

Q2 2015

www.businessmonitor.com

IRAN

AGRIBUSINESS REPORT

INCLUDES 5-YEAR FORECASTS TO 2019





**BUSINESS
MONITOR**
INTERNATIONAL

Iran Agribusiness Report Q2 2015

INCLUDES 5-YEAR FORECASTS TO 2019

Part of BMI's Industry Report & Forecasts Series

Published by: **Business Monitor International**

Copy deadline: February 2015

Business Monitor International

Senator House
85 Queen Victoria Street
London
EC4V 4AB
United Kingdom
Tel: +44 (0) 20 7248 0468
Fax: +44 (0) 20 7248 0467
Email: subs@businessmonitor.com
Web: <http://www.businessmonitor.com>

© 2015 **Business Monitor International**

All rights reserved.

All information contained in this publication is copyrighted in the name of **Business Monitor International**, and as such no part of this publication may be reproduced, repackaged, redistributed, resold in whole or in any part, or used in any form or by any means graphic, electronic or mechanical, including photocopying, recording, taping, or by information storage or retrieval, or by any other means, without the express written consent of the publisher.

DISCLAIMER

All information contained in this publication has been researched and compiled from sources believed to be accurate and reliable at the time of publishing. However, in view of the natural scope for human and/or mechanical error, either at source or during production, **Business Monitor International** accepts no liability whatsoever for any loss or damage resulting from errors, inaccuracies or omissions affecting any part of the publication. All information is provided without warranty, and **Business Monitor International** makes no representation of warranty of any kind as to the accuracy or completeness of any information hereto contained.

CONTENTS

BMI Industry View	7
SWOT	10
<i>Agribusiness</i>	<i>10</i>
<i>Operational Risk</i>	<i>12</i>
Industry Forecast	14
<i>Grains Outlook</i>	<i>14</i>
<i>Table: Corn Production & Consumption (Iran 2014-2019)</i>	<i>15</i>
<i>Table: Barley Production & Consumption (Iran 2014-2019)</i>	<i>15</i>
<i>Table: Wheat Production & Consumption (Iran 2014-2019)</i>	<i>16</i>
<i>Table: Barley Production & Consumption (Iran 2009-2014)</i>	<i>20</i>
<i>Table: Corn Production & Consumption (Iran 2009-2014)</i>	<i>20</i>
<i>Table: Wheat Production & Consumption (Iran 2009-2014)</i>	<i>21</i>
<i>Rice Outlook</i>	<i>22</i>
<i>Table: Rice Production & Consumption (Iran 2013-2019)</i>	<i>23</i>
<i>Table: Rice Production & Consumption (Iran 2009-2014)</i>	<i>26</i>
<i>Sugar Outlook</i>	<i>28</i>
<i>Table: Sugar Production & Consumption (Iran 2014-2019)</i>	<i>29</i>
<i>Table: Sugar Production & Consumption (Iran 2009-2014)</i>	<i>31</i>
<i>Dairy Outlook</i>	<i>32</i>
<i>Table: Milk Production & Consumption (Iran 2014-2019)</i>	<i>33</i>
<i>Table: Milk Production & Consumption (Iran 2009-2014)</i>	<i>34</i>
<i>Livestock Outlook</i>	<i>35</i>
<i>Table: Beef Production & Consumption (Iran 2014-2019)</i>	<i>36</i>
<i>Table: Poultry Production & Consumption (Iran 2014-2019)</i>	<i>36</i>
<i>Table: Beef Production & Consumption (Iran 2009-2014)</i>	<i>39</i>
<i>Table: Poultry Production & Consumption (Iran 2009-2014)</i>	<i>39</i>
Commodities Price Analysis	41
<i>Monthly Softs Strategy</i>	<i>41</i>
<i>Table: Select Commodities - Performance & Bmi Forecasts</i>	<i>49</i>
<i>Monthly Grains Strategy</i>	<i>50</i>
<i>Table: Selected Commodities - Performance & BMI Forecasts</i>	<i>58</i>
Demographic Forecast	59
<i>Table: Population Headline Indicators (Iran 1990-2025)</i>	<i>60</i>
<i>Table: Key Population Ratios (Iran 1990-2025)</i>	<i>60</i>
<i>Table: Urban/Rural Population And Life Expectancy (Iran 1990-2025)</i>	<i>61</i>
<i>Table: Population By Age Group (Iran 1990-2025)</i>	<i>61</i>
<i>Table: Population By Age Group % (Iran 1990-2025)</i>	<i>62</i>
Methodology	64
<i>Industry Forecast Methodology</i>	<i>64</i>

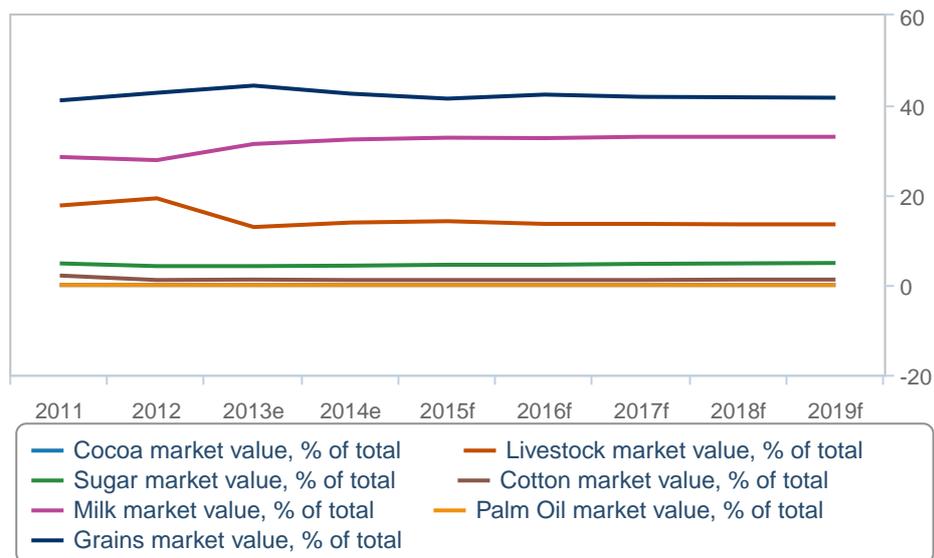
Sector-Specific Methodology 65

BMI Industry View

BMI View: Over the longer term, we believe that the continued investment by the government to improve infrastructure - such as the improvement of irrigation systems - will help the country to turn away from its backward agrarian system and will yield results in terms of better-quality grains. We are especially upbeat in our outlook for grains and sugar production. Recent financial sanctions designed to pressure Tehran over its nuclear programme played havoc with Iran's ability to import goods, leaving food price inflation is soaring. The election of President Hassan Rouhani, a more moderate leader than his predecessor Mahmoud Ahmadinejad, has seen the country adopt a more conciliatory stance with the West, with many sanctions being eased or removed.

Agribusiness Market Value

BMI Market Value By Commodity (2011-2019)



e/f = BMI estimate/forecast. Source: FAO, BMI

Key Forecasts

- **Wheat production growth to 2017/18: 6.1% to 15.1mn tonnes.** Wheat yields are expected to improve owing to the modernisation of technology, including hardier grains variants, greater access to relevant inputs and a larger area of the country benefiting from new irrigation facilities.
- **Sugar consumption growth to 2018: 18.2% to 2.5mn tonnes.** Sugar demand will be mainly driven by population growth.
- **Poultry production growth to 2017/18: 15.9% to 927,400 tonnes.** Growth will be driven by domestic demand and the effects of increased investment.
- **BMI universe agribusiness market value: USD47.3bn in 2015** (up 0.2% compared with 2014; growth forecast to average 2.9% annually between 2014 and 2019).
- **2015 real GDP growth: 2.1%** (down from 2.8% in 2014; predicted to average 2.8% from 2014-2019).
- **2015 consumer price inflation: 23.0% year-on-year (y-o-y)** (up from 21.0% y-o-y in 2014; predicted to average 15.8% y-o-y from 2014-2019).

Key Developments

The outlook for Iran's livestock and dairy sectors in the short and medium term is improving. A recovery in farms' profitability will help production to grow in 2013/14 after two seasons of stagnation on the back of skyrocketing feed prices. In the medium term, the easing of sanctions is likely to boost Iran's economy, paving the way for substantial foreign investment that has been on hold. There has been recent progress in talks between Iran and Western countries to reach an agreement on the former's nuclear programme: Iran and the so-called P5+1 countries - China, France, Russia, the UK and the US plus Germany - on November 24 2013 reached an understanding on the implementation of a deal under which sanctions on some of Iran's trade in goods and services will be suspended.

The oil and gas industry, along with infrastructure, would be obvious beneficiaries; however, agribusiness projects, especially in the livestock and dairy sectors, are also likely to benefit from the easing of sanctions. Large agribusiness companies are already present in Iran and most, such as **Danone**, entered the market before international sanctions were imposed in 2012.

Since the agreement, Iran has made a number of deals related to grain and fertilisers imports, which demonstrates that hurdles to imports are easing. In September 2013, Iran's Agricultural Support Services Company issued a tender to buy 60,000 tonnes of potassium sulphate, its first tender in two years. Belgian chemical firm **Tessenderlo** won this tender. We believe private Iranian buyers are likely to make more active purchases this year as trade becomes easier in line with the easing of restrictions on Iran's banking

system. The government stepped up state purchases in recent years in order to deal with rising hurdles to trade.

The aforementioned sanctions have also affected the rice industry, and Iran has been increasingly relying on Indian rice exporters since 2011. India was one of the few countries to have a barter trade system and other payment mechanisms with Iran, which helped India to import oil and export rice and other items to Iran. However, the recent progress in talks between Iran and Western countries to reach an agreement on the former's nuclear programme may weaken the Indian advantage by eventually allowing free trading in US dollars. This is likely to favour Thai and mostly Pakistani exports, as these countries are traditionally the largest suppliers to Iran.

SWOT

Agribusiness

SWOT Analysis

- Strengths**
- A diverse landscape and climate provides Iran with strong fundamentals, positioning the country as arguably the most productive agricultural state in the Middle East.
 - The country's sugar-processing infrastructure is relatively well developed.
 - Iran's milk production and added-value processing infrastructure is well developed.
- Weaknesses**
- A history of periodic droughts due to inadequate rainfall can undermine production.
 - A reliance on oil exports for GDP revenue suggests that investment in agriculture predominantly depends on volatile external factors.
 - An inefficient state sector, coupled with a strong state presence in an array of agricultural sectors, diminishes potential producer gains, limiting private investment.
 - Increased investment in irrigation could serve to improve agricultural output, and yet it is enormously costly.
 - The government has an implied favourable agricultural policy in order to boost self-sufficiency, yet its openness to imports suggests that it has not followed through.
- Opportunities**
- A satisfactory conclusion to the stand-off with the West (fuelled by disagreement regarding Iran's nuclear intentions) may lead to an increase in foreign investment.
 - Investment in the development of irrigation could offset some of the production losses associated with drought.
- Threats**
- The prevalence of grey or informal markets serves to hinder the efficient flow of goods through official channels, thus limiting the scope for fiscal-based investment.
 - In the future, subsidies may drain funds away from areas in which they could be better and more sustainably spent.

SWOT Analysis - Continued

- The constant speculation regarding the status of Iran's uranium enrichment programme could dampen investor confidence in the local business environment.
-

Operational Risk

SWOT Analysis

Strengths

- Iran boasts high numbers of skilled graduates in technical fields such as engineering, construction and science.
- The transport network offers good internal and cross-border connections, and is currently able to meet the country's supply chain needs.
- The banking sector is relatively well developed, allowing extension of finance and credit to citizens.
- A well established intelligence agency and robust counter-terrorist capabilities deter attacks in most areas of the country.

Weaknesses

- Costs of employment are increases because the Iranian Labour Code affords workers a high level of protection and generous benefits.
- The costs of inland transportation, as well as the risk of congestion and traffic accidents disrupting supply chains, is raised due to reliance on the road network as the dominant freight mode.
- There is widespread corruption and heavy handed censorship, which will pose unforeseeable operational costs and limit business activities.
- The expansion of IS in Iraq poses a significant risk to Iran's security.

Opportunities

- The literacy rate of the labour force is increasing as the benefits of investment in primary school education are filtering through.
- The development of road and rail connections with Iran's neighbours highlights the country's potential to develop into key transit point for East-West trade.
- Lack of external demand means that those who can invest in Iran are rewarded with cheap resources.
- Relaxing of sanctions is resulting in greater foreign direct investment inflows.

SWOT Analysis - Continued

Threats

- There is potential to combat the drug supply into Europe through programmes in Iran.
 - The availability of highly skilled labour is restricted as the brain drain results in an exodus of technically qualified workers.
 - The risk of electricity and water shortages will be enhanced due to growth in energy- and water-intensive agricultural, mining and manufacturing industries.
 - Lax intellectual property protection carries the threat of patent theft, fraud or infringement, leading to profit losses.
 - There is a risk of domestic hostility towards Westerners, triggered by international political events.
-

Industry Forecast

Grains Outlook

BMI Supply View: Wheat and barley are the main crops cultivated in Iran. Wheat is the dominant cereal crop, accounting for almost 70% of aggregate cereal production. Irrigated wheat covers only one-third of the total wheat area; as a result, the bulk of the wheat crop depends on the performance of seasonal precipitation. Most of the rain-fed wheat crop is concentrated in the north-western region of the country. Small amounts of rice and maize are also produced in the country.

Grains production in 2014/15 will record mixed results, as we forecast wheat production to decline, while corn and barley output will grow. We have revised down our estimate for wheat production, as drought conditions over 2014 affected yields. We now see production coming at 13.2mn tonnes, down 7.0% year-on-year (y-o-y), compared with a previous forecast of 14.1mn tonnes. Corn production will grow by a weak 1.1% y-o-y to 1.8mn tonnes, while barley will show strong growth of 5.0% y-o-y to 3.4mn tonnes.

Over the long term, wheat yields are expected to improve owing to the modernisation of technology, including hardier grains variants, greater access to relevant inputs and a larger area of the country benefiting from new irrigation facilities. However, despite recent improvements, wheat yields in Iran are still fairly low by world standards - comparable to the level seen in Turkey but some way below that of Pakistan. Our forecast to 2018/19 sees wheat production increasing by 6.1% on the 2013/14 level to 15.1mn tonnes. The longer-term outlook for corn is optimistic, but coming from a high base in 2013/14: we forecast corn production to increase by only 5.7% to 1.9mn tonnes in 2018/19. We expect barley production in 2018/19 to be up 18.2% on 2013/14, at 3.8mn tonnes.

BMI Demand View: One of the biggest factors likely to influence demand for grains over our forecast period is the ongoing effort by Iran's government to phase out food subsidies in a bid to limit the country's fiscal concerns. Economic sanctions may also drive prices up due to their negative impact on the capacity of importers to gain access to credit, although government intervention in the form of direct trade negotiations with major wheat-producing countries may mitigate the effects of this. As a result of these factors, food prices are at elevated levels. In 2015, we expect domestic consumption of wheat to decline in line with production, by 0.5% y-o-y to 16.8mn tonnes. We are forecasting 4.0% growth in consumption for corn; demand for barley is forecast to rebound by 3.0% following the steep decline recorded in 2013/14.

As the government phases out bread subsidies, we expect wheat consumption growth to be lacklustre. Our forecasts envisage wheat consumption growing by 8.5% on the 2014 level to 18.3 mn tonnes in 2019.

Barley and corn consumption will show stronger growth owing to the needs of the livestock sector. Corn consumption is forecast to grow by 17.1% to 7.1mn tonnes, while barley is forecast to grow by 18.9% to 5.0mn tonnes. Production growth for barley and wheat will generally outpace consumption growth (controlling for base effects). Despite this, Iran will remain dependent on imports to fulfil its grain needs through to 2018. The recent progress in negotiations between Iran and Western countries over its programme could help to ease sanctions.

Table: Corn Production & Consumption (Iran 2014-2019)

	2014e	2015f	2016f	2017f	2018f	2019f
Corn production, '000 tonnes	1,750.0	1,770.0	1,790.0	1,810.0	1,830.0	1,850.0
Corn production, % y-o-y	34.6	1.1	1.1	1.1	1.1	1.1
Corn consumption, '000 tonnes	6,084.0	6,327.4	6,517.2	6,712.7	6,914.1	7,121.5
Corn consumption, % y-o-y	4.0	4.0	3.0	3.0	3.0	3.0

e/f = BMI estimate/forecast. Source: USDA, BMI

Table: Barley Production & Consumption (Iran 2014-2019)

	2014e	2015f	2016f	2017f	2018f	2019f
Barley production, '000 tonnes	3,250.0	3,412.5	3,514.9	3,620.3	3,728.9	3,840.8
Barley production, % y-o-y	-4.4	5.0	3.0	3.0	3.0	3.0
Barley consumption, '000 tonnes	4,232.0	4,359.0	4,511.5	4,669.4	4,842.2	5,031.0
Barley consumption, % y-o-y	-8.0	3.0	3.5	3.5	3.7	3.9

e/f = BMI estimate/forecast. Source: USDA, BMI

Table: Wheat Production & Consumption (Iran 2014-2019)

	2014e	2015f	2016f	2017f	2018f	2019f
Wheat production, '000 tonnes	14,200.0	13,200.0	13,992.0	14,341.8	14,700.3	15,067.9
Wheat production, % y-o-y	2.9	-7.0	6.0	2.5	2.5	2.5
Wheat consumption, '000 tonnes	16,892.0	16,807.5	17,177.3	17,555.2	17,941.4	18,336.1
Wheat consumption, % y-o-y	3.0	-0.5	2.2	2.2	2.2	2.2

e/f = BMI estimate/forecast. Source: USDA, BMI

No End Of Imports Despite Hurdles To Trade

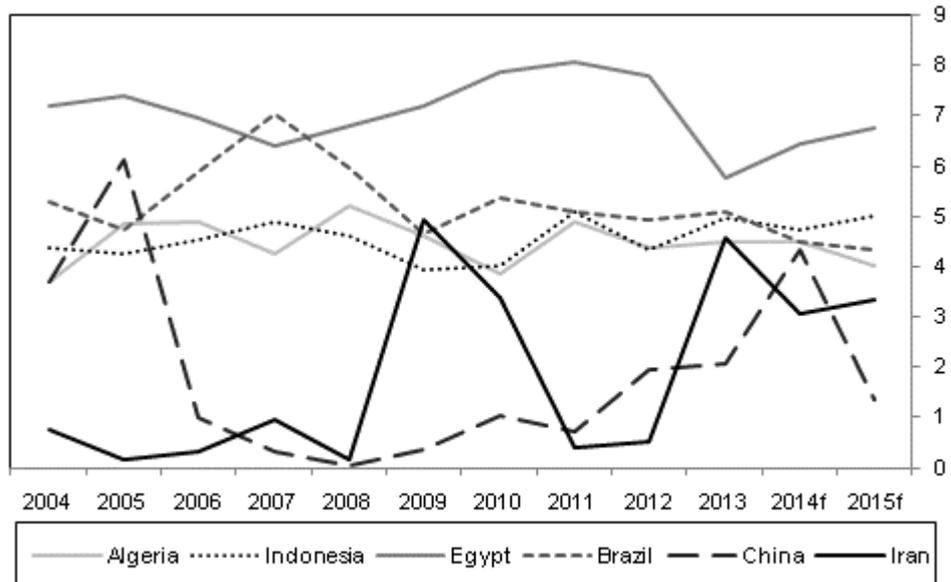
Pressure on Iran's grains imports escalated significantly in 2013 owing to the tightening of international sanctions in connection with its nuclear programme. The country is trying to diversify its supplier base in order to improve food security. Despite recording a bumper wheat crop in 2013/14, Iran will maintain relatively high imports as it maintains its stockpiling policy.

The new international sanctions imposed on Iran regarding its disputed nuclear programme in 2013 increased difficulties in importing food. The US National Defense Authorization Act (NDAA), which came into effect on July 1 2013, blacklisted Iran's shipping, shipbuilding, energy and ports management sectors, adding to other sanctions targeting the banking sector and key oil exports. The sanctions aim to force Tehran to negotiate on a nuclear programme it says is peaceful but which Western states fear has military aims.

While the NDAA has an explicit exemption for food, medicine and other humanitarian goods, foreign shipping firms are gradually pulling out of Iran. China, which is among Tehran's main allies, saw its shipping companies exit Iran, with China Shipping Container Lines (CSCL) and COSCO Container Lines stopping their activities with Iran in 2013. Taiwanese lines Evergreen and Yang Ming Marine as well as two major South Korean lines also bowed out, leaving only TS Lines of the major carriers still calling at the country's ports. Indeed, even local feeder services are also now removing themselves.

Unstable Imports

Select Countries - Wheat Imports (% of total)



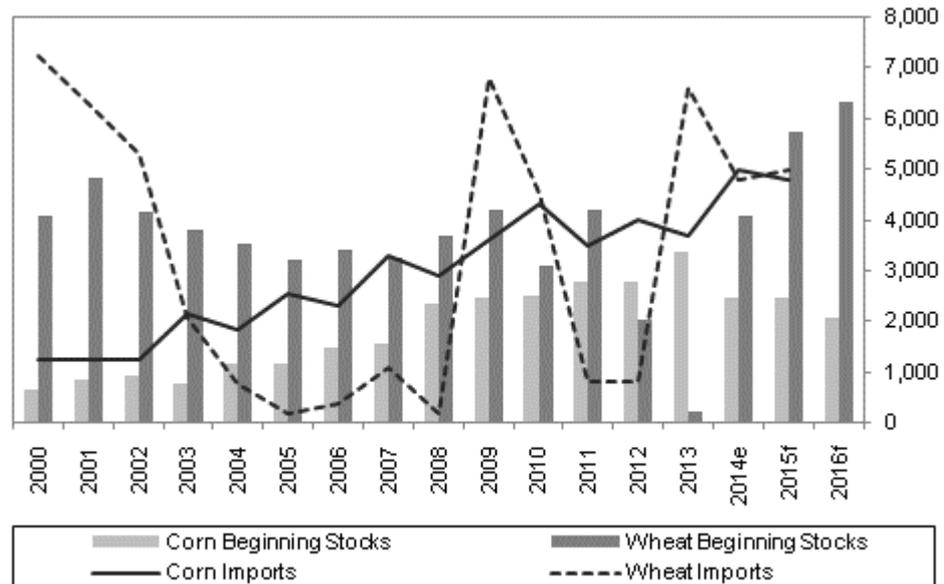
f = BMI forecast. Source: BMI, USDA

A large share of Iran's food imports traditionally arrive by ship. As a result, the extra freight-related import burden on basic goods pushed up food prices, which are already skyrocketing owing to lower supply and currency volatility. These additional hurdles meant grain shipments to Iran can command a risk premium of USD10-20/tonne over international prices, according to industry sources.

Easing of sanctions is expected to modestly boost throughput activity at the country's top ship container handling port, Bandar Abbas. **BMI's** Shipping team forecasts that container handling volume in Bandar Abbas will grow by 3.1% in 2014, in sharp contrast to the 25% fall in 2013.

Stockpiling Policy

Iran - Wheat & Corn Beginning Stocks & Imports ('000 tonnes)

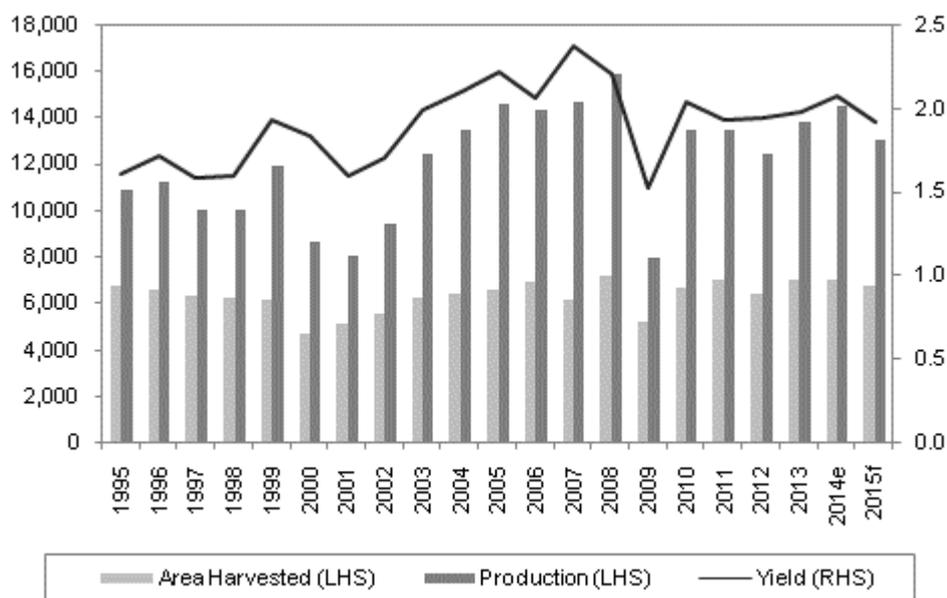


elf = BMI estimate/forecast. Source: BMI, USDA, FAO

Iran has been ramping up efforts to diversify its supplier's base, especially from Caspian Sea neighbours. For wheat, the country looked at Kazakhstan and Russia in 2013/14, as they reaped bountiful harvests, while extra corn came from Ukraine. Grains imports are likely to remain historically elevated in 2013/14 and 2014/15, as Iran maintains an active stockpiling policy in order to foster its food security and avoid public unrest despite soaring food prices. Wheat imports should ease, as the rebound in domestic production in 2013/14 and 2014/15 and high stocks (at 6.5mn tonnes at the beginning of the 2014/15 season, compared with the 10 year average at 3.5mn tonnes) will limit import needs. We believe imports will exceed the production deficit of 1.4mn tonnes, and hover around 4mn-5mn tonnes in 2013/14 and 2014/15, compared with 6.6mn tonnes in 2012/13.

On An Uptrend

Iran - Wheat Production ('000 tonnes), Area Harvested ('000ha) & Yields (tonnes/ha)



e/f = BMI estimate/forecast. Source: BMI, USDA, FAO

Grains Background

Grains are cultivated throughout Iran and are an extremely important part of the local farming sector. Wheat is the main grain, accounting for almost 70% of the aggregate cereal production, followed by barley and then corn. These crops, particularly wheat and barley, are grown extensively on farmlands in mountainous areas of the country. According to the FAO, irrigated wheat covers only one-third of the total wheat area, and the majority of the wheat crop depends on the weather - namely rain. Most of the rain-fed wheat crop is concentrated in the north-west of the country. Since droughts ravaged the country between 1999 and 2001, the area of land under irrigation has increased, which has led to improved yields, even in subsequent drought years.

The Iranian grains sector is highly regulated. Producers receive subsidised access to input costs such as fertiliser and pesticides, as well as a guaranteed support price for their crops. Wheat is then sold to consumers at heavily subsidised rates. Despite government aid, farmers often complain that the support price is too low for them to turn an acceptable profit, and that the support allows inefficient farmers to

continue producing wheat when other activities would have been a better use of capital and labour. This has inhibited the development of larger, more efficient farms and drained funds that could have been used to further boost infrastructure, such as irrigation. The effect of more targeted support for farming can be seen in the rapid rise in wheat production in the past decade. Increased investment in irrigation saw average yields rise considerably over the five years before the drought of 2008/09.

Despite the improvements in infrastructure, large areas of the country, particularly in the north and west, are still reliant on rain-fed agriculture. In some areas this is because the land is unsuitable for irrigation, but other areas could benefit from improved access to water, particularly in years when rains are below average. These areas also suffer from a lack of mechanisation, with a very low density for harvesters compared with the irrigated areas in the south and east of Iran. With the government now in the process of abolishing its subsidies on food, money could become available for funding infrastructure improvements which will, in time, help to bring down the cost of food.

Table: Barley Production & Consumption (Iran 2009-2014)

	2009	2010	2011	2012	2013	2014 ^e
Barley production, '000 tonnes	1,547.0	3,446.0	3,210.0	2,900.0	3,400.0	3,250.0
Barley production, % y-o-y	-50.2	122.8	-6.8	-9.7	17.2	-4.4
Barley consumption, '000 tonnes	3,550.0	3,700.0	3,900.0	4,100.0	4,600.0	4,232.0
Barley consumption, % y-o-y	-1.4	4.2	5.4	5.1	12.2	-8.0

e = BMI estimate. Source: USDA, BMI

Table: Corn Production & Consumption (Iran 2009-2014)

	2009	2010	2011	2012	2013	2014 ^e
Corn production, '000 tonnes	1,778.0	1,643.0	2,140.0	2,700.0	1,300.0	1,750.0
Corn production, % y-o-y	-24.7	-7.6	30.2	26.2	-51.9	34.6
Corn consumption, '000 tonnes	5,350.0	5,650.0	5,650.0	6,050.0	5,850.0	6,084.0
Corn consumption, % y-o-y	3.9	5.6	0.0	7.1	-3.3	4.0

e = BMI estimate. Source: USDA, BMI

Table: Wheat Production & Consumption (Iran 2009-2014)

	2009	2010	2011	2012	2013	2014e
Wheat production, '000 tonnes	7,957.0	13,480.0	13,500.0	12,400.0	13,800.0	14,200.0
Wheat production, % y-o-y	-49.9	69.4	0.1	-8.1	11.3	2.9
Wheat consumption, '000 tonnes	15,800.0	16,800.0	15,700.0	14,900.0	16,400.0	16,892.0
Wheat consumption, % y-o-y	1.9	6.3	-6.5	-5.1	10.1	3.0

e = BMI estimate. Source: USDA, BMI

Risks To Outlook

In the near term, Iran's grains sector will remain at risk of adverse weather conditions. This is despite the prospect of increased investment. The droughts in the 2008/09 harvest season saw grains production drop by almost one-third, highlighting the need for greater investment into improving infrastructure.

A key downside risk to consumption is the further removal of food subsidies. While the full effect of grain prices owing to the subsidy decrease is yet to be known, sudden increases in food price inflation caused by the abandonment of the subsidies (which we have already been seeing) could result in long-term grain consumption levels decreasing despite the fact that grains are a staple food in Iran. Conversely, should the subsidies be re-instituted, consumption growth could increase beyond our current forecasts.

The impact of sanctions presents a further downside risk, although so far the government has succeeded in preventing food shortages by purchasing huge quantities of grains. If sanctions continue, this may not be a viable policy in the longer term, since it is dependent on the presence of surpluses in major grain producers and the willingness of trading partners to circumvent banking controls.

Rice Outlook

BMI Supply View: Rice is the third largest grain produced in Iran, behind wheat and barley. Rice production has been growing at a slow pace over recent years, as area under cultivation stagnates and yield growth is weak. In the 2014/15 season, which started with the harvest in August 2014, we estimate rice production in Iran will grow for the sixth consecutive year. Output will reach 1.68mn tonnes, up 1.2% year-on-year (y-o-y). This trend is likely to continue in 2015/16, with production reaching 1.71mn tonnes. Area harvested has been slowly growing in the past two years and could reach 600,000ha in 2014/15, compared with the 10 year average of 570,000 ha. Yields will remain in line with long term averages, as the country recorded drought conditions in 2014.

We deem the government's plan to reach self-sufficiency by 2016 as unrealistic. Overall, areas under cultivation of rice as well as yields have been stagnating over the past 20 years, to around 580,000 ha and 4.21tonne/ha respectively. The country usually records around a 1.7mn tonne deficit, which we see stagnating in the coming years. The government recently replaced its initial target of attaining self-sufficiency in 2013. To 2018/19, we expect production to grow by 9.5% on the 2013/14 level to reach 1.82mn tonnes. Our fairly pedestrian assessment of local rice production is a result of the competition that local producers face from imports. Although imports are monitored, they continue to grow and have discouraged local producers from making the necessary investment to bolster domestic output growth. Our forecast for a moderate increase in production out to 2018/19 reflects expectations for demand growth and efforts to increase self-sufficiency in light of sanctions.

BMI Demand View: Rice is an important dietary staple in Iran, eaten nationwide in a variety of dishes. We forecast that demand will grow in 2014 by 1.8% to 3.36mn tonnes and continue expanding steadily each year to the end of our forecast period in 2019. However, we note that widespread international sanctions imposed on the country could continue to curb consumption in the medium term. Iran typically imports more than half of its rice for domestic consumption (55% in 2012/13), but payment for any imports into Iran have faced difficulties as letters of credit or international transfers of funds through banks have been nearly impossible to carry out. The government has attempted to ensure food imports by entering bilateral trading arrangements with major rice exporters, circumventing the restrictions on financial transactions through the exchange of oil and other commodities. The recent progress in negotiations between Iran and Western countries over its programme could help ease sanctions.

Over the longer term, we believe that steadily rising disposable incomes will lead to consumers trading up from corn and particularly from wheat-and-vegetable-based dishes to more meat-and-rice-based meals. We therefore forecast rice consumption to grow by 8.1% on the 2014 level to 3.63mn tonnes in 2019.

Table: Rice Production & Consumption (Iran 2013-2019)

	2013	2014e	2015f	2016f	2017f	2018f	2019f
Rice production, '000 tonnes	1,560.0	1,660.0	1,680.0	1,713.6	1,747.9	1,782.8	1,818.5
Rice production, % y-o-y	0.6	6.4	1.2	2.0	2.0	2.0	2.0
Rice consumption, '000 tonnes	3,300.0	3,359.9	3,418.0	3,474.2	3,528.5	3,580.7	3,630.6
Rice consumption, % y-o-y	0.6	1.8	1.7	1.6	1.6	1.5	1.4

e/f = BMI estimate/forecast. Source: USDA, BMI

Total Import Volume Relatively Unaffected Despite Sanctions

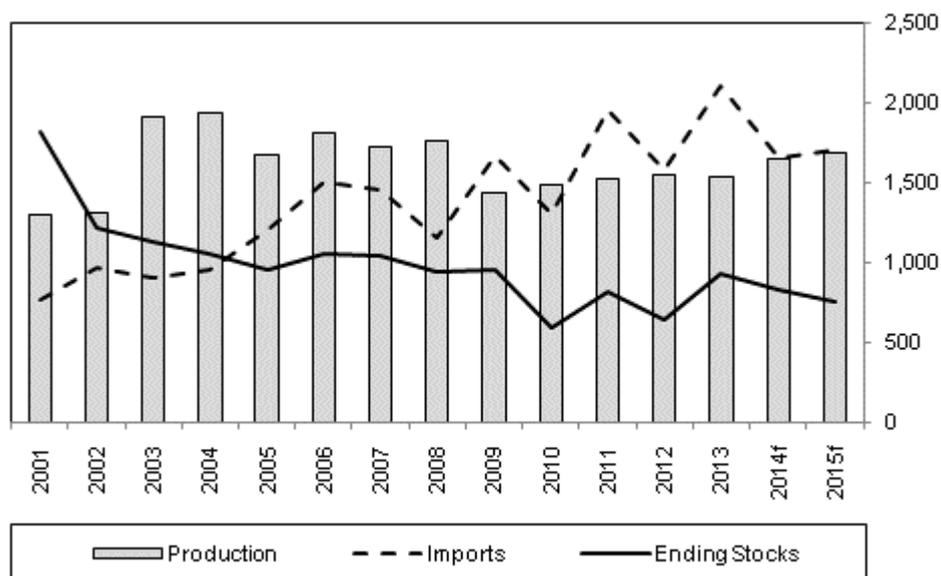
Financial sanctions imposed by the US and EU to pressure Tehran over its nuclear programme are playing havoc with Iran's ability to import goods, including food. Food and consumer items are not targeted by sanctions, but the sanctions make deals and payments between traders difficult. Iran defaulted on payments for rice from India, its top supplier, in 2012. As a result, some exporters to Iran have stopped selling rice to the country with the customary 90 days credit for payment. Even payments considered more secure, via agents in the UAE, are being affected due to currency fluctuations.

India's largest rice supplier, **KRBL Limited**, which is also the largest Indian exporter of basmati rice, is reportedly looking to East and West Africa for new markets in the wake of falling global rice prices and export restrictions to Iran, the largest buyer of basmati rice. **LT Foods**, which exports to Iran and is another major Indian rice exporter, is also allegedly sourcing for new markets to sell to.

Despite these difficulties, Iran is still able to import much-needed food supplies. However, the value of imports has skyrocketed. Total shipments in 2013/14 are likely to reach 1.65mn tonnes, down from 1.9mn tonnes in 2012/13. This is higher than the 10-year average of 1.4mn tonnes. In 2014/15, import growth is likely to ease given stocks, and should reach 1.7mn tonnes, up by a mild 3.0% y-o-y (compared with the annual growth of imports of 8.7% in the past 10 years).

High Imports

Iran - Rice Production, Ending Stocks & Imports ('000 tonnes)



f = forecast. Source: BMI, USDA

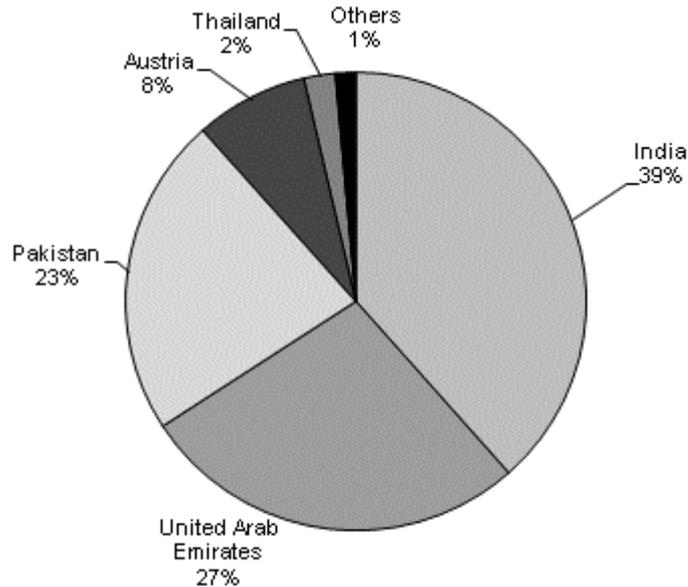
Iran To Re-Diversify Its Import Sources Should Sanctions Ease

Iran has been increasingly relying on Indian rice exporters due to Western sanctions since 2011. India was one of the few countries to have a barter trade system and other payment mechanisms with Iran, which helped India to import oil and export rice and other items to Iran. This led to a surge in India's basmati rice exports, and Iran quickly overtook Saudi Arabia and the UAE to become the largest buyer of Indian basmati rice in 2012/13.

However, the recent progress in talks between Iran and Western countries to reach an agreement on the former's nuclear programme may weaken the Indian advantage by eventually allowing free trading in US dollars if Iran dismantles its nuclear programme in six months. Iran and the so-called P5+1 countries - China, France, Russia, the UK and the US plus Germany - on November 24 2013 reached an understanding on the implementation of a deal under which sanctions on some of Iran's trade in goods and services will be suspended. The signing of the interim accord is a positive step in negotiations, in our view, and could lead to the lifting of additional sanctions (especially those on banking).

India Is Traditionally The Largest Supplier

Iran - Rice Imports By Country, 2011 (% total volume imported)



Note: Data for UAE mainly represents re-exported rice to Iran originally from India, Pakistan and Thailand. Source: Trade Map, BMI

The lifting of sanctions is likely to increase Iran's demand for Thai and Pakistani rice. Pakistan, which is the only other major basmati rice producer in the world and which also neighbours Iran, stands to gain the most. Pakistani exporters have had difficulties so far in obtaining commercial letters of credit, a vital process in international trade, owing to the poor availability of international banking between the two countries.

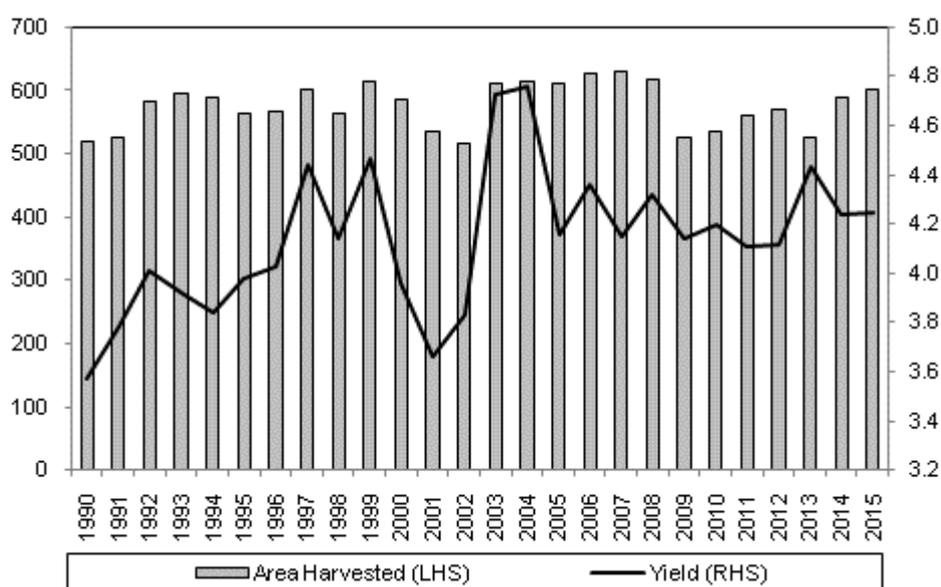
Thailand is now looking to restart exporting to Iran, after a default by a private Thai rice exporter in 2011 halted shipments. Iranian officials are supposed to inspect Thailand's production procedures from field to shipment in Q414 in order to re-allow exports.

Moreover, Iran is stiffening its rules regarding rice imports, which will be detrimental to India's basmati exports. Iran decided to revise in March 2014 the accepted level of arsenic content in basmati rice. The government also decided to increase the import duty for basmati rice to 45% from 22% in September. India sales to Iran have plunged recently, as exports were at around 50,000-60,000 tonne a month since February 2014, compared with 130,000 imported

In the longer term, we do not expect India to continue as a major exporter of non-basmati rice given the unpredictability of its export policies. Indeed, we view India as an unstable source of rice over the long term.

Broadly Stagnating

Iran - Rice Area Harvested ('000 ha) & Rough Rice Yields (tonnes/ha)



Source: BMI, USDA

Table: Rice Production & Consumption (Iran 2009-2014)

	2009	2010	2011	2012	2013	2014e
Rice production, '000 tonnes	1,441.0	1,487.0	1,510.0	1,550.0	1,560.0	1,660.0
Rice production, % y-o-y	-18.0	3.2	1.5	2.6	0.6	6.4
Rice consumption, '000 tonnes	3,100.0	2,950.0	3,250.0	3,280.0	3,300.0	3,359.9
Rice consumption, % y-o-y	3.3	-4.8	10.2	0.9	0.6	1.8

e = BMI estimate. Source: USDA, BMI

Risks To Outlook

Drought continues to represent an incalculable downside risk to output. Although investment is urgently needed to improve irrigation, there is little likelihood that we will see the positive impact of such investment on production over our forecast period. UN-backed trade sanctions will exacerbate these risks. Such sanctions will impact agricultural investment as well as Iranian GDP.

Given that Iran remains quite heavily dependent on rice imports, risks to demand are closely associated with the state of the global rice market. In the short term, **BMI** predicts global surpluses and lower prices on the back of good harvests in the leading producers, China and India, but there is always the risk that prices could move steeply upwards if a major producer experiences a poor crop. The Iranian government could struggle to effectively subsidise these high-cost imports, which pose a downside risk to our demand forecasts. Naturally, continued good harvests present an upside risk, assuming that Iran can continue to finance its rice imports in the face of sanctions.

A sustained period of high prices or potential import shortages due to sanctions could provide the stimulus domestic farmers need to invest in increasingly local production. This represents an upside risk to our production forecast. Simultaneously, the effects of long-running sanctions on household expenditure present a downside risk for consumption of rice, especially if, as expected, Iran is unable to wean itself off imports.

Sugar Outlook

BMI Supply View: Iran is widely regarded as having failed to exploit its sugar production resources as a result of inadequate investment and a lack of public and private sector support. A failure to control imports, which have flooded in despite modest import tariff increases, has been blamed for a growing number of bankruptcies at state-owned sugar plantations.

Out to our five-year forecast to 2018/19, we forecast sugar production to expand by a weak 10.3% on the 2013/14 level to 1.1mn tonnes. Although Iran is instituting plans to increase production out to 2020, we have not yet seen significant progress and therefore maintain a cautious forecast. Production capacity is slowly growing, as shown by the opening of a new sugar mill in Oshnavieh with 500,000 tonnes capacity in 2013.

BMI Demand View: We expect sugar demand to bounce back in 2014 and 2015 after subdued growth in 2013. GDP growth is forecast to return to positive territory in 2014 and 2015, of 2.8% and 2.9% respectively, after it contracted by 2.9% in 2013. The slight easing of consumer price inflation will also support consumption. We see sugar demand growing by 5.0% in both years, reaching 2.2mn tonnes in 2015. In the longer term, we expect demand to grow by 18.2% to 2019, with sugar consumption reaching 2.5mn tonnes.

This increase will be driven mainly by population growth and by the development of packaged sugar confectionery. Demand for modern packaged sugar confectionery in Iran remains immature, while traditional sugar confectionery products are extremely popular. Stronger promotional activities undertaken by key players in the category has made many sugar confectionery products more visible and accessible through grocery retail channels, and this has given more Iranian consumers a chance to try packaged sugar confectionery as an alternative to simpler traditional alternatives such as sugar cubes.

Table: Sugar Production & Consumption (Iran 2014-2019)

	2014e	2015f	2016f	2017f	2018f	2019f
Sugar production, '000 tonnes	1,029.0	1,008.4	1,038.7	1,069.8	1,101.9	1,135.0
Sugar production, % y-o-y	-2.0	-2.0	3.0	3.0	3.0	3.0
Sugar consumption, '000 tonnes	2,079.0	2,183.0	2,248.4	2,315.9	2,385.4	2,456.9
Sugar consumption, % y-o-y	5.0	5.0	3.0	3.0	3.0	3.0
Sugar market value, % of total	4.3	4.5	4.5	4.7	4.8	4.9

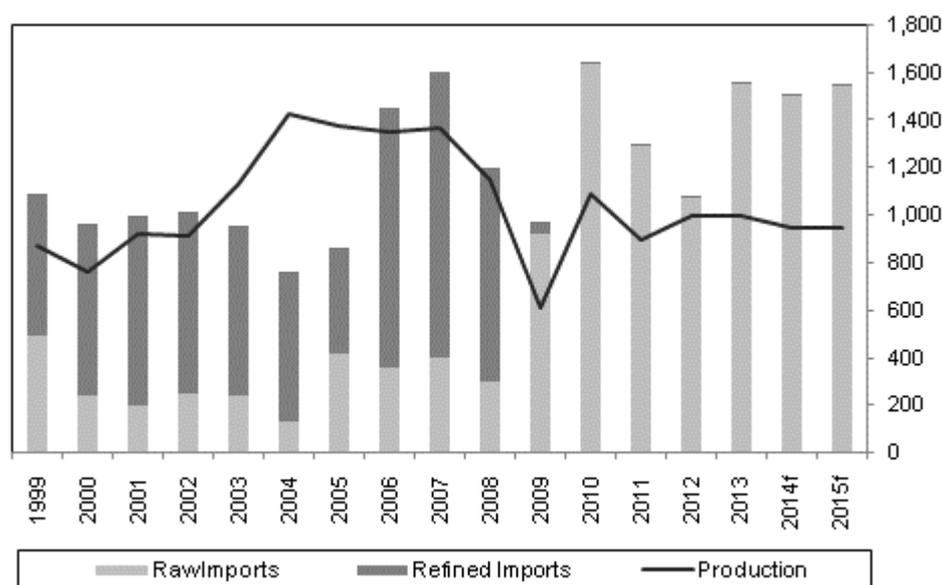
e/f = BMI estimate/forecast. Source: National sources, BMI

Oil And Electricity As Sweetener In Deal For Foreign Sugar

Iran is multiplying the deals to bypass the difficulties stemming from the international sanctions imposed in recent years and to import sugar. There are renewed reports that Iran imported sugar from India for the first time since Western sanctions were tightened at the start of 2012. According to Reuters, Indian traders struck deals to export 60,000 tonnes of raw sugar to Iran for March-April 2014 delivery. Until now, India has been unable to pay in full for Iranian oil imports because tightened US sanctions have made it difficult to access US dollars for transactions with Iran. Instead, New Delhi and Tehran have set up a mechanism to use the rupee, which is not freely traded on global markets, for 45% of oil dues and to pay Indian exporters in order to skirt Western sanctions. Such talks of sugar trade between Iran and India spread in 2012 and 2013, but the deal was rejected several times. In July 2013, Pakistan decided to allow sugar exports to Iran in exchange for electricity imports, according to local media sources.

Favouring Local Mills

Iran - Sugar Production & Imports ('000 tonnes)



Source: BMI, USDA

Big Plans, Big Problems

According to the managing director of Iran's State Commerce Organization and the **Sugar Cane Industry Development Company (SCIDC)**, the country is aiming to more than double production of cane sugar by the end of the decade and become self-sufficient. By 2020, the state-run company is hoping to boost annual production to 2.06mn tonnes. This is to be achieved by increasing the area planted to sugar cane by 94%, as well as increasing yields from the already high level of 87.7 tonnes per hectare (ha) to 110 tonnes/ha. This is to be accompanied by large investment in new refineries, including the building of the region's largest refinery near the southern port of Bandar Imam Khomeini. We are highly sceptical about the feasibility of these goals. Sugar production peaked in 2006/07, reaching 1.4mn tonnes, and we do not expect the country to reach this level by the end of our forecast period in 2017/18.

Although SCIDC's ambitious investment plans give hope for the future of the sector, it is important to recognise that Iranian sugar production has been in the doldrums for the past few years. In 2006 and 2007, Mahmoud Ahmadinejad's administration, flush with funds from rising energy prices, drastically increased

the volume of sugar imports to keep domestic prices low. Since then, imports have remained rather high compared with the needs of the country. The high stock levels kept domestic prices suppressed and saw the area planted to sugar crops fall. The drought in 2008 further hit production. While we do expect production to recover in the coming years, we are less optimistic than the government and expect Iran to remain a net sugar importer throughout our forecast period.

Table: Sugar Production & Consumption (Iran 2009-2014)

	2009	2010	2011	2012	2013e	2014e
Sugar production, '000 tonnes	610.0	1,085.0	900.0	960.0	1,050.0	1,029.0
Sugar production, % y-o-y	-46.7	77.9	-17.1	6.7	9.4	-2.0
Sugar consumption, '000 tonnes	2,467.0	2,724.0	2,124.0	1,950.0	1,980.0	2,079.0
Sugar consumption, % y-o-y	8.4	10.4	-22.0	-8.2	1.5	5.0
Sugar market value, % of total	3.8	5.7	4.8	4.2	4.2	4.3

e = BMI estimate. Source: National sources, BMI

Risks To Outlook

The main risk to our sugar production forecast relates to the potential for greater levels of investment in the sector. Public sector support for the sugar industry does not appear forthcoming in spite of import tariff increases. Meanwhile, the prospect for private sector investment is similarly bleak. The likely imposition of further UN sanctions, in addition to the pressure already exerted by US sanctions on financial transactions, would prejudice future investment in the sector.

On the demand side, the biggest risk to our consumption forecast comes from high prices. Prices are expected to remain high by historical standards, and this could pose a threat to the sustainability of domestic demand in a country that is dependent on costly imports. If sanctions are maintained in the longer term, the costs of such imports will only increase.

Dairy Outlook

BMI Supply View: The short- and medium-term outlook for Iran's dairy sector is looking brighter, as improving profitability conditions, coupled with ongoing easing of international sanctions, bode well for growth. Milk production has been hurt in recent years by international sanctions - although the sanctions have an explicit exemption for food - which made it more difficult to import grains and feed. We expect Iran's dairy sector to continue on the path to recovery after skyrocketing feed prices led to a decline or stagnation in meat and milk output over the past two seasons. Indeed, milk production is projected to grow in 2013/14, by 1.0% year-on-year (y-o-y) to 7.7mn tonnes.

We also retain a cautious assessment of the milk sector's long-term production prospects. Almost all of Iran's milk is destined for local markets, where prices have traditionally been kept artificially low by the government. Over our five-year production forecast to 2018/19, we see output expanding moderately, by 15.9% on the 2013/14 level to 8.7mn tonnes. This reflects the highly domestic nature of the milk industry and the likelihood that the government will end subsidies.

BMI Demand View: Milk consumption slowed in recent years as production declined. International sanctions, coupled with the cutting of subsidies for the dairy sector, sent domestic milk prices through the roof. Previously, despite the fact that prices were kept artificially low by government subsidies, dairy products were expensive for millions of low-income Iranians. The government had deemed milk an important source of multi-nutritional sustenance, which means fresh milk is subsidised. The government has also set out consumption growth plans in its national development programme. However, data is hard to come by, and we doubt that the government has reached its goal in significantly increasing per capita consumption of milk. The government is likely to reinstate high subsidies to the sector once financial pressure on the country eases. Consumption is expected to pick up in 2014, by 2.0% y-o-y to 3.0mn tonnes, as milk prices ease in line with lower grains prices. We forecast consumption out to 2019 to grow by 15.9% to 3.5mn tonnes and per capita consumption to rise by an even smaller 9.2% to 41.6kg, suggesting that population growth surpasses consumption growth per capita.

Table: Milk Production & Consumption (Iran 2014-2019)

	2014e	2015f	2016f	2017f	2018f	2019f
Milk production, '000 tonnes	7,726.5	7,958.3	8,197.0	8,443.0	8,696.2	8,957.1
Milk production, % y-o-y	1.0	3.0	3.0	3.0	3.0	3.0
Liquid milk consumption, '000 tonnes	2,984.5	3,074.1	3,166.3	3,261.3	3,359.1	3,459.9
Liquid milk consumption, % y-o-y	2.0	3.0	3.0	3.0	3.0	3.0
Milk market value, % of total	32.4	32.8	32.7	33.0	33.0	33.0

e/f = BMI estimate/forecast. Source: National sources, BMI

Improving Outlook Amid Easing Of Sanctions

The short- and medium-term outlook for Iran's dairy sector is looking brighter, as improving profitability conditions, coupled with ongoing easing of international sanctions, bode well for growth. In the short term - over the 2013/14 season - we expect Iran's livestock and dairy sectors to continue on the path to recovery after skyrocketing feed prices led to a decline or stagnation in meat and milk output over the past two seasons. Large agribusiness companies are already present in Iran, and most, such as Danone, entered the market before international sanctions were imposed against the country in 2012. Danone markets fresh dairy and baby nutrition products via its partnership with local dairy company Sahar and sells water under the brand Damavand. Danone also established its own factory in 2011, located in Qazvin province. Bel Groupe, also involved in the dairy sector, sells some products to Iran.

Arduous Expansion

The Iranian dairy sector is struggling to expand owing to structural and infrastructure issues. The milk collection network has been neglected despite the government's efforts to support prices and subsidise inputs. Smallholders lack the facilities to store and transport milk to major markets, which leave them at the mercy of traders who offer far less than the government's minimum price for milk. Despite buoyant demand, there is little investment in the sector. Until infrastructure improves, Iran's modern dairy sector will remain clustered around large population centres.

Table: Milk Production & Consumption (Iran 2009-2014)

	2009	2010	2011	2012	2013e	2014e
Milk production, '000 tonnes	7,905.4	7,950.0	8,000.0	7,800.0	7,650.0	7,726.5
Milk production, % y-o-y	2.7	0.6	0.6	-2.5	-1.9	1.0
Liquid milk consumption, '000 tonnes	2,750.9	2,814.0	2,887.0	2,843.0	2,926.0	2,984.5
Liquid milk consumption, % y-o-y	2.8	2.3	2.6	-1.5	2.9	2.0
Milk market value, % of total	28.9	27.3	28.5	27.8	31.4	32.4

e = BMI estimate. Source: National sources, BMI

Risks To Outlook

Rising prices remain one of the main downside risks to milk consumption; the prospect of rising milk prices follows a sustained period of artificially low prices. This development could jeopardise local demand for dairy products, especially value-added items, which would likely become prohibitively expensive.

Meanwhile, owing to differing storage and transport infrastructure, access to milk in some provinces is easier than in others. This can create local price differentials and similarly poses a downside risk to our consumption forecasts.

Iran's regular unwillingness to adhere to international norms often leaves it ostracised from the global community, thus limiting its trade links. With the local milk market relatively oversupplied, the absence of strong export potential could discourage production. UN-backed sanctions, if they continue in the medium-to-long term, present a significant downside risk to both production and consumption. Production would be affected in the form of the government's inability to direct investment towards much needed upgrading and expansion of the infrastructure needed for efficient distribution. Consumption will also be affected if Iranian incomes fall sufficiently to render dairy products too expensive for consumers.

Livestock Outlook

BMI Supply View: The short- and medium-term outlook for Iran's livestock sector is looking brighter, as improving profitability conditions, coupled with ongoing easing of international sanctions, bode well for growth. Meat production has been hurt in recent years by international sanctions - although the sanctions have an explicit exemption for food - which made the import of grains and feed more difficult. We expect Iran's livestock sector to continue on the path to recovery after skyrocketing feed prices led to a decline or stagnation in meat and milk output over the past two seasons.

We forecast poultry production to grow by 1.4% year-on-year (y-o-y) in 2013/14 to 800,000 tonnes (an improvement from historically weak growth of 0.3% y-o-y in 2011/12 and 2012/13). For beef and veal, output is forecast to grow by 0.9% y-o-y to 239,100 tonnes in 2013/14. Easing feed and meat prices will boost profitability and domestic demand for meat. Our five-year forecast to 2018/19 envisages poultry production expanding by 15.9% on the 2013/14 level to 927,400 tonnes, driven by domestic demand and the effects of increased investment. For beef and veal, we see production expanding by 7.7% between 2013/14 and 2018/19 to 257,600 tonnes. Although it was once dominated by small holdings, the Iranian beef sector has begun to commercialise, which is likely to help to improve efficiency and production volumes. Stronger growth could be achieved were it not for the limitations of grazing room and the beef industry's reliance on relatively expensive grain imports. The production and import of pork and pork products is prohibited under Iran's Islamic law. We deem the government's goal to reach self-sufficiency in poultry and beef as overly optimistic.

BMI Demand View: We believe meat consumption slowed in 2012 and 2013 on the back of rising domestic meat prices resulting from international sanctions and high feed prices. We expect demand to recover in 2014, with poultry consumption growing by 1.8% y-o-y and beef by 4.8% y-o-y. Over our forecast period to 2019, we expect poultry and meat production to grow in line with population and disposable income growth. Rising disposable incomes are likely to benefit the consumption of beef at the expense of poultry as higher-income consumers trade up to the more expensive meat. We expect poultry consumption to expand by 17.9% on the 2014 level to 1.02mn tonnes in 2019. Beef consumption is expected to make up the ground lost in the early years of our forecast period, increasing by 28.1% to 550,500 tonnes in 2019. The high growth rate is due to base effects, as demand was weak in before 2014.

Table: Beef Production & Consumption (Iran 2014-2019)

	2014e	2015f	2016f	2017f	2018f	2019f
Beef & veal production, '000 tonnes	239.1	242.7	246.4	250.1	253.8	257.6
Beef & veal production, % y-o-y	0.9	1.5	1.5	1.5	1.5	1.5
Beef & veal consumption, '000 tonnes	429.7	449.4	472.8	497.4	523.3	550.5
Beef & veal consumption, % y-o-y	4.8	4.6	5.2	5.2	5.2	5.2

e/f = BMI estimate/forecast. Source: National sources, BMI

Table: Poultry Production & Consumption (Iran 2014-2019)

	2014e	2015f	2016f	2017f	2018f	2019f
Poultry production, '000 tonnes	800.0	824.0	848.7	874.2	900.4	927.4
Poultry production, % y-o-y	1.4	3.0	3.0	3.0	3.0	3.0
Poultry consumption, '000 tonnes	865.3	893.8	923.5	954.4	986.6	1,020.1
Poultry consumption, % y-o-y	1.8	3.3	3.3	3.3	3.4	3.4

e/f = BMI estimate/forecast. Source: National sources, BMI

Opportunities In Livestock Amid Easing Of Sanctions

The short- and medium-term outlook for Iran's livestock and dairy sectors is looking brighter, as improving profitability conditions, coupled with ongoing easing of international sanctions, bode well for growth. In the short term - over the 2013/14 season - we expect Iran's livestock sector to continue on the path to recovery after skyrocketing feed prices led to a decline or stagnation in meat output over the past two seasons. We forecast poultry production to grow by 1.4% y-o-y in 2013/14 to 800,000 tonnes (compared with historically weak growth of 0.3% y-o-y in 2011/12 and 2012/13). For beef and veal, output is forecast to grow by 0.9% y-o-y to 239,100 tonnes in 2013/14.

The improvement is linked to two main factors. First, livestock farms will see an improvement in profitability in line with our forecast for international grain and feed prices to remain low in 2014. Given the fact that Iran has been importing more than 25% of its wheat needs and 65% of its corn consumption in 2013, lower grain prices will ease production costs. Second, food price inflation in the country is decelerating slightly, which will support demand. Food price inflation came in at 38.7% y-o-y in November

2013, compared with the 51.9% average over the first 10 months of 2013. That said, given the fact that food prices remain at historically elevated levels, we expect meat consumption to recover only mildly.

In the medium term, the improvement in Iran's economic outlook - as well as the recent progress in talks between Iran and Western countries to reach an agreement on the former's nuclear programme - bode well for the country's business and investment environment. BMI's Country Risk team is forecasting an improvement in Iran's economy (we forecast GDP to expand by 2.8% and 2.9% in real terms in 2014 and 2015 respectively, compared with the five-year average of 1.6%), which will support business and consumer confidence and foster investment in the coming years (*see 'Returning To Growth In 2014', January 7 2014*).

Moreover, Iran and the so-called P5+1 countries - China, France, Russia, the UK and the US plus Germany - on November 24 2013 reached an understanding on the implementation of a deal under which sanctions on some of Iran's trade in goods and services will be suspended. The signing of the interim accord is a positive step in negotiations, in our view, and could lead to the lifting of additional sanctions (especially those on banking). The lifting of sanctions would boost Iran's economy, paving the way for substantial foreign investment that has been on hold due to Tehran's pariah status. The oil and gas industry, along with infrastructure, would be the obvious beneficiaries, but agribusiness projects also could be important beneficiaries, especially in the livestock and dairy sectors.

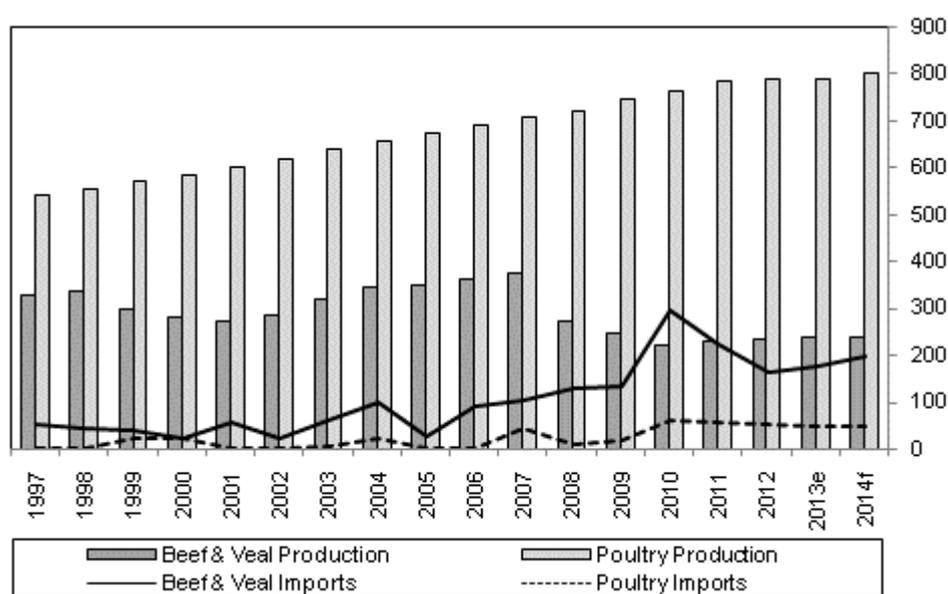
Investment in Iran has been significantly hampered by international sanctions, the country's opaque business environment, as well as a challenging macroeconomic picture over the past few years. Recent developments regarding nuclear negotiations and the easing of sanctions have seen renewed interest by foreign businesses in the Iranian market. For instance, in January, a French delegation of more than 100 companies visited Iran, including representatives of the agribusiness industry, indicating that there is still tremendous international appetite for the sector. Large agribusiness companies are already present in Iran and most, such as Danone, entered the market before international sanctions were imposed in 2012.

In the medium term, the lifting of international sanctions will ease the difficulty of importing grains into Iran, which will push down feed prices and boost livestock margins. Food import challenges escalated over 2013, as the US blacklisted Iran's shipping, shipbuilding, energy and ports management sectors, adding to other sanctions targeting the banking sector and key oil exports. While the sanctions have an explicit exemption for food, medicine and other humanitarian goods, foreign shipping firms are gradually pulling out of Iran, and banking and financing of food trade are reportedly difficult.

Despite our expectations for improvement, a measure of caution is warranted. For one, we do not expect a significant uptick in foreign investment until a longer-term agreement on the nuclear programme is reached (see *'FDI Susceptible To Nuclear Talks'*, January 7 2014). Despite the increase in interest from international companies, we believe the majority of investors will maintain a 'wait and see' approach until a more long-lasting agreement on the nuclear deal is reached. Moreover, the continuation of banking sanctions will limit investment by domestic companies for now.

Growing Import Dependence

Iran - Beef & Poultry Production & Imports ('000 tonnes)



e/f = BMI estimate/forecast. Source: BMI, USDA

Beef Self-Sufficiency Nowhere In Sight

The government announced in 2013 plans to increase Iran's meat production capacity with large-scale investment over three years. The Central Association of Animal Breeders has submitted a programme to parliament in which Iran will reach self-sufficiency in beef production by 2016. According to this association, the government plans to allocate IRR900bn (USD735mn) for the implementation of the programme, with investments in animal facilities.

We deem this goal as overly ambitious. In fact, we forecast Iran's beef production deficit to widen from 190,500 tonnes in 2013/14 to 292,900 tonnes in 2018/19. Various livestock companies currently operate at only 20 to 30% of their production capacity. Animals delivered to slaughterhouses are often underweight and do not meet the accepted quality standards.

The government is trying to put a brake on imports, which have been increasing in recent years due to the growing imbalances in the domestic sector. Beef imports are likely to reach 200,000 tonnes in 2013/14, compared with the 10-year average of 133,000 tonnes. Iran mainly imports beef from low-price producers such as India and Pakistan. Iran is also close to signing a deal with New Zealand for the import of meat from that country, according to the Veterinary Organization of Iran.

Table: Beef Production & Consumption (Iran 2009-2014)

	2009	2010	2011	2012	2013	2014e
Beef & veal production, '000 tonnes	249.0	220.0	232.0	235.0	237.0	239.1
Beef & veal production, % y-o-y	-7.8	-11.6	5.5	1.3	0.9	0.9
Beef & veal consumption, '000 tonnes	382.0	516.0	457.0	399.0	410.0	429.7
Beef & veal consumption, % y-o-y	-5.7	35.1	-11.4	-12.7	2.8	4.8

e = BMI estimate. Source: National sources, BMI

Table: Poultry Production & Consumption (Iran 2009-2014)

	2009	2010	2011	2012	2013	2014e
Poultry production, '000 tonnes	745.0	765.0	785.0	787.0	789.0	800.0
Poultry production, % y-o-y	3.2	2.7	2.6	0.3	0.3	1.4
Poultry consumption, '000 tonnes	763.0	824.0	838.0	830.0	850.0	865.3
Poultry consumption, % y-o-y	4.2	8.0	1.7	-1.0	2.4	1.8

e = BMI estimate. Source: National sources, BMI

Risks To Outlook

UN sanctions pose an increasing risk to our meat production and consumption forecasts. Specifically, prolonged sanctions would restrict investment into the country's livestock industry, inhibiting growth in

production. Sanctions have already begun to affect Iran's capacity to import agricultural commodities, and the availability and affordability of beef for Iranian consumers will be particularly badly affected the longer sanctions continue. As sanctions filter through to Iranian disposable incomes, Iranians may reduce meat consumption as they trade down to cheaper foodstuffs.

Some poultry farmers believe that the government should exercise a more active role in buying from farmers so as to stabilise production - and prices - in order to prevent a glut of domestic poultry in the event of an external shock dampening export demand. Such government support could result in a rise in production, although it would also represent a risk in terms of encouraging greater production efficiency.

Rising costs of feed and farm inputs also pose a risk to our production forecasts. As much of Iran's livestock is grown on small-scale farms, the impact of rising grain and input costs such as fertiliser and diesel will no doubt drag on production growth in the long term.

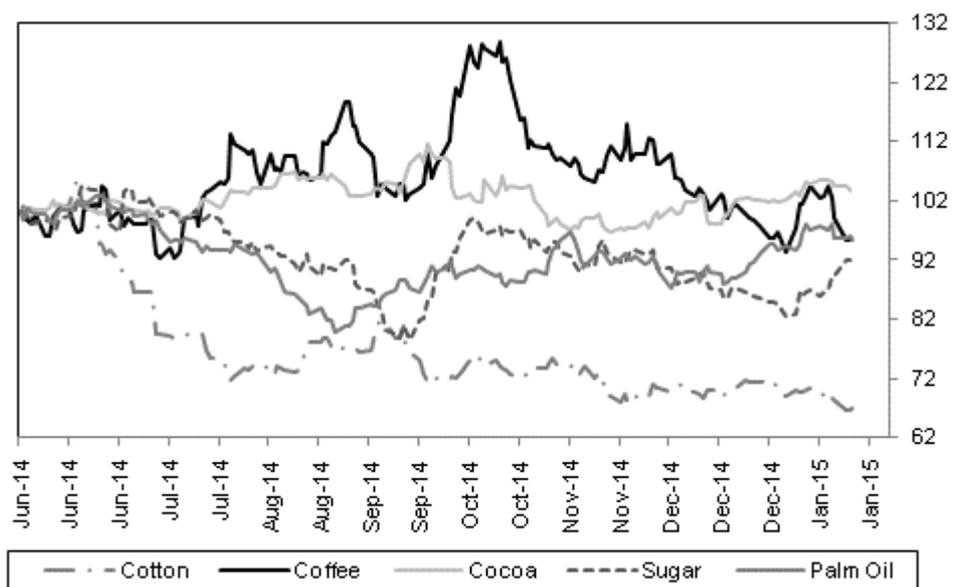
Commodities Price Analysis

Monthly Softs Strategy

- Cotton, sugar and cocoa will all head higher from current front-month levels in 2015, with cotton set to be the outperformer.
- Coffee will continue to moderate from current levels, and will average US\$160/lb in 2015 compared with the Jan 21 front-month price of US\$167/lb.
- Palm oil will record lacklustre performance over 2015.

Cotton Performance To Improve

Select Commodity Prices, Rebased



Note: June 1 2014 = 100. Source: Bloomberg, BMI

Cocoa: Prices To Head Higher Despite Weak Grindings Data

Cocoa prices will head higher from current front-month levels over the coming months as West Africa records production declines for the 2014/15 season due to less favourable weather. This will be despite European demand being weaker over 2015, which was due to base effects and cooling regional economic growth prospects.

Prices To Head Higher

Front-Month LIFFE Cocoa, GBP/tonne (weekly chart)



Source: Bloomberg, BMI

After record production in 2013/14 due to excellent weather, West African authorities, particularly Nigeria and Ghana, have revised down their production estimates for 2014/15 due to disease and dry weather, respectively. The production declines underpin our view that the global market will record a deficit for the 2014/15 season and that prices will average higher year-on-year (y-o-y) in 2015, at GBP2,000/tonne. Beyond 2015, we expect prices to average gradually lower, as the global market slowly returns to surplus by the end of our forecast period in 2019.

Coffee: Prices To Moderate As Brazilian Harvest Improves

Coffee prices will remain volatile and head lower in the coming weeks as better weather in Brazil will improve the prospects for the upcoming 2015/16 Brazilian coffee harvest. There is limited consensus as to how the worst Brazilian drought in decades in 2014 will ultimately affect production in the subsequent harvest. We are forecasting only a minor production increase of 2.3% y-o-y to 46mn bags.

Moderation To Continue Over Q115

Second-Month ICE Coffee, US\$/lb (daily chart)



Source: BMI

On a global market level, we are forecasting the smallest surplus since 2010 in 2015 at 2.3mn bags, which contributed to the significant price increase over Q114. For 2016 (which corresponds to the 2015 calendar year Brazilian harvest), we forecast the global market surplus to double to 4.7mn bags. This contributes to our view that coffee prices will average lower y-o-y at US\$160/lb, compared to US\$178/lb in 2014. Over the coming years, we expect prices to average slightly lower as global per capita consumption growth remains stable and production growth improves in Brazil and Colombia.

Bottoming Out

Second-Month ICE Cotton (USc/lb, weekly chart) & RSI (below)



Source: Bloomberg, BMI

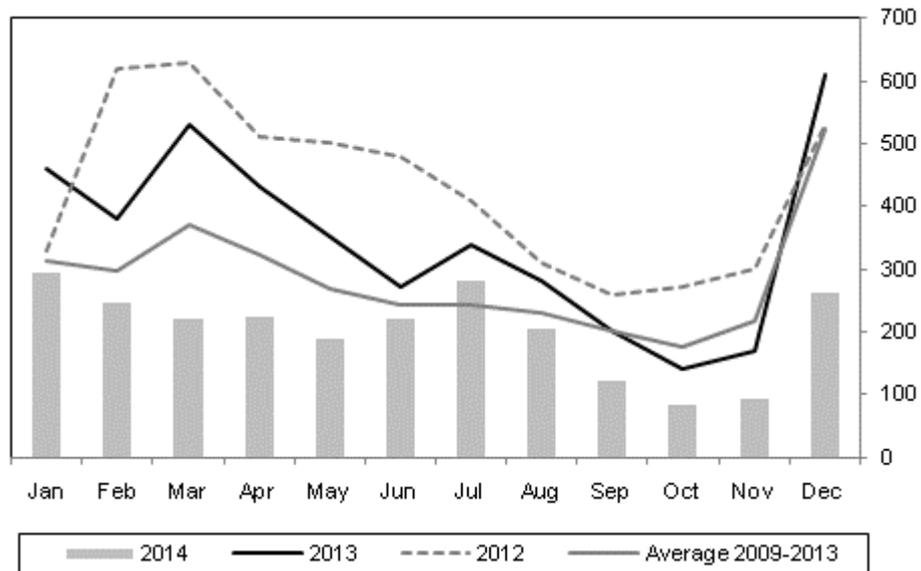
Cotton: Prices To Head Higher In 2015

We believe cotton prices have bottomed and will trade slightly higher on a three-month horizon, within the USc60.00-70.00/lb range. Technical and momentum indicators now suggest a modest recovery may be on the cards over the coming months. For example, net long speculative positions are now picking up again after reaching their lowest level since 2007 in October. However, ample supply following the bountiful US

harvest that ended in December, coupled with lacklustre import demand from China will put a cap on prices in Q115.

Half Strength

China - Cotton Imports ('000 tonnes)



Source: China General Customs Administration, BMI

Cotton prices will pick up slightly in 2015 and average higher than current front-month levels over the year, as the global market will record its first production deficit since 2009/10 in 2015/16. Due to the weakness in prices recorded over H214, we have revised down our average price forecast for 2015 to US\$67.00/lb, from US\$76.00/lb previously, and compared with US\$76.26/lb in 2014. We forecast the global market to record a 940,000 480 lb. bale deficit in 2015/16, as low cotton prices at the time of plantings will lead to a steep 3.0% y-o-y decline in production next season. Moreover, consumption will accelerate in 2015 and 2016, as low cotton prices and an improvement in economic conditions in developed countries boosts demand.

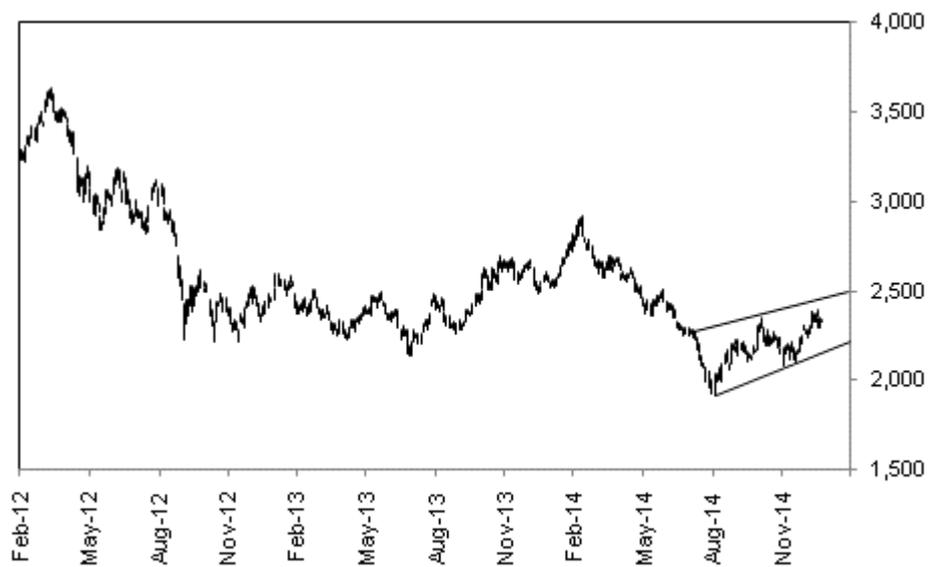
Palm Oil: No Significant Rally In Sight

Palm oil prices will remain supported close to current levels over a two- to three-month horizon and trade within the MYR2,250-2,400/tonne range. This will be driven by the recovery in Asia's import demand,

especially from India. 2015/16 rapeseed plantings and production in India will decline, leading to a tighter domestic supply of oilseeds and higher requirement for palm oil imports. Moreover, the weather in South East Asia has been wetter than usual, which caused flooding in some parts of Malaysia. This led to a decrease in production in December, which may continue in early 2015, propping up prices. Finally, we expect the soybean market to tighten in 2015/16 and soy oil prices to average higher than current front-month levels in 2015, which will also support palm oil prices.

Limited Further Upside

Three-Month MDE Palm Oil (MYR/tonne, daily chart)



Source: Bloomberg, BMI

Although palm oil prices will head moderately higher over the coming months, they are unlikely to stage a significant rally, as the palm oil market will remain relatively well supplied and only tighten slightly in 2014/15. Global demand growth will remain constrained by the lack of competitiveness of palm oil relative to alternative vegetable oils and to crude oil prices. As a result, we forecast palm oil prices to average MYR2,350/tonne in 2015, compared with MYR2,395/tonne in 2014.

Prices Will Head Higher In 2015

Front-Month ICE Sugar, USc/lb (weekly chart)



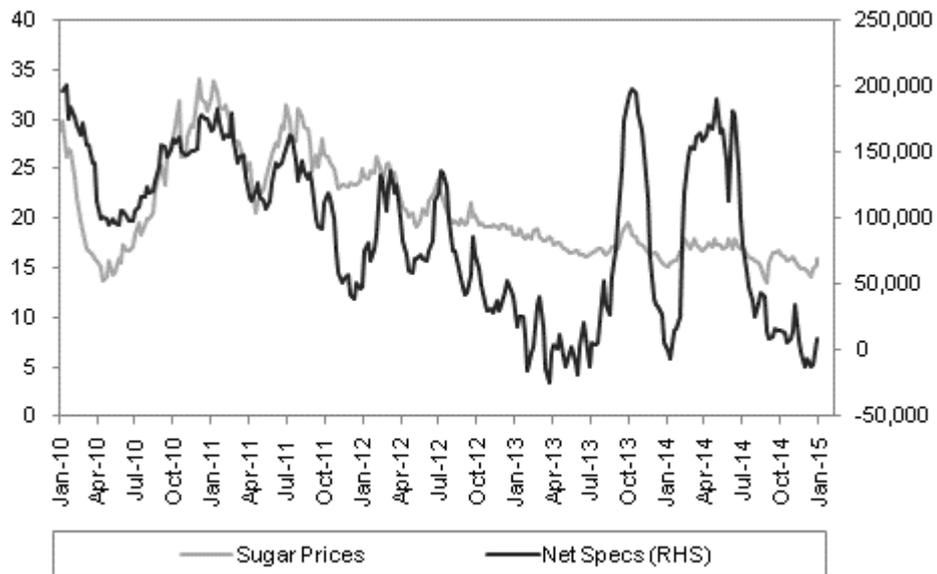
Source: Bloomberg, BMI

Sugar: Stronger Prices In H215

Sugar prices will remain weak over H115, due to a mix of good global supply, weak energy prices and ongoing depreciation of the Brazilian real. Moreover, the Indian government will most likely renew and increase subsidies to raw sugar exports in Q115, which will support exports and help keep the global market well-supplied in the coming months.

Net Specs At Extreme Levels

Front-Month ICE Sugar, USc/lb & Net Speculative Long Positions (RHS)



Source: Bloomberg, BMI

We are well below consensus for sugar prices in 2015, expecting them to average USc16.75/lb over the year. The low level of net speculative long positions for the commodity means that price strength could be sharp if supply shocks over 2015/16 were to materialise. We believe the global sugar surplus will decline y-o-y in 2015/16 to 1.7mn tonnes, and we expect the stocks-to-use ratio to decline over the coming years. This will ultimately lead to higher average prices through to 2018/19.

Table: Select Commodities - Performance & Bmi Forecasts

Commodity	Unit	Spot Price	YTD (% Chg)	1 Year (% Chg)	2014 (ave)	YTD (ave)	2015f (ave)	2016f (ave)
Barley	EUR/tonne	221	1.6	8.9	211	220	190	190
Class 3 Milk	USD/cwt	14.09	-8.6	-31.2	19.96	14.54	18.50	19.00
Cocoa (London)	GBP/tonne	2,024	2.2	17.9	1,923	2,029	2,000	1,950
Coffee	USc/lb	165	-0.9	42.1	178	173	160	145
Corn	USc/bushel	388	-2.2	-8.6	415	393	425	440
Cotton	USc/lb	57.9	-4.0	-34.4	76.3	59.7	67.0	72.0
Feeder Cattle	USc/lb	214	-2.3	26.2	205	221	na	na
Lean Hogs	USc/lb	71.8	-11.6	-16.7	106	77.2	na	na
Live Cattle	USc/lb	153	-7.6	9.0	152	160	na	na
Palm Oil	MYR/tonne	2,287	0.9	-11.6	2,396	2,324	2,350	2,425
Rough Rice	USD/cwt	11.32	-1.5	-26.7	13.94	11.29	14.00	14.30
Soy Oil	USc/lb	32.8	2.5	-14.0	36.8	32.8	na	na
Soybean	USc/bushel	982	-3.7	-23.3	1,244	1,015	1,150	1,100
Soymeal	USD/tonne	328	-10.1	-21.3	423	349	na	na
Sugar #11	USc/lb	15.95	9.8	4.8	16.34	14.99	16.75	17.75
Wheat	USc/bushel	540	-8.4	-3.9	588	558	605	625

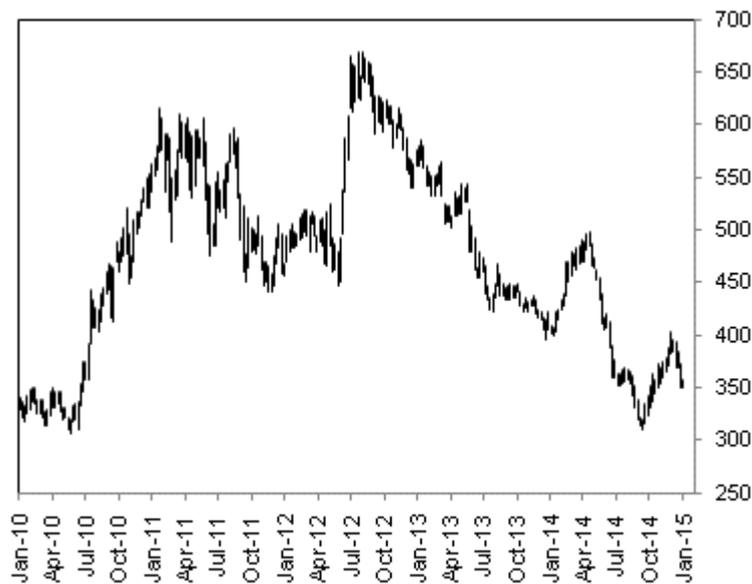
Note: Prices as of January 21 2015. na = not applicable. Source: BMI, Bloomberg

Monthly Grains Strategy

- Grain prices will average higher than current front-month levels over 2015 and our forecasts are above Bloomberg consensus for all grains.
- Wheat will be the outperformer across the grains complex over 2015, while corn will outperform soybean.
- Rice prices will increase from current front-month levels in 2015 as the global market will record its first deficit in ten years.

Heading Higher In 2015

S&P GSCI Grains Index (weekly chart)



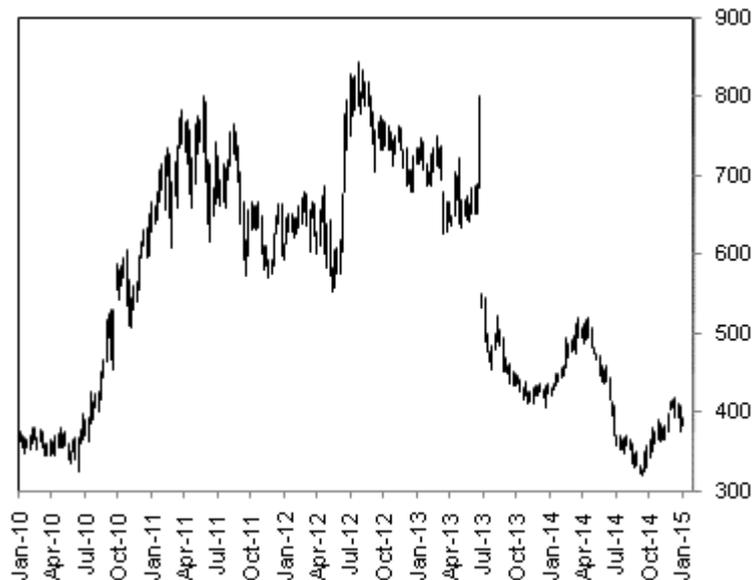
Source: Bloomberg

Corn: US Production Decline Will Boost Prices

Corn prices will average higher than current front-month levels in 2015. Currently, however, we believe that the corn market is in a state of flux. Price action over the next several months will determine planting decisions in the major US market, which will subsequently affect where prices settle around H215. Price strength has occurred sooner than we had expected a few months ago, which is likely to lead to an increase in plantings in the US for the 2015/16 season. We expect further price strength to be muted over the coming months as oil prices will remain low and US dollar strength will continue.

Upside To Continue In 2015

Front-Month CBOT Corn (USc/bushel, weekly chart)

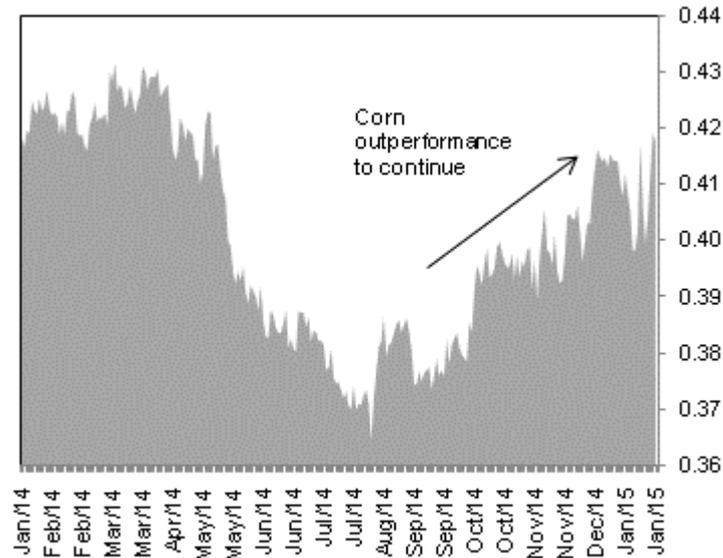


Source: Bloomberg

We continue to believe that corn prices will outperform soybean over the coming months. On September 23 2014, we initiated a bullish corn versus soybean view; based on the respective CBOT September 2015 contracts. We are currently up by 8.4% and expect this to increase over the coming months as US corn production in 2015/16 will disappoint. We forecast US output to decline by 7.0% y-o-y to reach 340.0mn tonnes. Lower US production will contribute to a market deficit of 15.5mn tonnes in 2015/16, down from a surplus of 21.2mn tonnes in 2014/15.

Ratio Will Continue To Move In Our Favour

Price Ratio: September CBOT Corn/September CBOT Soybean



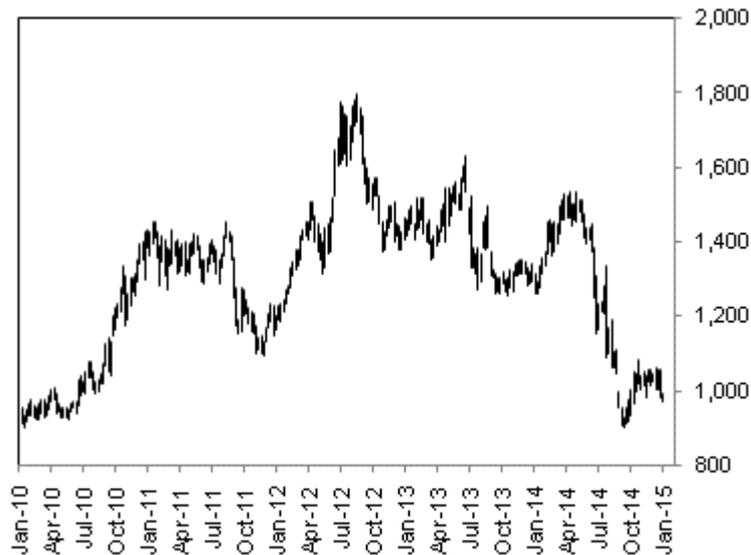
Source: Bloomberg, BMI

Soybean: Weakest In The Grains Complex

Soybean prices will also head higher from current levels over 2015 as the global market tightens. Strength across the grains complex will help drag soybean prices up. Soybean prices have significantly weakened since mid-January, having previously traded in a narrow range from November 2014. Greater rainfall in Brazil and the beginning of the country's 2014/15 soybean harvest has contributed to recent price declines.

Marginally Higher Over 2015

Front-Month CBOT Soybean (USc/bushel, weekly chart)

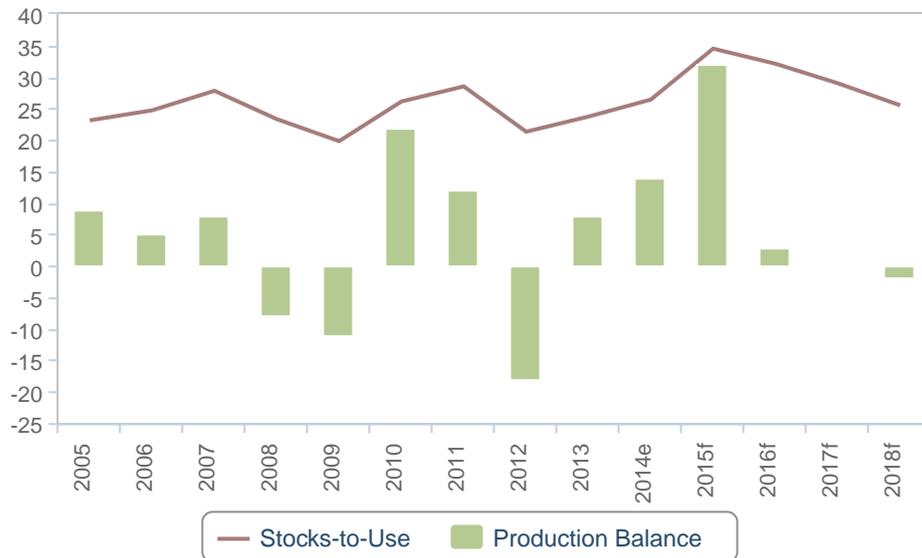


Source: Bloomberg

Strong soybean production in Brazil and weak prices in Q115 is positive for our above consensus corn and soybean price forecasts, as well as our corn/soybean outperformance view. For prices to average considerably higher in 2015 than current levels, the incentive to plant both crops in the US over the 2015/16 season will need to be low. Lower soybean prices and the timeliness of Brazil's safrinha corn crop (which comes directly after the soybean harvest) will limit plantings of both crops in the US. We believe that the global soybean market will register a 3.0mn tonne surplus in 2015/16, compared to a record surplus in 2014/15 of 32.2mn tonnes.

Big Decline In Surplus In 2015/16

Global - Soybean Production Balance, mn tonnes (LHS) & Stocks-To-Use (%)



e/f= BMI estimate/forecast. Sources: USDA, BMI

Wheat: Will Outperform Both Corn & Soybean

Wheat prices will appreciate the most out of all of the grains in 2015, as the global market will post a sizeable deficit in 2015/16. Prices have weakened considerably since late December 2014, as fears of a Russian export ban have moderated, trading around a two-month low on January 21. We expect prices to trade sideways over the coming months, before heading higher from Q215. Plantings in major producers such as the US, EU and Russia will disappoint owing to low wheat prices during the planting season.

Strongest Across The Grains Complex

Front-Month CBOT Wheat (USc/bushel, weekly chart)

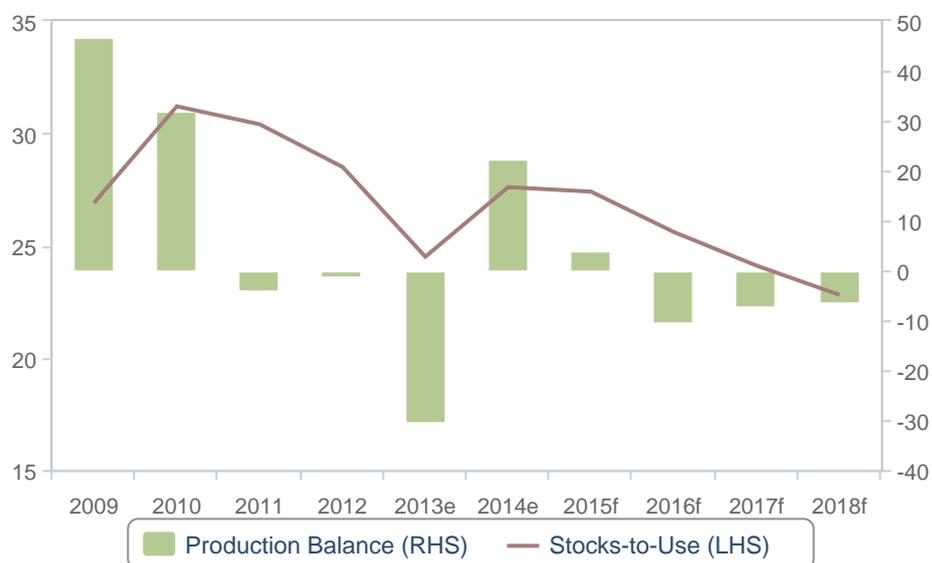


Source: Bloomberg

We forecast wheat prices to average USc605/bushel in 2015, putting us well above Bloomberg consensus estimates. Prices will head higher from current levels as the global market will record a deficit of 18.1mn tonnes in the 2015/16 season, compared to 5.8mn tonnes the year before. China's imports have been very low for the past 9-12 months, and the country will record a mild wheat production deficit in 2015/16. This will lead to greater import demand for the commodity. Furthermore, we do not rule out further restrictions on Russian wheat exports over 2015, as food price inflation will remain in the double-digits for most of the year. High inflation will incentivise the government to keep domestically produced food within the country.

Tightening Market To 2018

Global Wheat - Production Balance (mn tonnes) & Stocks-To-Use Ratio (%)



e/f= BMI estimate/forecast. Sources: USDA, BMI

Rice: Limited Gains In Early 2015

Rice prices will average higher than current front-month levels in 2015, as the global market will record its first production deficit for ten years in the 2014/15 season. Output will decline in major producers such as Thailand and India, as agricultural policy adjustments will limit support to the sector. In the US, we believe production will decline for the 2015/16 season, for which plantings will occur in March, as plantings are unlikely to match the five-year high recorded last season.

Heading Higher In 2015

Front-Month CBOT Rough Rice (weekly, USD/cwt)



Source: Bloomberg

We forecast rice prices to average USD14.00/cwt in 2015, as the global market will record deficits in 2014/15 and 2015/16 of 3.2mn tonnes and 1.0mn tonnes respectively. The stocks-to-use ratio will decline from a high of 23.9% in 2014 to 22.2% by 2017. This underpins our view for rice prices to tick higher over the coming years, and to reach an average of USD14.80/cwt in 2018.

Table: Selected Commodities - Performance & BMI Forecasts

Commodity	Unit	Spot Price	YTD (% Chg)	1 Year (% Chg)	2014 Avg	YTD (ave)	2015f (ave)	2016f (ave)
Cocoa (London)	GBP/tonne	2,023	2.2	17.8	1,923	1,929	2,000	1,950
Coffee	USc/lb	165	-0.8	42.3	178	177	160	145
Corn	USc/bushel	390	-1.8	-8.2	415	414	425	440
Cotton	USc/lb	57.8	-4.0	-34.4	76.3	75.4	67.0	72.0
Palm Oil	MYR/tonne	2,273	0.3	-12.1	2,396	2,392	2,350	2,425
Rough Rice	USD/cwt	11.35	15.4	8.2	13.94	13.81	14.00	14.30
Soybean	USc/bushel	981	-3.7	-23.4	1,244	1,233	1,150	1,100
Sugar #11	USc/lb	15.89	9.4	4.4	16.34	16.27	16.75	17.75
Wheat	USc/bushel	542	-8.1	-3.6	588	586	605	625

Note: Prices as of January 21; Sources: BMI, Bloomberg

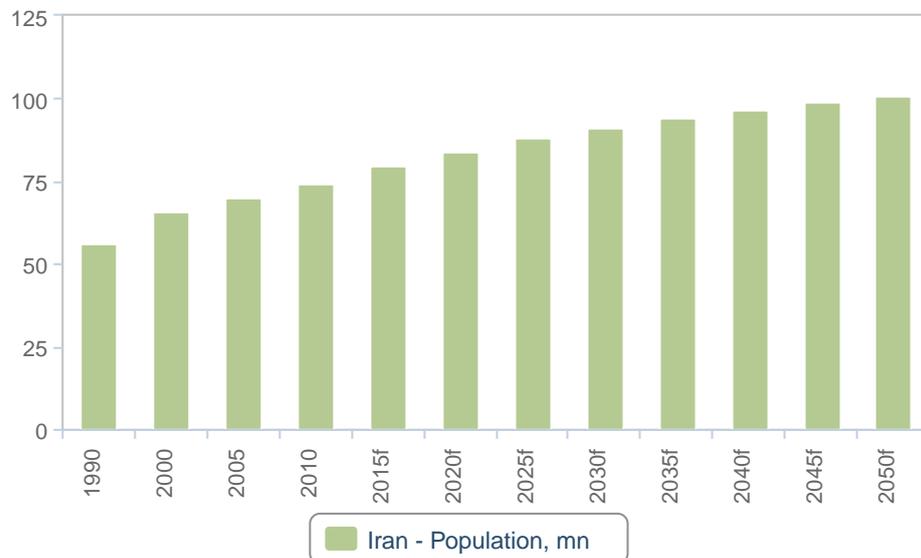
Demographic Forecast

Demographic analysis is a key pillar of **BMI**'s macroeconomic and industry forecasting model. Not only is the total population of a country a key variable in consumer demand, but an understanding of the demographic profile is essential to understanding issues ranging from future population trends to productivity growth and government spending requirements.

The accompanying charts detail the population pyramid for 2015, the change in the structure of the population between 2015 and 2050 and the total population between 1990 and 2050. The tables show indicators from all of these charts, in addition to key metrics such as population ratios, the urban/rural split and life expectancy.

Population

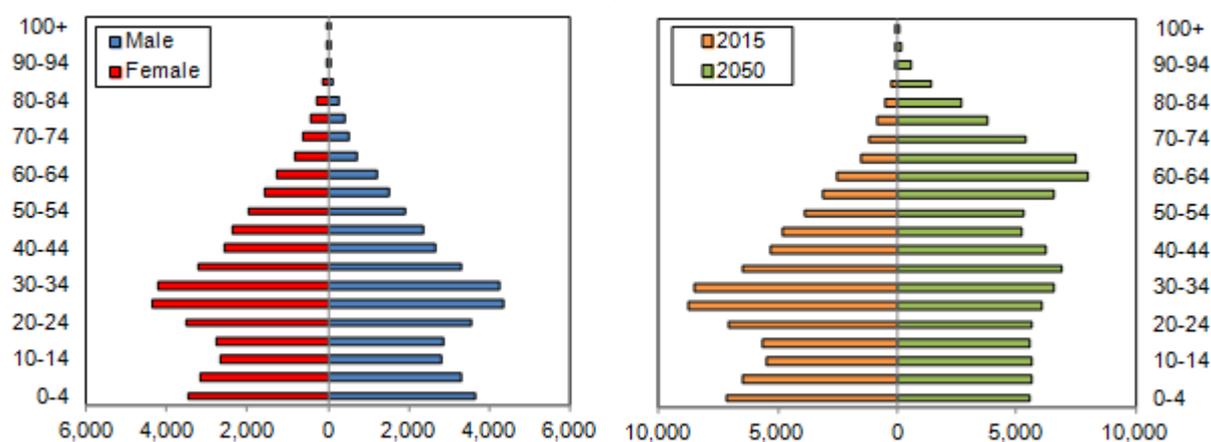
(1990-2050)



f = BMI forecast. Source: World Bank, UN, BMI

Iran Population Pyramid

2015 (LHS) & 2015 Versus 2050 (RHS)



Source: World Bank, UN, BMI

Table: Population Headline Indicators (Iran 1990-2025)

	1990	2000	2005	2010	2015f	2020f	2025f
Population, total, '000	56,361	65,911	70,152	74,462	79,476	84,148	88,064
Population, % change y-o-y	na	1.6	1.2	1.3	1.3	1.1	0.8
Population, total, male, '000	28,807	33,504	35,917	37,656	39,915	42,307	44,213
Population, total, female, '000	27,554	32,406	34,235	36,805	39,560	41,840	43,850
Population ratio, male/female	1.05	1.03	1.05	1.02	1.01	1.01	1.01

na = not available; f = BMI forecast. Source: World Bank, UN, BMI

Table: Key Population Ratios (Iran 1990-2025)

	1990	2000	2005	2010	2015f	2020f	2025f
Active population, total, '000	28,945	40,290	48,583	53,034	55,945	58,184	60,945
Active population, % of total population	51.4	61.1	69.3	71.2	70.4	69.1	69.2
Dependent population, total, '000	27,415	25,620	21,569	21,427	23,530	25,964	27,118
Dependent ratio, % of total working age	94.7	63.6	44.4	40.4	42.1	44.6	44.5

Key Population Ratios (Iran 1990-2025) - Continued

	1990	2000	2005	2010	2015f	2020f	2025f
Youth population, total, '000	25,543	22,850	18,115	17,585	19,140	20,362	19,984
Youth population, % of total working age	88.2	56.7	37.3	33.2	34.2	35.0	32.8
Pensionable population, '000	1,872	2,770	3,453	3,841	4,389	5,601	7,134
Pensionable population, % of total working age	6.5	6.9	7.1	7.2	7.8	9.6	11.7

f = BMI forecast. Source: World Bank, UN, BMI

Table: Urban/Rural Population And Life Expectancy (Iran 1990-2025)

	1990	2000	2005	2010e	2015f	2020f	2025f
Urban population, '000	31,748.6	42,210.8	47,393.5	51,332.8	55,362.4	59,374.4	63,078.7
Urban population, % of total	56.3	64.0	67.6	68.9	69.7	70.6	71.6
Rural population, '000	24,613.2	23,700.3	22,758.8	23,129.5	24,113.9	24,774.2	24,985.6
Rural population, % of total	43.7	36.0	32.4	31.1	30.3	29.4	28.4
Life expectancy at birth, male, years	61.2	68.7	70.0	71.3	72.8	74.2	75.5
Life expectancy at birth, female, years	65.8	70.6	73.1	75.1	76.6	78.0	79.2
Life expectancy at birth, average, years	63.4	69.6	71.5	73.1	74.6	76.0	77.3

e/f = BMI estimate/forecast. Source: World Bank, UN, BMI

Table: Population By Age Group (Iran 1990-2025)

	1990	2000	2005	2010	2015f	2020f	2025f
Population, 0-4 yrs, total, '000	9,312	6,316	5,483	6,555	7,146	6,751	6,148
Population, 5-9 yrs, total, '000	8,905	7,552	5,476	5,416	6,507	7,116	6,729
Population, 10-14 yrs, total, '000	7,324	8,981	7,154	5,613	5,487	6,494	7,105
Population, 15-19 yrs, total, '000	5,822	8,800	9,247	7,215	5,643	5,466	6,474
Population, 20-24 yrs, total, '000	4,697	6,932	9,143	8,993	7,067	5,595	5,424
Population, 25-29 yrs, total, '000	4,054	5,315	6,859	8,704	8,726	6,997	5,541
Population, 30-34 yrs, total, '000	3,535	4,442	5,202	6,521	8,484	8,649	6,937
Population, 35-39 yrs, total, '000	3,030	3,886	4,693	5,210	6,497	8,410	8,579
Population, 40-44 yrs, total, '000	2,123	3,372	4,112	4,833	5,262	6,431	8,333
Population, 45-49 yrs, total, '000	1,620	2,857	3,421	4,032	4,757	5,193	6,353

Population By Age Group (Iran 1990-2025) - Continued

	1990	2000	2005	2010	2015f	2020f	2025f
Population, 50-54 yrs, total, '000	1,526	1,929	2,800	3,244	3,895	4,665	5,101
Population, 55-59 yrs, total, '000	1,393	1,431	1,766	2,637	3,109	3,788	4,548
Population, 60-64 yrs, total, '000	1,140	1,322	1,336	1,639	2,500	2,985	3,652
Population, 65-69 yrs, total, '000	898	1,145	1,257	1,279	1,550	2,340	2,813
Population, 70-74 yrs, total, '000	507	825	1,055	1,129	1,143	1,369	2,090
Population, 75-79 yrs, total, '000	269	508	654	802	876	902	1,105
Population, 80-84 yrs, total, '000	135	203	347	413	528	598	637
Population, 85-89 yrs, total, '000	48	66	112	172	216	290	343
Population, 90-94 yrs, total, '000	10	17	21	38	63	84	119
Population, 95-99 yrs, total, '000	1	2	3	4	8	15	22
Population, 100+ yrs, total, '000	0	0	0	0	0	1	2

f = BMI forecast. Source: World Bank, UN, BMI

Table: Population By Age Group % (Iran 1990-2025)

	1990	2000	2005	2010	2015f	2020f	2025f
Population, 0-4 yrs, % total	16.52	9.58	7.82	8.80	8.99	8.02	6.98
Population, 5-9 yrs, % total	15.80	11.46	7.81	7.27	8.19	8.46	7.64
Population, 10-14 yrs, % total	13.00	13.63	10.20	7.54	6.90	7.72	8.07
Population, 15-19 yrs, % total	10.33	13.35	13.18	9.69	7.10	6.50	7.35
Population, 20-24 yrs, % total	8.34	10.52	13.03	12.08	8.89	6.65	6.16
Population, 25-29 yrs, % total	7.19	8.06	9.78	11.69	10.98	8.32	6.29
Population, 30-34 yrs, % total	6.27	6.74	7.42	8.76	10.68	10.28	7.88
Population, 35-39 yrs, % total	5.38	5.90	6.69	7.00	8.18	9.99	9.74
Population, 40-44 yrs, % total	3.77	5.12	5.86	6.49	6.62	7.64	9.46
Population, 45-49 yrs, % total	2.88	4.33	4.88	5.42	5.99	6.17	7.22
Population, 50-54 yrs, % total	2.71	2.93	3.99	4.36	4.90	5.54	5.79
Population, 55-59 yrs, % total	2.47	2.17	2.52	3.54	3.91	4.50	5.17
Population, 60-64 yrs, % total	2.02	2.01	1.90	2.20	3.15	3.55	4.15
Population, 65-69 yrs, % total	1.59	1.74	1.79	1.72	1.95	2.78	3.19
Population, 70-74 yrs, % total	0.90	1.25	1.50	1.52	1.44	1.63	2.37
Population, 75-79 yrs, % total	0.48	0.77	0.93	1.08	1.10	1.07	1.26
Population, 80-84 yrs, % total	0.24	0.31	0.50	0.55	0.66	0.71	0.72

Population By Age Group % (Iran 1990-2025) - Continued

	1990	2000	2005	2010	2015f	2020f	2025f
Population, 85-89 yrs, % total	0.09	0.10	0.16	0.23	0.27	0.34	0.39
Population, 90-94 yrs, % total	0.02	0.03	0.03	0.05	0.08	0.10	0.14
Population, 95-99 yrs, % total	0.00	0.00	0.00	0.01	0.01	0.02	0.03
Population, 100+ yrs, % total	0.00	0.00	0.00	0.00	0.00	0.00	0.00

f = BMI forecast. Source: World Bank, UN, BMI

Methodology

Industry Forecast Methodology

BMI's industry forecasts are generated using the best-practice techniques of time-series modelling and causal/econometric modelling. The precise form of model we use varies from industry to industry, in each case being determined, as per standard practice, by the prevailing features of the industry data being examined.

Common to our analysis of every industry is the use of vector autoregressions. Vector autoregressions allow us to forecast a variable using more than the variable's own history as explanatory information. For example, when forecasting oil prices, we can include information about oil consumption, supply and capacity.

When forecasting for some of our industry sub-component variables, however, using a variable's own history is often the most desirable method of analysis. Such single-variable analysis is called univariate modelling. We use the most common and versatile form of univariate models: the autoregressive moving average model (ARMA).

In some cases, ARMA techniques are inappropriate because there is insufficient historic data or data quality is poor. In such cases, we use either traditional decomposition methods or smoothing methods as a basis for analysis and forecasting.

BMI mainly uses ordinary least squares estimators. In order to avoid relying on subjective views and encourage the use of objective views, we use a 'general-to-specific' method. **BMI** mainly uses a linear model, but simple non-linear models, such as the log-linear model, are used when necessary. During periods of 'industry shock', for example, if poor weather conditions impede agricultural output, dummy variables are used to determine the level of impact.

Effective forecasting depends on appropriately selected regression models. We select the best model according to various different criteria and tests, including but not exclusive to:

- R^2 tests explanatory power; adjusted R^2 takes degree of freedom into account;
- Testing the directional movement and magnitude of coefficients;
- Hypothesis testing to ensure coefficients are significant (normally t-test and/or P-value);
- All results are assessed to alleviate issues related to auto-correlation and multicollinearity;

Human intervention plays a necessary and desirable role in all or our industry forecasting. Experience, expertise and knowledge of industry data and trends ensure analysts spot structural breaks, anomalous data, turning points and seasonal features where a purely mechanical forecasting process would not.

Sector-Specific Methodology

Within the Agribusiness industry, issues that might result in human intervention could include but are not exclusive to:

- Technology development that might influence future output levels (for example greater use of biotechnology);
- Dramatic changes in local production levels due to public or private sector investment;
- The regulatory environment and specific areas of legislation, such as import and export tariffs and farm subsidies;
- Changes in lifestyles and general societal trends;
- The formation of bilateral and multilateral trading agreements, and political factors.

The following two examples show the demand (consumption) and the supply (production) of rice. Note that the explanatory variables for both are quite similar, but the underlying economic theory is different.

Example Of Rice Consumption Model

$$(\text{Rice consumption})_t = \beta_0 + \beta_1 * (\text{real private consumption per capita})_t + \beta_2 * (\text{inflation})_t + \beta_3 * (\text{real lending rate})_t + \beta_4 * (\text{population})_t + \beta_5 * (\text{government expenditure})_t + \beta_6 * (\text{food consumption})_{t-1} + \varepsilon_t$$

Where:

- β are parameters for this function.
- Real private consumption per capita has a positive relationship with rice consumption, if rice is a normal good in a particular country. If rice is an inferior good in a country, the relationship is negative. So the sign of β_1 is determined by a specific product within a specific country.
- When inflation is high, people with rational expectations will consume today rather than wait for tomorrow's high price to come. Higher rice demand in year t due to higher inflation in that year leads to an assumed positive sign of β_2 .
- The relationship between real lending rate and rice consumption is expected to be negative. When real lending rates increase, disposable incomes, especially for those with mortgage burdens, etc, will decrease. So the sign of β_3 is expected to be negative.
- Of course, other things being equal, growth in rice consumption can also be caused by growth in population. Consequently, positive sign of β_4 is expected.

- Government expenditure typically causes total disposable incomes to rise. So the sign of β_5 is expected to be positive.
- Human behaviour has a trend: A high level of food consumption in previous years means there is very likely to be a high level of food consumption the next year. So the positive sign of β_6 is expected.
- ϵ is the error/residual term.

Example Of Rice Production Model

$$(\text{Rice production})_t = \beta_0 + \beta_1 * (\text{real GDP per capita})_t + \beta_2 * (\text{inflation})_t + \beta_3 * (\text{real lending rate})_t + \beta_4 * (\text{rural population})_t + \beta_5 * (\text{government expenditure})_t + \beta_6 * (\text{food production})_{t-1} + \epsilon_t$$

Where:

- The same as above: the relationship between real GDP per capita and rice production depends on whether rice is normal or inferior good in that country.
- If high inflation is caused by food prices increasing, farmers will be more profitable. Then they will supply more agricultural product (eg rice) to increase their marginal (extra) profit, although this is tempered by the rising cost of other inputs in line with inflation.
- There is a global move towards corporate farming, away from small holdings, in order to achieve greater agricultural productivity. Corporate farming means more investment in the modes of production, ie agricultural machinery. Higher real lending rates discourage investment, which in turn reduce production.
- **BMI** assumes that only the rural population has a positive effect on agricultural product supply.
- With supportive government policy, other things being equal, rice production is expected to go up. Government expenditure is likely to play some role in supporting agribusiness.
- Again, previous food production positively affects this year's prediction.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.