.1	140.0	198.4	6,037.9
2013/14	477.7	308.3	218.8	5,123.7	141.6	200.5	6,493.5
2014/15	478.5	299.8	215.5	5,208.5	142.2	201.2	6,568.2
2015/16	470.0	300.0	230.0	5,225.0	144.0	203.1	6,590.0

Source: USDA, Feed Outlook tables, FDS—16b, 11 February 2016.

INTENSIVE SWEETENERS

- **European Food Safety Authority approves Reb M**
- **PureCircle moving beyond Reb A**
- **GLG Lifetech tackles bitterness in stevia and monk fruit sweeteners**
- **Coca Cola GB tweaks sugar/stevia blend**
- **Thaumatococcus gains new approval in the EU**

Stevia

Rebaudioside M is safe and can be added to the list of EU-approved steviol glycosides (E960), the European Food Safety Authority (EFSA) concluded. Rebaudioside M, also known as rebaudioside X, is a minor steviol glycoside constituent of the *Stevia rebaudiana* Bertoni (*S. rebaudiana*) plant.

PureCircle reported revenue growth of 26% from fiscal year 2014 (USD101m) to 2015 (USD127m). Approximately 50% of the company's sales are in North America, with 20% in Latin America, 20% in Asia-Pacific and 10% in Europe. The company has started to produce products for "big name" companies, such as PepsiCo, Dr Pepper-Snapple and Coca-Cola.

PureCircle recently launched its Zeta Family line for low- or no-calorie products and has other new innovations launching in the near future. The company has moved beyond Rebaudioside A, or Reb A, and now has 18 different stevia products in its portfolio. PureCircle has discovered more than 40 glycosides in the stevia leaf. The company's research and development team is in the process of creating and testing each to try to get the closest possible match to sugar.

Meanwhile, competitor company GLG Lifetech Corp has announced it intends to utilize MycoTech's mushroom-fuelled bitter blocking technology to tackle bitterness in stevia and monk fruit sweeteners. MycoTech's organic certified 'ClearTaste' powder, which can be described on the ingredients list as 'natural flavour(ing)' or 'natural flavour enhancer', is derived from mushroom mycelium, and has been shown to block the bitter and stringent notes in stevia (and other ingredients).

On the demand side, Coca-Cola Great Britain has created a new recipe for stevia-sweetened Coca-Cola Life (the mid-calorie brand sweetened with a blend of sugar and stevia leaf extract), in order to further reduce the sugar content of the drink. The new version will contain 45% less sugar and calories than the regular full calorie flagship drink.

The original Coca-Cola Life, which was launched in Great Britain in September 2014, contained a third less sugar and calories than the regular version. Coca-Cola Life was initially launched in Argentina and Chile in 2013. It is now available in the UK, US and Australia, alongside a number of other markets.

Thaumatococcus

In November, the EFSA gave approval for use of the natural protein sweetener and flavour modifier thaumatococcus in a wide range of applications including food flavourings, salt substitutes, soups, sauces and snacks, energy-reduced breakfast cereals, jams and jellies, food supplements and alcoholic beverages. The EFSA has also given its stamp of approval to an increase in the maximum use level from 0.5 mg/litre to 5 mg/litre in flavoured drinks.

The application to extend thaumatococcus's use into these categories was lodged by French ingredients firm Naturex, which manufactures the natural fruit extract under the Talin brand. The company notes that thaumatococcus is a natural sweetener that is capable of masking the bitterness of stevia but also can improve the taste of many other sweeteners.

Prior to the EFSA opinion, thaumatococcus was already approved in the EU in chewing gum, energy reduced or no-sugar-added confectionery and edible ices, table top sweeteners, dairy and non-dairy desserts and syrup and chewable food supplements, at various maximum usage levels. Its use was also permitted in flavoured drinks at a maximum usage level of 0.5 mg/litre, which Naturex said was too restrictive in some formulations.

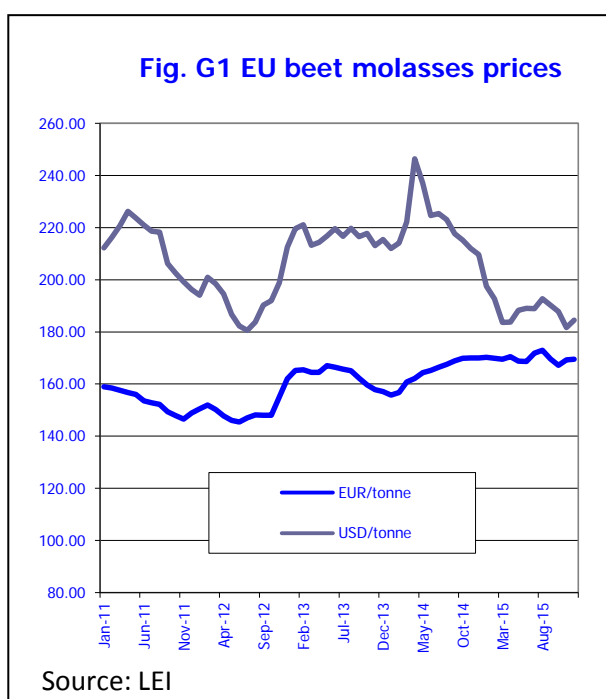
MOLASSES

- **Prices to remain firm**
- **Exports from key Asian origins remain down**
- **Flat to lower demand in key importers**

Outlook and Prices

Prices are anticipated to remain flat for much of 2016 with prospects of lower production and availability in key exporters coinciding with flat to lower demand in key importers. The squeeze on export supplies from Asia due to diversion of molasses to fuel ethanol production should not abate whilst in importing countries molasses will likely continue to lose competitiveness in compound livestock feed rations.

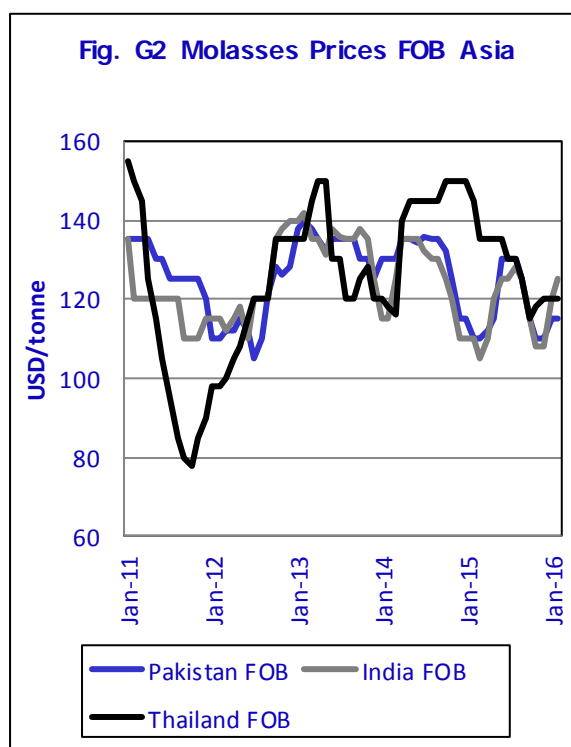
Over recent months soft grain prices and consequent reduced inclusion rates in compound feeds have pressured molasses values, at least in USD terms. Reflecting a weakening currency, values on the EU market for beet molasses have remained firm in EUR terms (Fig G1).



FOB prices in Pakistan and India moved sideways during 2015, ranging between USD110/tonne to USD130/tonne (see Fig. G2). FOB Thailand prices started the year at a higher level of USD150/tonne but from mid-year were commensurate with FOB prices from India and Pakistan.

Production and Exports

Availability of cane molasses to the global market from Asia will prove once again a key driver of production and exports during 2016. Last year higher production of molasses seen in major Asian exporters was largely absorbed by rising demand for fuel ethanol in the region. Indications are for molasses output to fall in 2016 in all major exporters.



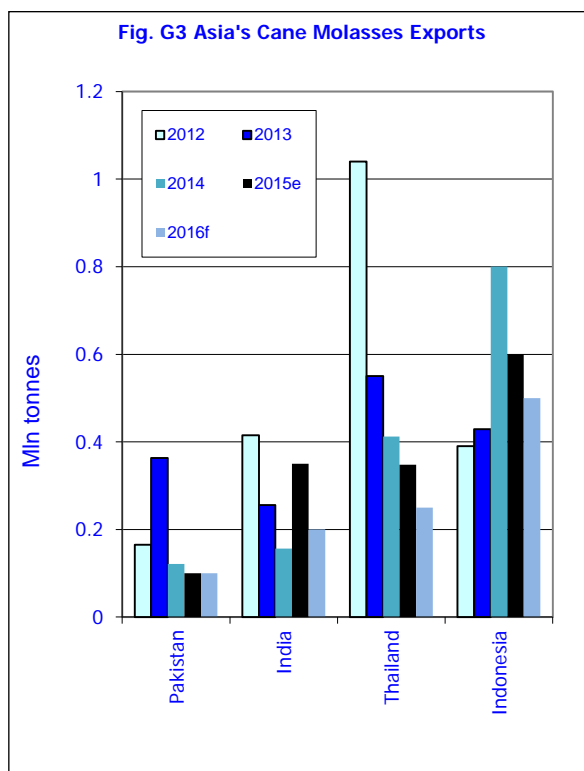
In **India** molasses output could fall from the massive 2014/15 level of 12.2 mln tonnes to around 11.5 mln tonnes. Molasses exports in 2015 are estimated to have reached 350,000 tonnes, up from 156,000 tonnes in 2014 (see Fig. G3). This year, India could have less molasses available for export, not only due to lower output but more importantly because the government has announced several measures to make fuel ethanol production more attractive to mills. Exports are therefore forecast at no more than 200,000 tonnes in 2016.

In contrast to India, molasses output in **Pakistan** is predicted to rise to around 2.5 mln tonnes in the 2015/16 season, up from 2.4 mln tonnes last season. Even so the small upturn in production will not impact molasses exports which are anticipated to remain very low at around 100,000 tonnes. Ethanol production from molasses still remains more remunerative for sugar millers than directly exporting molasses.

Production in **Thailand** from the recently commenced 2015/16 harvest may also be lower than last year. Even though molasses yields are high there is now an expectation for less cane tonnage to be crushed due to drought conditions. A decline in domestic molasses production to 4.3 mln tonnes is possible. Furthermore, domestic use of molasses by the fuel ethanol industry is anticipated to keep growing, limiting exports in 2016. Shipments in 2015 fell from 412,000 tonnes to 348,000 tonnes. With likely lower production coupled with continued growth in offtake for ethanol production, molasses exports are forecast to fall further in 2016, possibly to as low as 250,000 tonnes.

feedstocks or those users who value molasses for its flavour, binding qualities and other characteristics.

In the **EU** continuing soft grain prices combined with exceptionally high supplies of locally produced beet molasses have together weakened import demand considerably. Not only is molasses less competitive in livestock feeds, as well the European Feed Manufacturers Federation estimates EU production down 0.7% in 2015 following a modest decline in 2014. Between January and October 2015, molasses imports fell from 1.57 mln tonnes to 1.27 mln tonnes, a decline of almost 20%. Net imports are slated to reach around 1.45 mln tonnes in 2016, down from 1.81 mln tonnes in 2015 (see Fig. G4). Looking ahead to 2016, assuming that demand in the EU has already bottomed (because use has dropped to a level where users cannot easily switch to other raw materials) - then imports are likely to rise. This directly reflects lower local production from the 2015/16 campaign. Beet molasses output is forecast down 880,000 tonnes (22%), so net imports could return to as high as 1.8 mln tonnes.



Molasses production in **Indonesia** is expected to remain around 1.4 mln tonnes in 2015/16. Export shipments in 2015 are estimated at 0.6 mln tonnes ensuring the country remained the single largest exporter in Asia. Most of the country's exports remain within the region with the most important market by far being South Korea, taking more than half of the annual tonnage. Indonesia's molasses exports are thought likely to recede somewhat in 2016 in light of stagnant output and suggestions of lacklustre offtake by key Asian importing countries.

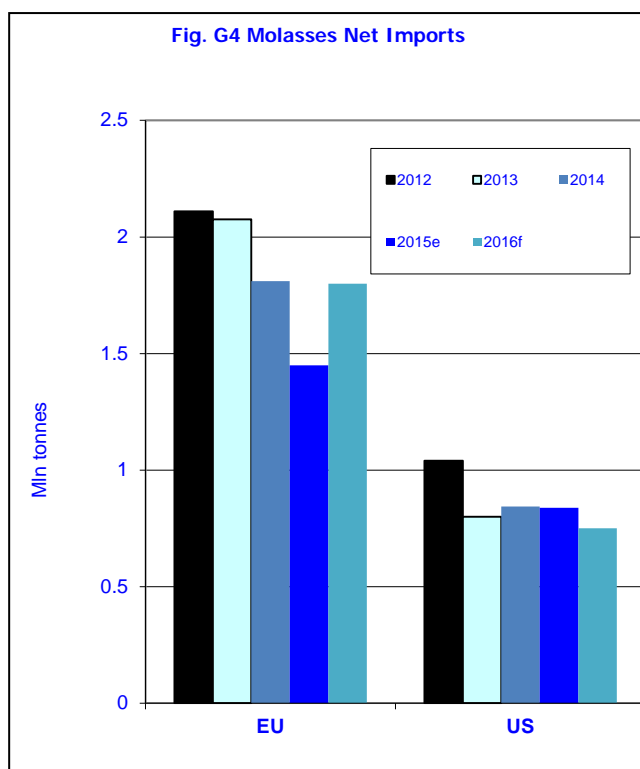
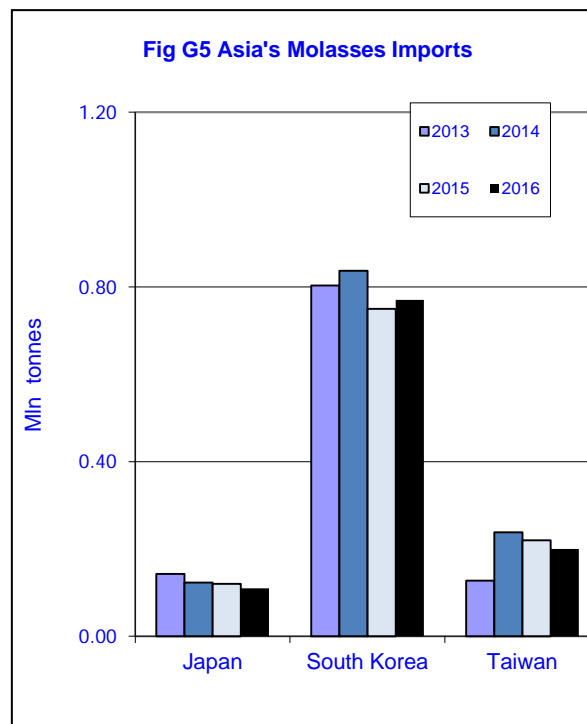
In the **US** continuing ample supplies of corn, soya, wheat and DDGS means that the molasses maintains an uncompetitive position in the market for livestock feed ingredients. Corn supplies will remain very high in 2016 and prices for the feed grain are expected to remain very competitive. In consequence, molasses sales to the animal feed sector will be again constrained. Molasses net imports in 2015 fell modestly from 0.844mln tonnes to 0.838 mln tonnes. Looking to 2016 higher local molasses production (2.25 mln tonnes from the 2015/16 season as against 2.1 mln tonnes in the previous campaign) suggests a reduced need for imports, which could see total shipments at no more than 0.9 mln tonnes (0.75 mln tonnes net).

Demand and Imports

Demand for molasses in key importers weakened during 2015, a direct consequence of weaker grains prices but relatively firm molasses prices. Demand became restricted to only the less sensitive users which cannot switch easily to other

Asia also houses several key importers including **Japan, South Korea, and Taiwan**. In total, these countries imported around 1.1 mln tonnes in 2015, down from 1.2 mln tonnes from 2014 – see Fig. G5.

The trade estimate as much as 100,000 tonnes of molasses demand in the fermentation sector was substituted by raw sugar in Asia, compounding any losses due to a reduced competitiveness of molasses in livestock feeds. South Korea remains by far the dominant importer. Molasses is mostly consumed by the country's large livestock feed industry with smaller volumes used for fermentation products. Imports in 2015 are estimated to have reached 0.75 mln tonnes, down 10% on the 2014 level. In the second largest deficit country – Taiwan - the fermentation sector accounts for the bulk of molasses use. Imports in 2015 are estimated at 0.22 mln tonnes, as against 0.24 mln tonnes the previous year. Finally in Japan, imports were much the same level as in 2014 at 0.12 mln tonnes. At this point in time there is little to suggest a substantial recovery in import volumes during 2016.



WTO UPDATE

- **Nairobi Ministerial clinches deal on agricultural export subsidies**
- **Profound differences remain in other key negotiating areas**

Trade ministers clinched a deal to eliminate agricultural export subsidies at the WTO Ministerial Conference in Nairobi. The Ministerial also agreed a series of other deliverables on agricultural trade and least developed country issues.

The outcome drew a mixed preliminary welcome from trade officials and observers. The agreement disciplining agricultural export competition, for example, was lauded as “historic” by trade officials - an achievement that eluded the trade system for 60 years since the GATT imposed similar curbs on export subsidies for industrial goods. Unsurprisingly deep divisions on the subject among members persisted up to the final hours of the ministerial, requiring round-the-clock negotiations.

On agricultural matters, despite fundamental differences, members managed to bridge their divides— and achieved a result that is likely to have significant ramifications for agricultural trade and for least developed countries’ participation in global trade flows, according to commentators.

The four key new ministerial decisions on agriculture covered a special safeguard mechanism for developing countries; a decision on export subsidies and other “export competition” elements; a decision on cotton; and public stockholding for food security purposes. The decisions, which are legally binding, represent the “most significant outcome on agriculture” seen in the WTO’s 20-year history, according to the WTO Director General.

Despite the significant outcome for agriculture, the text of the ministerial declaration shows that members were unable to overcome profound differences in other key areas, with the document explicitly stating that WTO members remain at odds over the reaffirmation of the Doha Round and subsequent ministerial declarations and decisions. The declaration has shed little light on what lies ahead for the negotiating function of the global trade body, which has long struggled to move out of the shadow cast by the continued lack of resolution in the Doha Round trade talks.

In short, observers note that the Nairobi ministerial ultimately yielded some substantive decisions for negotiators to applaud. However, the road ahead for the WTO may still be a rocky one.

REGIONAL TRADE AGREEMENTS

October 2015, US and EU officials confirmed their interest in finishing the negotiations before US President Barack Obama leaves office.

- **EU-Canada FTA yet to be ratified**
- **TPP signed, starting 2-year ratification window**
- **EU and US press for TTIP conclusion**

EU-Canada

Over a year after negotiations were concluded for an EU-Canada trade deal, the prospects and timing for ratification remain unclear, despite hopes expressed by officials on both sides in recent weeks that the agreement will receive lawmakers' approval in 2016. Negotiations for the deal were concluded in September 2014, following over six years of difficult talks. However, some of the pact's provisions, particularly those relating to investor protections and investor-state dispute settlement (ISDS), have proven particularly controversial in the time being, sparking questions over whether a ratification vote will indeed be successful.

Trans-Pacific Partnership

The Trans-Pacific Partnership (TPP) was signed by ministers from its 12 nations in New Zealand on February 4th. Whilst the signing ceremony is another step towards the TPP becoming a reality, the trade pact continues to face opposition. The 12 nations now have two years to ratify or reject the pact. The deal - which will cut tariffs, improve access to markets and set common ground on labour and environmental standards and intellectual property protections - was finally reached in October last year after five years of negotiation. The TPP involves the US, Japan, Malaysia, Vietnam, Singapore, Brunei, Australia, New Zealand, Canada, Mexico, Chile and Peru.

The deal triggered protests in New Zealand and has also drawn international criticism. Questions have also been raised over the ratification process as it coincides with the build-up to this year's US presidential election.

The Special Focus in the previous edition of the *Quarterly Market Outlook* considered the impact of the Trans-Pacific Partnership agreement for sugar trade.

TTIP(EU-US)

The EU Trade Commissioner has stressed that one of the key areas for progress this year is the Transatlantic Trade and Investment Partnership (TTIP). Washington and Brussels have held eleven negotiating rounds to date since the talks first began in 2013. Following the latest round in

WORLD SUGAR BALANCE

2015/16

(thousand tonnes, tel quel - October/September Year)

	Begin. stock	Production	Consumption	Change stock	Ending stock	Imports	Exports	Total net imports	Total net exports	
WESTERN EUROPE										
EU +	8358	14082*	18496*	-1769	6589	3995	1350	2645	-	
<i>Austria</i>		445	322					-	-	
<i>Belgium-Luxemburg</i>		735	608					-	-	
<i>Bulgaria</i>		0	294					-	-	
<i>Croatia</i>		145	159					-	-	
<i>Cyprus</i>		0	29					-	-	
<i>Czech Republic</i>		490	496					-	-	
<i>Estonia</i>		0	83					-	-	
<i>Denmark</i>		310	271					-	-	
<i>Finland</i>		65	207					-	-	
<i>France</i>		4000	2395					-	-	
<i>Germany</i>		2985	3105					-	-	
<i>Greece</i>		50	328					-	-	
<i>Hungary</i>		102	349					-	-	
<i>Ireland</i>		0	182					-	-	
<i>Italy</i>		405	1730					-	-	
<i>Latvia</i>		0	65					-	-	
<i>Lithuania</i>		100	85					-	-	
<i>Malta</i>		0	25					-	-	
<i>Netherlands</i>		820	721					-	-	
<i>Poland</i>		1325	1675					-	-	
<i>Portugal</i>		0	308					-	-	
<i>Romania</i>		165	625					-	-	
<i>Slovakia</i>		180	238					-	-	
<i>Slovenia</i>		0	112					-	-	
<i>Spain</i>		550	1331					-	-	
<i>Sweden</i>		225	413					-	-	
<i>UK</i>		985	2340					-	-	
French Territories	12	0	19	0	12	19	0	19	-	
Gibraltar	1	0	1	0	1	1	0	1	-	
Iceland	5	0	10	0	5	10	0	10	-	
Norway	0	0	121	1	1	122	0	122	-	
Switzerland	145	305*	400	0	145	100	5	95	-	
Total	8521	14387	19047	-1768	6753	4247	0	1355	2892	0
EASTERN EUROPE and CIS										
Albania	41	4	88	0	41	84	0	84	-	
Armenia	15	0	105	0	15	105	0	105	-	
Azerbaijan	261	25	180	0	261	257	102	155	-	
Belarus	346	425	397	0	346	277	305	-	28	
Bosnia	25	0	145	0	25	145	0	145	-	
Georgia	197	0	140	0	197	174	34	140	-	
Kazakhstan	171	3	495	0	171	502	10	492	-	
Kyrgyzstan	112	20	117	0	112	97	0	97	-	
Macedonia	41	10	81	0	41	71	0	71	-	
Moldova	111	90	87	0	111	7	10	-	3	
Russia	1238	5150*	5550	0	1238	410	10	400	-	
Serbia & Montenegro	119	500	316	0	119	44	228	-	184	
Tajikistan	14	0	127	0	14	127	0	127	-	
Turkmenistan	21	10	111	0	21	101	0	101	-	
Ukraine	2056	1450*	1840	-515	1541	0	125	-	125	
Uzbekistan	239	0	570	0	239	570	0	570	-	
Total	5007	7687	10349	-515	4492	2971	824	2487	340	
NORTH AND CENTRAL AMERICA										
Canada	1425	83	1225	0	1425	1172	30	1142	-	
USA	4132	7500*	10240*	-195	3937	2650	105	2545	-	
Mexico	2304	5985	4310	0	2304	10	1685	-	1675	
Bahamas	0	0	12	0	0	12	0	12	-	
Barbados	22	30	14	0	22	14	30	-	16	
Belize	23	115	16	0	23	10	109	-	99	
Bermuda	3	0	1	0	3	1	0	1	-	
Costa Rica	178	440	246	0	178	0	194	-	194	
Cuba	241	1900*	595	0	241	0	1305	-	1305	
Dominican Republic	586	510	387	0	586	60	183	-	123	
El Salvador	545	790	330	0	545	0	460	-	460	
Guatemala	1224	2950	753	0	1224	0	2197	-	2197	
Haiti	113	0	181	0	113	181	0	181	-	
Honduras	262	525	365	0	262	0	160	-	160	
Jamaica	258	155	123	0	258	63	95	-	32	
Netherlands Antilles	1	0	12	0	1	17	5	12	-	
Nicaragua	164	700	274	0	164	0	426	-	426	
Panama	113	170	137	0	113	0	33	-	33	
St Christopher	0	0	2	0	0	2	0	2	-	

WORLD SUGAR BALANCE (cont.)

2015/16

(thousand tonnes, tel quel - October/September Year)

	Begin. stock	Production	Consumption	Change stock	Ending stock	Imports	Exports	Total net imports	exports
Trinidad & Tobago	15	0	66	0	15	66	0	66	-
Other Carrebeans	21	0	39	0	21	44	5	39	-
Total	11630	21853	19328	-195	11435	4302	7022	4000	6720
SOUTH AMERICA						18318			
Argentina	1841	2100	1715	0	1841	0	385	-	385
Bolivia	368	415*	387	0	368	22	50	-	28
Brazil	586	35000*	11875*	125	711	0	23000	-	23000
Chile	725	260	800	0	725	540	0	540	-
Colombia	293	2385*	1705*	0	293	50	730	-	680
Ecuador	248	610	565	0	248	5	50	-	45
Guyana	314	205	27	0	314	10	188	-	178
Paraguay	35	160	133	0	35	12	39	-	27
Peru	489	1195	1220	0	489	135	110	25	-
Suriname	14	7	21	0	14	14	0	14	-
Uruguay	28	25	144	0	28	129	10	119	-
Venezuela	75	505	1270	0	75	765	0	765	-
Total	5016	42867	19862	125	5141	1682	24562	1463	24343
MIDDLE EAST and NORTHERN AFRICA									
Algeria	952	0	1395*	0	952	1795	400	1395	-
Djibouti	205	0	18	0	205	78	60	18	-
Egypt, Arab Republic	1477	1920	3390	0	1477	1595	125	1470	-
Eretria	20	0	49	0	20	49	0	49	-
Iran	348	1400	2780	95	443	1475	0	1475	-
Iraq	465	0	815	0	465	815	0	815	-
Israel	306	0	493	0	306	493	0	493	-
Jordan	78	0	300	0	78	300	0	300	-
Kuwait	84	0	104	0	84	104	0	104	-
Lebanon	324	0	179	0	324	179	0	179	-
Libyan Arab Jamahiriya	52	0	190	0	52	190	0	190	-
Mauritania	15	0	163	0	15	194	31	163	-
Morocco	1192	480	1301	0	1192	821	0	821	-
Persian Gulf	55	0	177	0	55	177	0	177	-
Saudi Arabia	813	0	1202	0	813	1477	275	1202	-
Somalia	164	25	224	0	164	199	0	199	-
Sudan	879	800	1480	0	879	953	273	680	-
Syrian Arab Republic	279	160	625	0	279	465	0	465	-
Tunisia	83	0	436	0	83	436	0	436	-
Turkey	1241	2350	2390	0	1241	55	15	40	-
United Arab Emirates	755	0	232	0	755	1974	1742	232	-
Yemen	425	0	583	0	425	583	0	583	-
Total	10212	7135	18526	95	10307	14407	2921	11486	0
FAR EAST and OCEANIA									
Australia	1929	4800	1005	0	1929	120	3915	-	3795
Brunei	9	0	13	0	9	13	0	13	-
Cambodia	41	55	268	0	41	362	149	213	-
China	9786	9750*	15640	-1380	8406	4575	65	4510	-
China (Taiwan)	161	60	620	0	161	565	5	560	-
Fiji	78	205	36	0	78	3	172	-	169
Hong Kong	128	0	162	0	128	177	15	162	-
Indonesia	1068	2475*	6520	-95	973	3950	0	3950	-
Japan	606	685	2205	0	606	1525	5	1520	-
Korea, DPR	126	0	88	0	126	88	0	88	-
Korea, Republic of	982	0	1585*	0	982	1935	350	1585	-
Laos, DPR	69	54	80	0	69	76	50	26	-
Macao	6	0	6	0	6	6	0	6	-
Malaysia	1284	13	1720	-60	1224	1747	100	1647	-
Mongolia	32	0	28	0	32	28	0	28	-
Myanmar	78	268	385	0	78	137	20	117	-
New Zealand	73	0	221	0	73	241	20	221	-
Papua New Guinea	13	33	50	0	13	17	0	17	-
Philippines	721	2250*	2395	-100	621	130	85	45	-
Singapore	55	0	280	0	55	355	75	280	-
Thailand	4960	10850*	2875*	-475	4485	0	8450	-	8450
Vietnam SR	199	1500*	1710*	0	199	290	80	210	-
Samoa	10	0	2	0	10	2	0	2	-

WORLD SUGAR BALANCE (cont.)

2015/16

(thousand tonnes, tel quel - October/September Year)

	Begin. stock	Production	Consumption	Change stock	Ending stock	Imports	Exports	Total net imports	net exports
Other Oceania	26	0	28	0	26	28	0	28	-
Total	22440	32998	37922	-2110	20330	16370	13556	15228	12414
INDIAN SUBCONTINENT									
Afghanistan	147	0	260	0	147	260	0	260	-
Bangladesh	732	101	2090	0	732	2089	100	1989	-
India	13465	26500 [*]	25150 [*]	-550	12915	1500	3400	-	1900
Maldives	27	0	7	0	27	7	0	7	-
Nepal	1	140	161	10	11	41	10	31	-
Pakistan	1870	5325 [*]	5000	-100	1770	10	435	-	425
Sri Lanka	192	50	680	0	192	630	0	630	-
Total	16434	32116	33348	-640	15794	4537	3945	2917	2325
EQUATORIAL and SOUTHERN AFRICA									
Angola	40	40	335	0	40	295	0	295	-
Benin	96	10	82	0	96	82	10	72	-
Botswana	47	0	68	0	47	68	0	68	-
Burkina Faso	29	45	95	0	29	55	5	50	-
Burundi	5	24	33	0	5	9	0	9	-
Cameroon UR	51	150 [*]	220 [*]	0	51	75	5	70	-
Cape Verde	10	0	18	0	10	18	0	18	-
Central African Republic	7	5	21	0	7	16	0	16	-
Chad	27	35	120	0	27	85	0	85	-
Comoros	1	0	10	0	1	10	0	10	-
Congo, Dem. Rep.	25	70	245	0	25	175	0	175	-
Congo	191	80	95	0	191	16	1	15	-
Cote d'Ivoire	336	170	294	0	336	134	10	124	-
Ethiopia	134	625	473	0	134	25	177	-	152
Gabon	7	26	34	0	7	8	0	8	-
Gambia	48	0	78	0	48	78	0	78	-
Ghana	102	0	270	0	102	315	45	270	-
Guinea	89	25	168	0	89	143	0	143	-
Guinea Bissau	8	0	21	0	8	21	0	21	-
Kenya	82	625	896	0	82	271	0	271	-
Liberia	10	0	19	0	10	19	0	19	-
Madagascar	47	105	160	0	47	100	45	55	-
Malawi	120	315	237	0	120	0	78	-	78
Mali	13	35	151	0	13	116	0	116	-
Mauritius	286	405	37	0	286	35	403	-	368
Mozambique	228	450	181	0	228	0	269	-	269
Namibia	13	0	80	0	13	120	40	80	-
Niger	11	10	111	0	11	101	0	101	-
Nigeria	398	60	1575 [*]	0	398	1515	0	1515	-
Rwanda	25	10	70	0	25	60	0	60	-
Senegal	56	110	261	0	56	151	0	151	-
Sierra Leone	16	0	32	0	16	32	0	32	-
South Africa	1643	1850 [*]	2029	0	1643	329	150	179	-
Swaziland	627	750	57	0	627	0	693	-	693
Tanzania, United Rep.	711	340	500	0	711	165	5	160	-
Togo	23	0	97	0	23	117	20	97	-
Uganda	265	480	335	0	265	65	210	-	145
Zambia	153	440	182	0	153	0	258	-	258
Zimbabwe	128	500	465	0	128	105	140	-	35
Other Africa	192	0	21	0	192	21	0	21	-
Total	6300	7790	10176	0	6300	4950	2564	4384	1998
World Total	85560	166833	171851	-5008	80552	56759	56749	48150	48140

& Including adjustment for unknown net trade of 3.293 mln t

* Production and consumption estimates that have changed since the last issue of the Quarterly Market Outlook

WORLD SUGAR BALANCE

2014/15

(thousand tonnes, tel quel - October/September Year)

	Begin. stock	Production	Consumption	Change stock	Ending stock	Imports	Exports	Total net imports	exports
WESTERN EUROPE									
EU +	6984	18059	18360	1374	8358	3025	1350	1675	-
<i>Austria</i>		399	318						
<i>Belgium-Luxemburg</i>		846	601						
<i>Bulgaria</i>			290						
<i>Croatia</i>		320	157						
<i>Cyprus</i>			29						
<i>Czech Republic</i>		586	491						
<i>Estonia</i>			82						
<i>Denmark</i>		477	268						
<i>Finland</i>		138	205						
<i>France</i>		4418	2370						
<i>Germany</i>		4050	3075						
<i>Greece</i>		54	324						
<i>Hungary</i>		106	345						
<i>Ireland</i>			180						
<i>Italy</i>		586	1710						
<i>Latvia</i>			64						
<i>Lithuania</i>		130	84						
<i>Malta</i>			25						
<i>Netherlands</i>		1094	714						
<i>Poland</i>		1985	1735						
<i>Portugal</i>			305						
<i>Romania</i>		224	615						
<i>Slovakia</i>		207	235						
<i>Slovenia</i>			110						
<i>Spain</i>		611	1310						
<i>Sweden</i>		382	408						
<i>UK</i>		1446	2310						
French Territories	12		19	0	12	19	0	19	-
Gibraltar	1		1	0	1	1	0	1	-
Iceland	5		10	0	5	10	0	10	-
Norway	2		122	-2	0	120	0	120	-
Switzerland	145	315	400	0	145	90	5	85	-
Total	7149	18374	18912	1372	8521	3265	1355	1910	0
EASTERN EUROPE and CIS									
Albania	41	4	87	0	41	83		83	-
Armenia	15		102	0	15	102		102	-
Azerbaijan	261	25	176	0	261	253	102	151	-
Belarus	346	545	390	0	346	220	375	-	155
Bosnia	25		141	0	25	141		141	-
Georgia	197		136	0	197	170	34	136	-
Kazakhstan	171	3	485	0	171	492	10	482	-
Kyrgyzstan	112	20	114	0	112	94		94	-
Macedonia	41	10	79	0	41	69		69	-
Moldova	111	170	85	0	111	5	90	-	85
Russia	1333	4425	5485	-95	1238	975	10	725	-
Serbia & Montenegro	119	500	312	0	119	40	228	-	188
Tajikistan	14		124	0	14	124	0	124	-
Turkmenistan	21	10	108	0	21	98	0	98	-
Ukraine	1886	2100	1830	170	2056		100	-	100
Uzbekistan	239		556	0	239	556	0	556	-
Total	4932	7812	10210	75	5007	3422	949	2761	528
NORTH AND CENTRAL AMERICA									
Canada	1425	87	1220	0	1425	1163	30	1270	-
USA	4142	7330*	10215*	-10	4132	2980	105	2875	-
Mexico	1929	5985	4250	375	2304	10	1370	-	1360
Bahamas	0		12	0	0	12		12	-
Barbados	22	30	14	0	22	14	30	-	16
Belize	23	115	16	0	23	10	109	-	99
Bermuda	3		1	0	3	1		1	-
Costa Rica	174	440	243	4	178		193	-	193
Cuba	241	1900	590	0	241		1310	-	1310
Dominican Republic	588	510	377	-2	586	60	195	-	135
El Salvador	545	790	320	0	545		470	-	470
Guatemala	1224	2890	735	0	1224		2155	-	2155
Haiti	113		180	0	113	180		180	-
Honduras	262	525	350	0	262		175	-	175
Jamaica	258	155	120	0	258	60	95	-	35
Netherlands Antilles	1		12	0	1	17	5	12	-
Nicaragua	156	675	265	8	164		402	-	402

WORLD SUGAR BALANCE (cont.)

2014/15

(thousand tonnes, tel quel - October/September Year)

	Begin. stock	Production	Consumption	Change stock	Ending stock	Imports	Exports	Total net imports	exports
Panama	113	170	134	0	113		36	-	36
St Christopher	0		2	0	0	2		2	-
Trinidad & Tobago	13		66	2	15	68		68	-
Other Carrebeans	21		39	0	21	44	5	39	-
Total	11253	21602	19161	377	11630	4621	6685	4459	6386
SOUTH AMERICA									
Argentina	1841	2025	1696	0	1841		329	-	329
Bolivia	368	430*	375	0	368	10	65	-	55
Brazil	2059	33800*	12000*	-1473	586		23273	-	23273
Chile	721	260	782	4	725	526		526	-
Colombia	303	2382*	1681*	-10	293	62	773	-	711
Ecuador	248	610	557	0	248	5	58	-	53
Guyana	314	205	27	0	314	10	188	-	178
Paraguay	35	160	131	0	35	10	39	-	29
Peru	494	1195	1195	-5	489	115	120	-	5
Suriname	11	7	21	3	14	17		17	-
Uruguay	28	25	140	0	28	125	10	115	-
Venezuela	75	505	1245	0	75	740		740	-
Total	6497	41604	19850	-1481	5016	1620	24855	1398	24633
MIDDLE EAST and NORTHERN AFRICA									
Algeria	952		1370	0	952	1770	400	1370	-
Djibouti	205		18	0	205	78	60	18	-
Egypt, Arab Republic	1477	1920	3265	0	1477	1470	125	1345	-
Eretria	20		49	0	20	49		49	-
Iran	748	1400	2705	-400	348	905		905	-
Iraq	465		795	0	465	795		795	-
Israel	306		486	0	306	486		486	-
Jordan	78		294	0	78	294		294	-
Kuwait	84		101	0	84	101		101	-
Lebanon	324		173	0	324	173		173	-
Libyan Arab Jamahiriya	52		190	0	52	190		190	-
Mauritania	15		159	0	15	190	31	159	-
Morocco	1192	480	1260	0	1192	780		780	-
Persian Gulf	55		172	0	55	172		172	-
Saudi Arabia	813		1155	0	813	1430	275	1155	-
Somalia	164	25	219	0	164	194		194	-
Sudan	879	750	1382	0	879	905	273	632	-
Syrian Arab Republic	279	160	625	0	279	465		465	-
Tunisia	83		425	0	83	425		425	-
Turkey	1241	2245	2330	0	1241	100	15	85	-
United Arab Emirates	915		220	-160	755	1902	1842	60	-
Yemen	425		571	0	425	571		571	-
Total	10772	6980	17964	-560	10212	13445	3021	10424	0
FAR EAST and OCEANIA									
Australia	1929	4450	1005	0	1929	120	3565	-	3445
Brunei	9		13	0	9	13	0	13	-
Cambodia	41	55	256	0	41	350	149	201	-
China	9820	10556	15300	-34	9786	4775	65	4710	-
China (Taiwan)	161	60	619	0	161	564	5	559	-
Fiji	78	205	36	0	78	3	172	-	169
Hong Kong	128		162	0	128	177	15	162	-
Indonesia	1068	2525	6265	0	1068	3740		3740	-
Japan	606	685	2200	0	606	1520	5	1515	-
Korea, DPR	126		88	0	126	88		88	-
Korea, Republic of	982		1550*	0	982	1900	350	1550	-
Laos, DPR	69	54	74	0	69	70	50	20	-
Macao	6		6	0	6	6		6	-
Malaysia	1234	13	1660	50	1284	1797	100	1697	-
Mongolia	32		28	0	32	28		28	-
Myanmar	78	268	360	0	78	112	20	92	-
New Zealand	73		220	0	73	240	20	220	-
Papua New Guinea	10	33	48	3	13	18		18	-
Philippines	721	2320	2275	0	721		45	-	45
Singapore	55		278	0	55	353	75	278	-

WORLD SUGAR BALANCE (cont.)

2014/15

(thousand tonnes, tel quel - October/September Year)

	Begin. stock	Production	Consumption	Change stock	Ending stock	Imports	Exports	Total net imports	net exports
Thailand	4249	11300	2797*	711	4960		7792	-	7792
Vietnam SR	199	1425	1700	0	199	385	110	-	-
Western Samoa	10		2	0	10	2		2	-
Other Oceania	26		27	0	26	27		27	-
Total	21710	33949	36969	730	22440	16288	12538	14926	11451
INDIAN SUBCONTINENT									
Afghanistan	147		251	0	147	251		251	-
Bangladesh	708	101	1960	24	732	1983	100	1883	-
India	11140	28200	24750	2325	13465	1250	2375	-	1125
Maldives	26		7	1	27	8		8	-
Nepal	5	129	157	-4	1	34	10	24	-
Pakistan	2120	5200	4850	-250	1870	10	610	-	600
Sri Lanka	192	50	665	0	192	615		615	-
Total	14338	33680	32640	2096	16434	4151	3095	2781	1725
EQUATORIAL and SOUTHERN AFRICA									
Angola	40	20	322	0	40	302		302	-
Benin	96	10	80	0	96	80	10	70	-
Botswana	47	0	67	0	47	67		67	-
Burkina Faso	29	45	92	0	29	52	5	47	-
Burundi	5	24	32	0	5	8		8	-
Cameroon UR	91	110	200*	-40	51	55	5	50	-
Cape Verde	10		17	0	10	17		17	-
Central African Republic	4	5	20	3	7	18		18	-
Chad	27	35	115	0	27	80		80	-
Comoros	1		10	0	1	10		10	-
Congo, Dem. Rep.	25	70	235	0	25	165		165	-
Congo	191	80	93	0	191	14	1	13	-
Cote d'Ivoire	336	170	284	0	336	124	10	114	-
Ethiopia	112	425	458	22	134	110	55	55	-
Gabon	7	26	32	0	7	6		6	-
Gambia	48		76	0	48	76		76	-
Ghana	2		262	100	102	407	45	362	-
Guinea	89	25	162	0	89	137		137	-
Guinea Bissau	8		20	0	8	20		20	-
Kenya	82	625	875	0	82	250		250	-
Liberia	9		18	1	10	19		19	-
Madagascar	47	105	155	0	47	95	45	50	-
Malawi	120	315	231	0	120		84	-	84
Mali	13	35	145	0	13	110		110	-
Mauritius	286	405	35	0	286	35	405	-	370
Mozambique	228	435	178	0	228		257	-	257
Namibia	13		79	0	13	119	40	-	-
Niger	11	10	107	0	11	97		97	-
Nigeria	398	40	1550*	0	398	1510		1510	-
Rwanda	27	10	65	-2	25	53		53	-
Senegal	56	110	250	0	56	140		140	-
Sierra Leone	16		31	0	16	31		31	-
South Africa	2050	1550*	1975	-407	1643	675	657	18	-
Swaziland	627	734	55	0	627		679	-	679
Tanzania, United Rep.	711	340	495	0	711	160	5	155	-
Togo	23		92	0	23	112	20	92	-
Uganda	265	480	326	0	265	65	219	-	154
Zambia	153	440	175	0	153		265	-	265
Zimbabwe	108	500	460	20	128	105	125	-	20
Other Africa	192	0	21	0	192	21		21	-
Total	6603	7179	9895	-303	6300	5345	2932	4163	1829
WORLD TOTAL	83254	171180	168894&	2306	85560	55450&	55430	46115	46552

& Including adjustment for unknown net trade of 3.293 mln t

* Production and consumption estimates that have changed since the last issue of the Quarterly Market Outlook

WORLD SUGAR BALANCE (cont.)

2013/14

(thousand tonnes, tel quel - October/September Year)

	Begin. stock	Production	Consumption	Change stock	Ending stock	Imports	Exports	Total net imports	net exports
WESTERN EUROPE									
EU +	7298	15651	18200	-314	6984	3,669	1434	2235	-
<i>Austria</i>		484	316						
<i>Belgium-Luxemburg</i>		783	597						
<i>Bulgaria</i>			288						
<i>Croatia</i>		193	155						
<i>Cyprus</i>			29						
<i>Czech Republic</i>		539	488						
<i>Estonia</i>			81						
<i>Denmark</i>		462	266						
<i>Finland</i>		117	203						
<i>France</i>		3815	2350						
<i>Germany</i>		3121	3050						
<i>Greece</i>		160	322						
<i>Hungary</i>		116	342						
<i>Ireland</i>			178						
<i>Italy</i>		508	1697						
<i>Latvia</i>		0	63						
<i>Lithuania</i>		172	83						
<i>Malta</i>		0	25						
<i>Netherlands</i>		947	708						
<i>Poland</i>		1713	1716						
<i>Portugal</i>		0	304						
<i>Romania</i>		257262	603 607						
<i>Slovakia</i>		219	230						
<i>Slovenia</i>		0	109						
<i>Spain</i>		449	1297						
<i>Sweden</i>		378	405						
<i>UK</i>		1213	2291						
French Territories	16		19	-4	12	15		15	-
Gibraltar	1		1	0	1	1		1	-
Iceland	6		10	-1	5	9		9	-
Norway	3		124	-1	2	123		123	-
Switzerland	101	266	385	44	145	169	6	163	-
Total	7425	15917	18739	-276	7149	3986	1440	2546	0
EASTERN EUROPE and CIS									
<i>Albania</i>	40	4	86	1	41	83		83	-
<i>Armenia</i>	23	5	101	-8	15	89	1	88	-
<i>Azerbaijan</i>	260	32	174	1	261	285	142	143	-
<i>Belarus</i>	396	536	382	-50	346	230	434	-	204
<i>Bosnia</i>	25		140	0	25	140		140	-
<i>Georgia</i>	182		134	15	197	476	327	149	-
<i>Kazakhstan</i>	231	5	478	-60	171	420	7	413	-
<i>Kyrgyzstan</i>	129	17	113	-17	112	79		79	-
<i>Macedonia</i>	47	23	79	-6	41	50		50	-
<i>Moldova</i>	103	157	81	8	111	1	69	-	68
<i>Russia</i>	906	4772	5415	427	1333	1073	3	725	-
<i>Serbia & Montenegro</i>	101	503	310	18	119		175	-	175
<i>Tajikistan</i>	15		123	-1	14	122		122	-
<i>Turkmenistan</i>	29	9	105	-8	21	88		88	-
<i>Ukraine</i>	2161	1582	1850	-275	1886	1	8	-	7
<i>Uzbekistan</i>	261	0	548	-22	239	526		526	-
Total	4909	7645	10119	23	4932	3663	1166	2606	454
NORTH AND CENTRAL AMERICA									
<i>Canada</i>	1403	94	1201	22	1425	1150	21	1270	-
<i>USA</i>	4473	7169	10379	-331	4142	3134	255	2879	-
<i>Mexico</i>	2556	6021	4099	-627	1929	9	2558	-	2549
<i>Bahamas</i>	1		12	-1	0	11		11	-
<i>Barbados</i>	26	17	14	-4	22	8	15	-	7
<i>Belize</i>	25	118	16	-2	23		104	-	104
<i>Bermuda</i>	3		1	0	3	1		1	-
<i>Costa Rica</i>	105	466	239	69	174		158	-	158
<i>Cuba</i>	202	1600	579	39	241		982	-	982
<i>Dominican Republic</i>	619	540	367	-31	588		204	-	204
<i>El Salvador</i>	519	752	315	26	545		411	-	411
<i>Guatemala</i>	892	2858	717	332	1224		1809	-	1809
<i>Haiti</i>	141		180	-28	113	152		152	-
<i>Honduras</i>	304	519	335	-42	262		226	-	226

WORLD SUGAR BALANCE (cont.)

2013/14

(thousand tonnes, tel quel - October/September Year)

	Begin. stock	Production	Consumption	Change stock	Ending stock	Imports	Exports	Total net imports	exports
Jamaica	245	148	106	13	258	59	88	-	29
Netherlands Antilles	6		12	-5	1	7		7	-
Nicaragua	164	687	257	-8	156		438	-	438
Panama	129	170	132	-16	113		54	-	54
St Christopher	0		2	0	0	2		2	-
Trinidad & Tobago	28		66	-15	13	51		51	-
Other Caribbeans	42		39	-21	21	27	9	18	-
Total	11883	21159	19068	-630	11253	4611	7332	4391	6971
SOUTH AMERICA									
Argentina	1885	1749	1644	-44	1841		149	-	149
Bolivia	345	459	364	23	368	4	76	-	72
Brazil	712	37811	12124*	1347	2059	1	24341	-	24340
Chile	757	256	766	-36	721	474		474	-
Colombia	314	2404	1698	-11	303	135	852	-	717
Ecuador	266	520	550	-18	248	24	12	12	-
Guyana	313	206	27	1	314	8	186	-	178
Paraguay	9	208	129	26	35		53	-	53
Peru	422	1197	1172	72	494	164	117	47	-
Suriname	16		21	-5	11	16		16	-
Uruguay	30	22	137	-2	28	113		113	-
Venezuela	19	519	1219	56	75	756		756	-
Total	5088	45351	19851	1409	6497	1695	25786	1418	25509
MIDDLE EAST and NORTHERN AFRICA									
Algeria	873		1343	79	952	1889	467	1422	-
Djibouti	195		18	10	205	184	156	28	-
Egypt, Arab Republic	1382	1924	3146	95	1477	1463	146	1317	-
Eretria	23		46	-3	20	43		43	-
Iran	487	1303	2640	261	748	1629	31	1598	-
Iraq	549		775	-84	465	691		691	-
Israel	278		479	28	306	507		507	-
Jordan	73		291	5	78	297	1	296	-
Kuwait	82		99	2	84	101		101	-
Lebanon	286	1	167	38	324	256	52	204	-
Libyan Arab Jamahiriya	50		190	2	52	192		192	-
Mauritania	2		156	13	15	275	106	169	-
Morocco	1180	480	1224	12	1192	763	7	756	-
Persian Gulf	26		168	29	55	197		197	-
Saudi Arabia	756		1111	57	813	1398	230	1168	-
Somalia	144	23	215	20	164	381	169	212	-
Sudan	954	683	1262	-75	879	848	344	504	-
Syrian Arab Republic	235	131	625	44	279	538		538	-
Tunisia	112		389	-29	83	360		360	-
Turkey	1129	2388	2265	112	1241	6	17	-	11
United Arab Emirates	432		215	483	915	2710	2012	698	-
Yemen	357		560	68	425	703	75	628	-
Total	9605	6933	17384	1167	10772	15431	3813	11629	11
FAR EAST and OCEANIA									
Australia	2103	4012	956	-174	1929	142	3372	-	3230
Brunei	9		13	0	9	13		13	-
Cambodia	77	55	244	-36	41	559	406	153	-
China	7718	12791	14926	2102	9820	4284	47	4237	-
China (Taiwan)	152	56	619	9	161	573	1	572	-
Fiji	77	240	29	1	78	2	212	-	210
Hong Kong	130		162	-2	128	176	16	160	-
Indonesia	1091	2528	6010	-23	1068	3459		3459	-
Japan	765	681	2185	-159	606	1346	1	1345	-
Korea, DPR	121		88	5	126	93		93	-
Korea, Republic of	963		1538	19	982	1872	315	1557	-
Laos, DPR	22	86	69	47	69	40	10	30	-
Macao	6		6	0	6	6		6	-
Malaysia	1113	9	1600	121	1234	1990	278	1712	-
Mongolia	33		28	-1	32	27		27	-
Myanmar	56	280	338	22	78	148	68	80	-
New Zealand	67		220	6	73	253	27	226	-
Papua New Guinea	13	34	46	-3	10	12	3	9	-
Philippines	621	2480	2172	100	721		208	-	208
Singapore	51		275	4	55	350	71	279	-

WORLD SUGAR BALANCE (cont.)
2013/14
(thousand tonnes, tel quel - October/September Year)

	Begin. stock	Production	Consumption	Change stock	Ending stock	Imports	Exports	Total net imports	exports
Thailand	2034	11284	2760	2215	4249		6309	-	6309
Vietnam SR	372	1590	1690	-173	199	169	242	-	73
Western Samoa	10		2	0	10	2		2	-
Other Oceania	8		27	18	26	48	3	45	-
Total	17612	36126	36003	4098	21710	15564	11589	14005	10030
INDIAN SUBCONTINENT									
Afghanistan	86		239	61	147	446	146	300	-
Bangladesh	542	110	1830	166	708	1955	69	1886	-
India	11911	24396	23988	-771	11140	1401	2580	-	1179
Maldives	27		7	-1	26	6		6	-
Nepal	1	141	154	4	5	17		17	-
Pakistan	1581	5960	4704	539	2120	9	726	-	717
Sri Lanka	153	53	654	39	192	640		640	-
Total	14301	30660	31576	37	14338	4474	3521	2849	1896
EQUATORIAL and SOUTHERN AFRICA									
Angola	44		310	-4	40	419	113	306	-
Benin	88	10	78	8	96	116	40	76	-
Botswana	48		67	-1	47	66		66	-
Burkina Faso	28	31	88	1	29	58		58	-
Burundi	0	28	32	5	5	9		9	-
Cameroon UR	74	119	150	17	91	53	5	48	-
Cape Verde	13		17	-3	10	14		14	-
Central African Republic	6	10	20	-2	4	8		8	-
Chad	23	34	109	4	27	79		79	-
Comoros	3		10	-2	1	8		8	-
Congo, Dem	53	64	227	-28	25	135		135	-
Congo	192	68	89	-1	191	23	3	20	-
Cote d'Ivoire	278	182	275	58	336	160	9	151	-
Ethiopia	105	387	442	7	112	62		62	-
Gabon	5	23	30	2	7	9		9	-
Gambia	26		76	22	48	133	35	98	-
Ghana	102		255	-100	2	329	174	155	-
Guinea	64	23	156	25	89	158		158	-
Guinea Bissau	13		19	-5	8	14		14	-
Kenya	101	637	856	-19	82	200		200	-
Liberia	10		18	-1	9	17		17	-
Madagascar	26	76	114	21	47	116	57	59	-
Malawi	155	298	226	-35	120		107	-	107
Mali	13	39	139	0	13	100		100	-
Mauritius	319	395	30	-33	286	37	435	-	398
Mozambique	163	407	176	65	228	91	257	-	166
Namibia	11		78	2	13	89	9		-
Niger	14	10	103	-3	11	90		90	-
Nigeria	375	11	1382	23	398	1400	6	1394	-
Rwanda	25	9	55	2	27	48		48	-
Senegal	49	108	239	7	56	138		138	-
Sierra Leone	10	10	30	6	16	26		26	-
South Africa	1644	2464	1923	406	2050	663	798	-	135
Swaziland	605	626	53	22	627		551	-	551
Tanzania, United Rep.	754	278	409	-43	711	88		88	-
Togo	31		87	-8	23	105	26	79	-
Uganda	240	420	366	25	265	92	121	-	29
Zambia	173	377	169	-20	153		228	-	228
Zimbabwe	322	451	399	-214	108	68	334	-	266
Other Africa	198		22	-6	192	19	3	16	-
Total	6403	7595	9324	200	6603	5240	3311	3729	1880
WORLD TOTAL	77226	171386	165357&	6028	83254	57957&	57958	46466	46751

& Including adjustment for unknown net trade of 3.293 mln t

* Production and consumption estimates that have changed since the last issue of the Quarterly Market Outlook

RAW AND WHITE TRADE BALANCE*(thousand tonnes, tel quel - October/September Year)*

	White Sugar Imports			Raw Sugar Imports			White Sugar Exports			Raw Sugar Exports		
	2015/16	2014/15	2013/14	2015/16	2014/15	2013/14	2014/15	2014/15	2013/14	2015/16	2014/15	2013/14
WESTERN EUROPE												
EU +	1295	625	979	2700	2400	2690	1345	1345	1430	5	5	4
<i>Austria</i>	0	0	0	0	0	0	0	0	0	0	0	0
<i>Belgium-Luxemburg</i>	0	0	0	0	0	0	0	0	0	0	0	0
<i>Bulgaria</i>	0	0	0	0	0	0	0	0	0	0	0	0
<i>Croatia</i>	0	0	0	0	0	0	0	0	0	0	0	0
<i>Cyprus</i>	0	0	0	0	0	0	0	0	0	0	0	0
<i>Czech Republic</i>	0	0	0	0	0	0	0	0	0	0	0	0
<i>Estonia</i>	0	0	0	0	0	0	0	0	0	0	0	0
<i>Denmark</i>	0	0	0	0	0	0	0	0	0	0	0	0
<i>Finland</i>	0	0	0	0	0	0	0	0	0	0	0	0
<i>France</i>	0	0	0	0	0	0	0	0	0	0	0	0
<i>Germany</i>	0	0	0	0	0	0	0	0	0	0	0	0
<i>Greece</i>	0	0	0	0	0	0	0	0	0	0	0	0
<i>Hungary</i>	0	0	0	0	0	0	0	0	0	0	0	0
<i>Ireland</i>	0	0	0	0	0	0	0	0	0	0	0	0
<i>Italy</i>	0	0	0	0	0	0	0	0	0	0	0	0
<i>Latvia</i>	0	0	0	0	0	0	0	0	0	0	0	0
<i>Lithuania</i>	0	0	0	0	0	0	0	0	0	0	0	0
<i>Malta</i>	0	0	0	0	0	0	0	0	0	0	0	0
<i>Netherlands</i>	0	0	0	0	0	0	0	0	0	0	0	0
<i>Poland</i>	0	0	0	0	0	0	0	0	0	0	0	0
<i>Portugal</i>	0	0	0	0	0	0	0	0	0	0	0	0
<i>Romania</i>	0	0	0	0	0	0	0	0	0	0	0	0
<i>Slovakia</i>	0	0	0	0	0	0	0	0	0	0	0	0
<i>Slovenia</i>	0	0	0	0	0	0	0	0	0	0	0	0
<i>Spain</i>	0	0	0	0	0	0	0	0	0	0	0	0
<i>Sweden</i>	0	0	0	0	0	0	0	0	0	0	0	0
<i>UK</i>	0	0	0	0	0	0	0	0	0	0	0	0
<i>French Territories</i>	19	19	15	0	0	0	0	0	0	0	0	0
<i>Gibraltar</i>	1	1	1	0	0	0	0	0	0	0	0	0
<i>Iceland</i>	10	10	9	0	0	0	0	0	0	0	0	0
<i>Norway</i>	121	119	122	1	1	1	0	0	0	0	0	0
<i>Switzerland</i>	94	84	161	6	6	8	5	4	6	0	1	0
Total	1540	858	1287	2707	2407	2699	1350	1349	1436	5	6	4
EASTERN EUROPE and CIS												
<i>Albania</i>	84	83	83	0	0	0	0	0	0	0	0	0
<i>Armenia</i>	25	22	5	80	80	84	0	0	1	0	0	0
<i>Azerbaijan</i>	7	3	7	250	250	278	102	102	142	0	0	0
<i>Belarus</i>	50	0	0	227	220	230	305	375	434	0	0	0
<i>Bosnia</i>	145	141	140	0	0	0	0	0	0	0	0	0
<i>Georgia</i>	44	40	39	130	130	437	9	9	251	25	25	76
<i>Kazakhstan</i>	102	92	100	400	400	320	10	10	7	0	0	0
<i>Kyrgyzstan</i>	97	94	79	0	0	0	0	0	0	0	0	0
<i>Macedonia</i>	71	69	50	0	0	0	0	0	0	0	0	0
<i>Moldova</i>	7	5	1	0	0	0	10	90	69	0	0	0
<i>Russia</i>	185	425	383	225	550	690	10	10	3	0	0	0
<i>Serbia & Montenegro</i>	44	40	0	0	0	0	228	228	175	0	0	0
<i>Tajikistan</i>	127	124	122	0	0	0	0	0	0	0	0	0
<i>Turkmenistan</i>	101	98	88	0	0	0	0	0	0	0	0	0
<i>Ukraine</i>	0	0	1	0	0	0	125	100	8	0	0	0
<i>Uzbekistan</i>	50	56	23	520	500	503	0	0	0	0	0	0
Total	1139	1292	1121	1832	2130	2542	799	924	1090	25	25	76
NORTH AND CENTRAL AMERICA												
<i>Canada</i>	22	13	31	1150	1150	1119	30	30	21	0	0	0
<i>USA</i>	1250	1280	1378	1400	1700	1756	105	105	250	0	0	5
<i>Mexico</i>	10	10	8	0	0	1	560	470	949	1125	900	1609
<i>Bahamas</i>	12	12	11	0	0	0	0	0	0	0	0	0
<i>Barbados</i>	14	14	7	0	0	1	0	0	0	30	30	15
<i>Belize</i>	10	10	0	0	0	0	0	0	0	109	109	104
<i>Bermuda</i>	1	1	1	0	0	0	0	0	0	0	0	0
<i>Costa Rica</i>	0	0	0	0	0	0	15	15	17	179	178	141
<i>Cuba</i>	0	0	0	0	0	0	5	25	27	1300	1285	955
<i>Dominican Republic</i>	60	60	0	0	0	0	0	0	0	183	195	204
<i>El Salvador</i>	0	0	0	0	0	0	20	20	29	440	450	382
<i>Guatemala</i>	0	0	0	0	0	0	847	755	933	1350	1400	876

RAW AND WHITE TRADE BALANCE (cont.)*(thousand tonnes, tel quel - October/September Year)*

	White Sugar Imports			Raw Sugar Imports			White Sugar Exports			Raw Sugar Exports		
	2015/16	2014/15	2013/14	2015/16	2014/15	2013/14	2014/15	2014/15	2013/14	2015/16	2014/15	2013/14
Haiti	76	75	60	105	105	92	0	0	0	0	0	0
Honduras	0	0	0	0	0	0	15	35	70	145	140	156
Jamaica	33	30	59	30	30	0	0	0	0	95	95	88
Netherlands Antilles	17	17	7	0	0	0	0	0	0	5	5	0
Nicaragua	0	0	0	0	0	0	76	87	119	350	315	319
Panama	0	0	0	0	0	0	0	0	1	33	36	53
St Christopher	2	2	2	0	0	0	0	0	0	0	0	0
Trinidad & Tobago	61	62	46	5	6	5	0	0	0	0	0	0
Other Central America	19	19	13	25	25	14	5	5	9	0	0	0
Total	1587	1605	1623	2715	3016	2988	1678	1547	2425	5344	5138	4907
SOUTH AMERICA												
Argentina	0	0	0	0	0	0	220	219	58	165	110	91
Bolivia	22	10	4	0	0	0	25	40	53	25	25	23
Brazil	0	0	1	0	0	0	4250	4953	4836	18750	18320	19505
Chile	380	366	317	160	160	157	0	0	0	0	0	0
Colombia	50	62	135	0	0	0	585	608	687	145	165	165
Ecuador	5	5	24	0	0	0	0	0	0	50	58	12
Guyana	10	10	8	0	0	0	0	0	0	188	188	186
Paraguay	12	10	0	0	0	0	24	24	36	15	15	17
Peru	125	105	161	10	10	3	50	60	50	60	60	67
Suriname	14	17	16	0	0	0	0	0	0	0	0	0
Uruguay	74	70	69	55	55	44	10	10	0	0	0	0
Venezuela	40	15	15	725	725	741	0	0	0	0	0	0
Total	732	670	750	950	950	945	5164	5914	5720	19398	18941	20066
MIDDLE EAST and NORTHERN AFRICA												
Algeria	120	120	197	1675	1650	1692	400	400	467	0	0	0
Djibouti	78	78	183	0	0	1	60	60	156	0	0	0
Egypt, Arab Republic	345	270	170	1250	1200	1293	125	125	146	0	0	0
Eritrea	49	49	43	0	0	0	0	0	0	0	0	0
Iran	0	200	0	1475	705	1629	0	0	31	0	0	0
Iraq	165	445	679	650	350	12	0	0	0	0	0	0
Israel	253	251	292	240	235	215	0	0	0	0	0	0
Jordan	300	294	297	0	0	0	0	0	1	0	0	0
Kuwait	104	101	100	0	0	1	0	0	0	0	0	0
Lebanon	144	138	162	35	35	94	0	0	52	0	0	0
Libya	190	190	162	0	0	30	0	0	0	0	0	0
Mauritania	170	166	275	24	24	0	31	31	106	0	0	0
Morocco	0	0	0	821	780	763	0	0	7	0	0	0
Persian Gulf	152	147	96	25	25	101	0	0	0	0	0	0
Saudi Arabia	552	530	697	925	900	701	275	275	230	0	0	0
Somalia	174	169	299	25	25	82	0	0	169	0	0	0
Sudan	803	780	848	150	125	0	173	173	221	100	100	123
Syrian Arab Republic	465	465	492	0	0	46	0	0	0	0	0	0
Tunisia	266	275	191	170	150	169	0	0	0	0	0	0
Turkey	55	100	6	0	0	0	15	15	17	0	0	0
United Arab Emirates	449	377	1215	1525	1525	1495	1242	1342	1431	500	500	581
Yemen	483	496	493	100	75	210	0	0	75	0	0	0
Total	5317	5641	6897	9090	7804	8534	2321	2421	3109	600	600	704
FAR EAST and OCEANIA												
Australia	85	85	52	35	35	90	165	165	137	3750	3400	3235
Brunei	13	13	13	0	0	0	0	0	0	0	0	0
Cambodia	362	350	547	0	0	12	114	114	375	35	35	31
China	625	625	605	3950	4150	3679	61	61	43	4	4	4
China (Taiwan)	125	164	137	440	400	436	4	4	1	1	1	0
Fiji	3	3	2	0	0	0	0	0	0	172	172	212
Hong Kong	177	166	165	0	11	11	14	14	14	1	1	2
Indonesia	675	715	105	3275	3025	3354	0	0	0	0	0	0
Japan	5	5	6	1520	1515	1340	5	5	1	0	0	0
Korea, DPR	88	88	87	0	0	6	0	0	0	0	0	0
Korea, Republic of	185	125	125	1750	1775	1747	350	350	315	0	0	0
Laos, DPR	75	69	38	1	1	2	0	0	10	50	50	0
Macao	6	6	5	0	0	1	0	0	0	0	0	0
Malaysia	47	97	175	1700	1700	1815	100	100	278	0	0	0
Mongolia	28	28	27	0	0	0	0	0	0	0	0	0
Myanmar	137	112	148	0	0	0	14	14	62	6	6	6
New Zealand	31	30	34	210	210	219	20	20	27	0	0	0

RAW AND WHITE TRADE BALANCE (cont.)*(thousand tonnes, tel quel - October/September Year)*

	White Sugar Imports			Raw Sugar Imports			White Sugar Exports			Raw Sugar Exports		
	2015/16	2014/15	2013/14	2015/16	2014/15	2013/14	2014/15	2014/15	2013/14	2015/16	2014/15	2013/14
Papua New Guinea	17	18	12	0	0	0	0	0	3	0	0	0
Philippines	130	0	0	0	0	0	0	0	0	85	45	208
Singapore	355	350	346	0	3	4	74	74	70	1	1	1
Thailand	0	0	0	0	0	0	3700	4025	2796	4750	3767	3513
Vietnam SR	290	385	169	0	0	0	80	110	242	0	0	0
Western Samoa	2	2	2	0	0	0	0	0	0	0	0	0
Other Oceania	18	17	35	10	10	13	0	0	3	0	0	0
Total	3479	3453	2835	12891	12835	12729	4701	5056	4377	8855	7482	7212
INDIAN SUBCONTINENT	0	0	0	0	0	0	0	0	0	0	0	0
Afghanistan	259	250	444	1	1	2	0	0	146	0	0	0
Bangladesh	189	83	86	1900	1900	1869	100	100	69	0	0	0
India	0	0	0	1500	1250	1401	3250	1800	1524	150	575	1056
Maldives	7	8	6	0	0	0	0	0	0	0	0	0
Nepal	41	34	9	0	0	8	10	10	0	0	0	0
Pakistan	10	10	9	0	0	0	435	610	691	0	0	35
Sri Lanka	590	580	591	40	35	49	0	0	0	0	0	0
Total	1097	966	1147	3440	3185	3327	3795	2520	2430	150	575	1091
EQUATORIAL and SOUTHERN AFRICA												
Angola	295	302	419	0	0	0	0	0	113	0	0	0
Benin	82	80	116	0	0	0	10	10	28	0	0	12
Botswana	48	47	61	20	20	5	0	0	0	0	0	0
Burkina Faso	55	52	58	0	0	0	5	5	0	0	0	0
Burundi	4	3	3	5	5	6	0	0	0	0	0	0
Cameroon UR	70	50	53	5	5	0	5	5	5	0	0	0
Cape Verde	18	17	14	0	0	0	0	0	0	0	0	0
Central African Republic	12	14	4	4	4	4	0	0	0	0	0	0
Chad	85	80	79	0	0	0	0	0	0	0	0	0
Comoros	10	10	8	0	0	0	0	0	0	0	0	0
Congo, Dem	90	80	63	85	85	72	0	0	0	0	0	0
Congo	16	14	23	0	0	0	1	1	1	0	0	2
Cote d'Ivoire	134	94	160	0	30	0	10	10	9	0	0	0
Ethiopia	25	110	56	0	0	6	0	0	0	177	55	0
Gabon	5	3	3	3	3	6	0	0	0	0	0	0
Gambia	78	76	133	0	0	0	0	0	35	0	0	0
Ghana	315	407	329	0	0	0	45	45	174	0	0	0
Guinea	143	137	150	0	0	8	0	0	0	0	0	0
Guinea Bissau	21	20	14	0	0	0	0	0	0	0	0	0
Kenya	271	250	200	0	0	0	0	0	0	0	0	0
Liberia	19	19	17	0	0	0	0	0	0	0	0	0
Madagascar	98	93	114	2	2	2	0	0	1	45	45	56
Malawi	0	0	0	0	0	0	3	4	1	75	80	106
Mali	116	110	90	0	0	10	0	0	0	0	0	0
Mauritius	5	5	11	30	30	26	403	405	435	0	0	0
Mozambique	0	0	77	0	0	14	4	2	1	265	255	256
Namibia	120	94	74	0	25	15	40	40	9	0	0	0
Niger	101	97	90	0	0	0	0	0	0	0	0	0
Nigeria	115	160	2	1400	1350	1398	0	0	6	0	0	0
Rwanda	55	48	38	5	5	10	0	0	0	0	0	0
Senegal	151	140	138	0	0	0	0	0	0	0	0	0
Sierra Leone	32	31	26	0	0	0	0	0	0	0	0	0
South Africa	129	350	326	200	325	337	25	267	341	125	390	457
Swaziland	0	0	0	0	0	0	118	79	33	575	600	518
Tanzania, United Rep.	165	160	87	0	0	1	5	5	0	0	0	0
Togo	117	112	105	0	0	0	20	20	26	0	0	0
Uganda	65	65	92	0	0	0	210	219	121	0	0	0
Zambia	0	0	0	0	0	0	58	65	67	200	200	161
Zimbabwe	90	90	54	15	15	14	0	0	1	140	125	333
Other Africa	21	6	4	0	15	15	0	0	3	0	0	0
Total	3031	3426	3291	1919	1919	1949	962	1182	1410	1602	1750	1901
WORLD TOTAL	21061	20977.5	22017	35698	34472.5	35940	20770	20913	21997	35979	34517	35961

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