COTTON

Market situation

There was a light recovery in the world cotton market during the 2016 marketing year following a strong drop in production in 2015, from 26.2 Mt in 2014 to 21.2 Mt. Global cotton production recovered by about 7% in 2016 due to improved yields. In addition, on-going stock releases sustained world consumption, although total world stocks remain at a very high level (18 Mt, 7.5% less than 2015, but still the equivalent of about eight months of world consumption). Production increased in almost all major cotton producing countries, with the exception of China. Pakistan, the United States, Brazil and India increased production by 17%, 24%, 7% and 1%, respectively due to improved yields that over-compensated a contraction in the area planted.

Global cotton demand stagnated at around 23.9 Mt during the 2016 marketing year. Mill consumption estimates in India remained stable at 5.3 Mt, but in China, decreased by 2.0% to 7.2 Mt. Mill consumption increased in Viet Nam by 12% and in Bangladesh by 11%. The increase in Pakistan was 1%. Global cotton trade recovered slightly, increasing by 3.8% in 2016 to 7.7 Mt. Increases in imports by Bangladesh, Pakistan and Viet Nam were insufficient to offset the decline in many countries' import demand since 2015. China's new cotton support policy, which narrowed the price gap between domestic and imported cotton, is behind this sluggish consumption; its domestic cotton price was below the imported price for a limited time in 2016. Moreover, US exports continued to increase, to 2.7 Mt or 27%, over the previous year, and Australia's exports increased by 17% as production recovered.

Projection highlights

Although the world cotton price remains under pressure due to high stock levels and fierce competition from synthetic fibres, cotton prices are expected to be relatively stable in nominal terms. This makes cotton less competitive because prices for polyester are significantly lower than international and domestic cotton prices and likely to decrease further. During 2017-26, relative stability is expected as government support policies continue to stabilise markets in major cotton-producing countries. However, world cotton prices are expected to be lower in real terms than the average during the base period (2014-16).

World production is expected to grow at a slower pace than consumption during the first few years of the outlook period, reflecting anticipated lower price levels and projected releases of global stocks accumulated between 2010 and 2014. More cotton may be auctioned if sales are strong and market prices increase. Last year, around 2.6 Mt were sold through to the end of September 2016. The stock-to-use ratio is expected to fall to 39% in 2026 from 83% in the base period. The global land use devoted to cotton is projected to decrease slightly below the average in the base period. Global cotton yields will grow slowly as production gradually shifts from relatively high yielding countries, notably China, to relatively low-yielding ones in South Asia.

World cotton use is expected to grow at 0.9% p.a. as a result of slower economic and population growth in comparison with 2000s, reaching 26.0 Mt in 2026. Consumption in China is expected to fall by 15% from the base period to 6.2 Mt following the downward

Figure 3.8. **Cotton consumption by region**
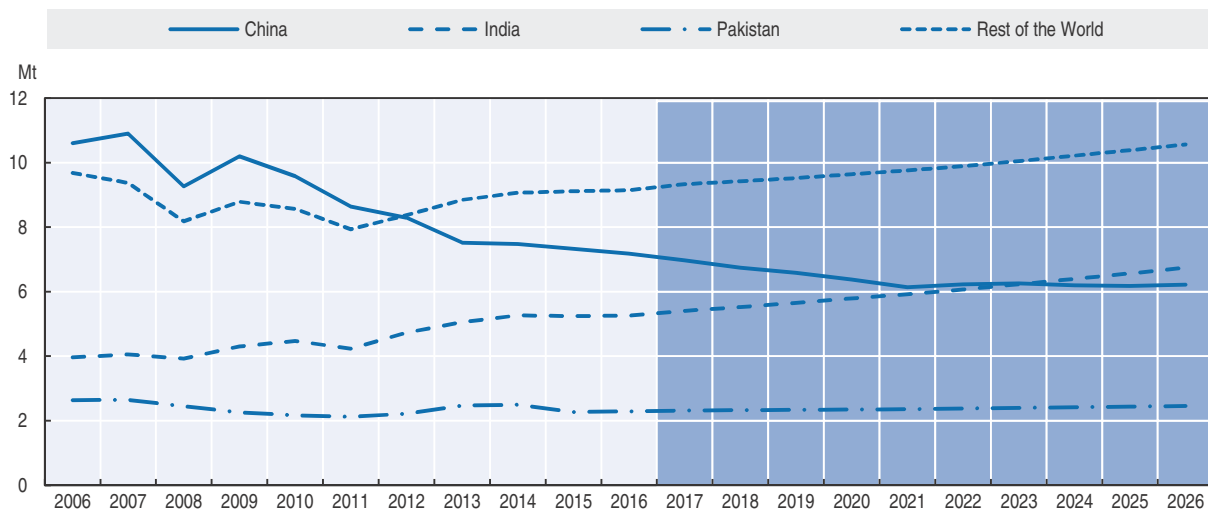
trend since 2010, while India will become the world's most important country for cotton mill consumption with 6.7 Mt in 2026. Higher cotton mill consumption by 2026 is also foreseen for Viet Nam, Bangladesh, Indonesia and Turkey, with consumption increasing by 45%, 47%, 10% and 8% respectively.

It is expected that global cotton trade will grow more slowly compared to previous years, especially 2011-13 when growth was driven by surging Chinese imports. Trade in 2026 is expected, however, to exceed the average of the 2000s. To obtain value-added from mills, there has been a shift in the past several years from trading raw cotton to cotton yarn and man-made fibres, and which is expected to continue. Global raw cotton trade will nevertheless reach 8.5 Mt by 2026, 12% higher than the average of the 2014-16 base period, despite cotton being less competitive as prices for polyester are expected to be significantly lower. The United States retains its position as the world's largest exporter, accounting for 33% of world trade, a percentage that will remain stable. Brazil is ranked second with exports expected to reach 1.1 Mt, from 0.9 Mt. Cotton producing countries in Sub-Saharan Africa, as a whole, are expected to increase their exports to 1.5 Mt by 2026. After a strong decrease of cotton imports by China 2012 and 2016 it is expected that import increase over the outlook period to about 1.3 Mt in 2026. Its dominant role in the world cotton market will be significantly challenged as other importing countries emerge and India is assumed to be the largest cotton importer in 2026. It is projected that imports in Bangladesh and Viet Nam will increase to 1.5 Mt, each.

While increases in farm labour costs and competition for resources with other agricultural crops place significant constraints on growth, higher productivity driven by technological progress, including greater adoption of bio-tech cotton, creates significant potential for cotton production to expand in the next decade. Although the medium-term prospects are for sustained growth, there may be potential short-term uncertainties in the current outlook period which may result in short-term volatility in demand, supply and prices. A sudden slow-down in the global economy, a sharp drop in global textiles

and clothing trade, competitive prices and quality from synthetic fibres, and changes in government policies are important factors that can affect the cotton market. The unprecedented high level of stocks is currently a key driver of the world cotton price.

The expanded cotton chapter is available at

*http://dx.doi.org/10.1787/agr_outlook-2017-14-en*

COTTON

Price

World cotton prices averaged USD 1 636/t during 2016, ranging between USD 1 443 and USD 1 787/t, slightly above the levels in 2014 and 2015 (Figure 3.8.1). The stable price was largely due to support policies for cotton in major cotton-producing countries and high global stock levels. While the current price level is still below the high reached during 2010-11, it is still higher than the average level of USD 1 300/t during 2000-09.

Current world cotton inventories represent about 75% of annual consumption. This indication of over-supply suggests further downward pressure on cotton prices. Over the medium term, world cotton nominal prices are projected to decrease over the first few years (2017-19), but rise slowly afterwards. For the final three projection years it is expected that prices increase more slowly due to a slowdown of the consumption growth towards 2026. Nominal cotton prices in the period 2017-26 are projected to reach USD 1576/t by 2026, about 1.6% higher than the base period (2014-2016), but still 50% below the peak in 2010.

Figure 3.8.1. World cotton prices
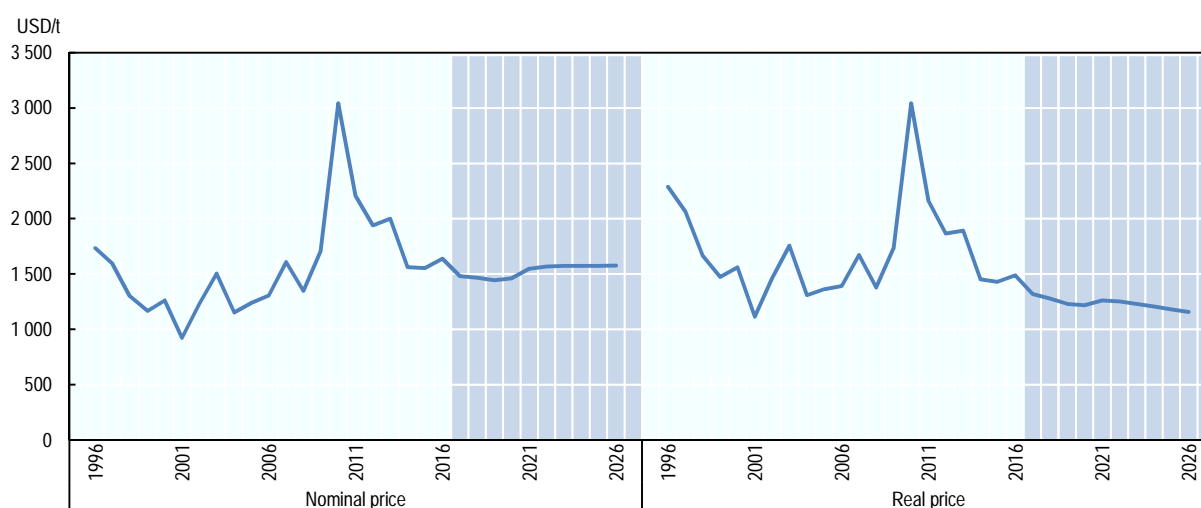
Source: OECD/FAO (2017), "OECD-FAO Agricultural Outlook", *OECD Agriculture statistics* (database), http://dx.doi.org/10.1787/agr-data-en.

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Production

World cotton production is projected to grow 1.8% annually over the next ten years, reaching 26.1 Mt in 2026, 12% higher than during the base period. However, world production is expected to grow at a slower pace than consumption during the first few years of the outlook period. This reflects the lower price of cotton resulting from the release of a significant share of global stocks, which were accumulated between 2010 and 2014. Furthermore, the stock-to-use ratio is expected to be around 39% in 2026; substantially below the 83% observed in the base period.

World cotton production experienced a significant decrease in 2015 (Figure 3.8.2), falling by up to 20.2% among the major producing countries. Adverse weather conditions, lower world market demand, and policy uncertainty contributed to this decline, the sharpest registered since 2008. The reduction in production was followed by a release of cotton stocks. Production re-bounded in 2016 and is expected to be sustained by future yield growth, with an average increase of 1.7% p.a. over the projection period. A slight decline in world cotton area is projected during the first two years of the projection period followed by a gradual increase thereafter.

While achieving high per hectare yields (about twice the world average), cotton producers in the People's Republic of China (hereafter "China") – particularly in its eastern provinces – utilise relatively labour-intensive technologies. Fragmented land holdings limit the ability of cotton growers in the eastern provinces to adopt mechanised production, while demographic trends indicate continued declines in rural population, with rising wages and labour contributing to a high share of production costs. China's steadily rising wages have constrained profits for cotton growers. Mechanisation has been more widespread among the larger producing units in China's Xinjiang province, where per hectare yields are the highest of any province. In 2014, China began to reform its cotton policy, starting with a switch from price to income support and a reduction of support to farmers in the eastern provinces. Against this background yield growth is expected to slow down from almost 3% p.a. over the past decade to 1.2% p.a. for the next ten years.

Projections indicate that India will produce 7.1 Mt of cotton by 2026, which is approximately 27% of the projected world output. Indian farmers continue to apply new technologies to increase yield potential. The adoption of genetically modified (GM) cotton in India is part of a shift in practices and technology-use that resulted in more than doubling cotton production between 2003 and the base period. Yields are expected to grow by 2.3% p.a. during 2017-2026, which is above the annual growth rate during 2007-16. With the cotton area stabilised, India accounts for the largest share of the expected gain in world production during the coming ten years (Figure 3.8.3).

Pakistan accounts for the fourth largest share of global production. Projections indicate that Pakistan will produce 2.45 Mt of cotton by 2026. Similarly to India, Pakistan is expected to realise faster growth in the cotton area than in other crops. Production is projected to increase with annual growth rates of about 3%. However, in absolute terms, production in Pakistan is lower than in India as Pakistan has lagged considerably behind India in the adoption of GM cotton. African countries – mainly Benin, Mali and Burkina Faso – are expected to keep their share of 7% of world production, with a growth of 14% over the outlook period, equating to an expected production of over 1.0 Mt by 2026. It is worth noting that the growth reported in Burkina Faso is taking place simultaneously with a move from GM cotton back to non-GM. In addition, Uzbekistan and Turkmenistan register annual production growth rates of around 1.7% during the projection period.
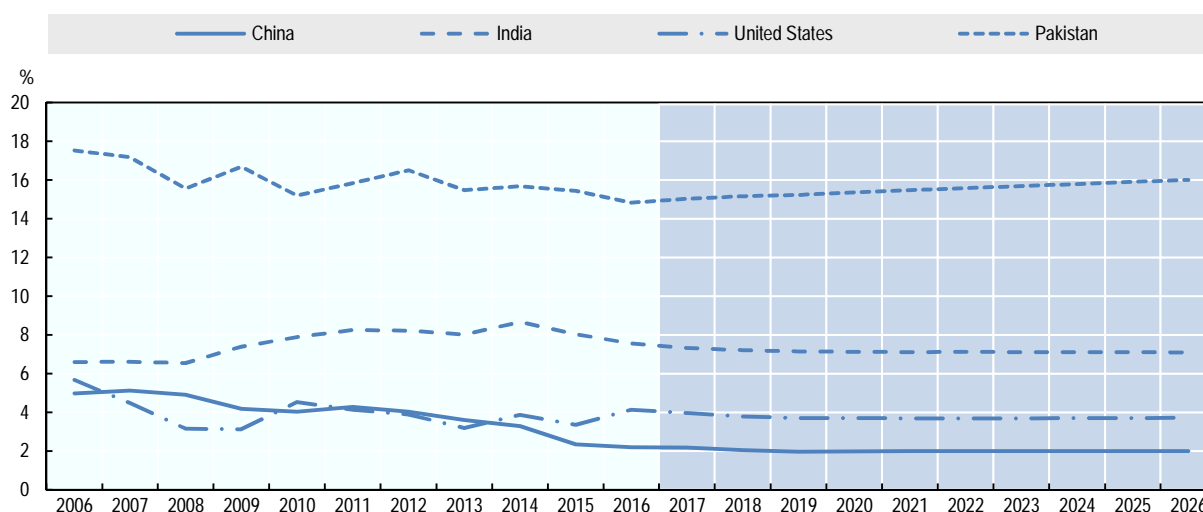
Figure 3.8.2. World cotton production
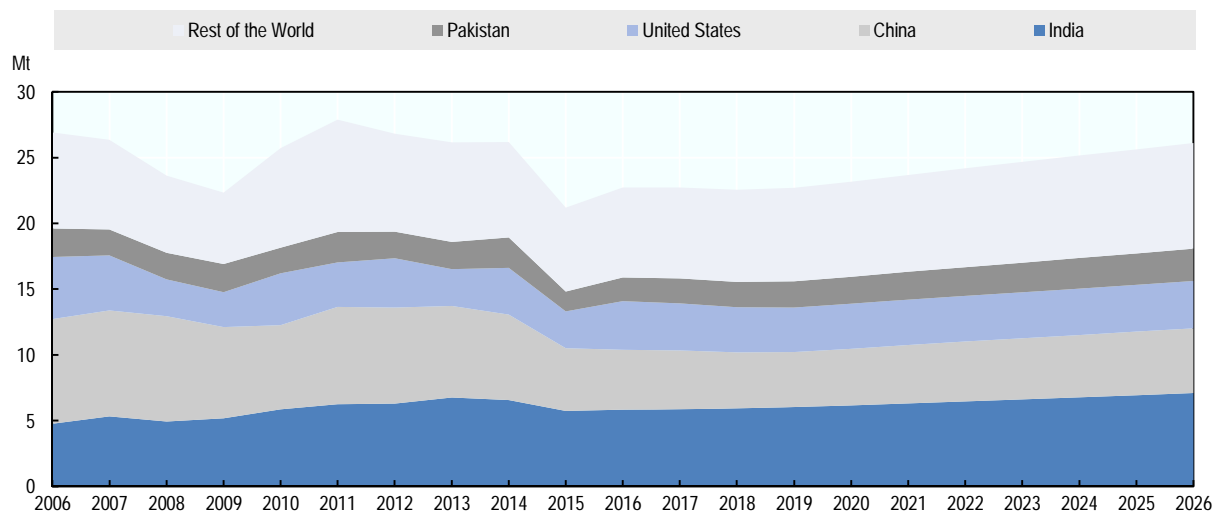
Source: OECD/FAO (2017), "OECD-FAO Agricultural Outlook", *OECD Agriculture statistics* (database), http://dx.doi.org/10.1787/agr-data-en.

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Figure 3.8.3. Area harvested share of cotton in major countries

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Consumption

Total demand for cotton, which amounts to 24 Mt in the base period, is expected to reach 26 Mt in 2026. This figure is very close to the 2007 historical consumption record and corresponds to a 0.9% p.a. growth over the next ten years. However, this increase is not uniform across the period of analysis. From 2017-2021 global consumption is expected to grow at 0.25% p.a., while it is estimated to grow at 1.4% p.a. thereafter mainly driven by economic and demographic growth. While consumption grows faster than population in the next ten years, consumption on a per capita basis in 2026 is expected to remain below the peaks reached during 2005-07 and 2010 (Figure 3.8.4).

The main driver behind the projected low consumption growth for the next ten years, when compared to the last decade, is the competition from man-made fibres. Lower prices of man-made fibre, driven by lower oil prices, exert downward pressure on cotton markets. In addition, cotton consumption has been disrupted by global economic volatility, by unprecedented price shocks, and by a change in the Chinese economic policy. The share of cotton in global textile fibre consumption has been declining for decades as textile manufacturers increasingly substitute man-made fibres for cotton. Moreover, growth of global textile fibre consumption is driven by developing countries, where the share of man-made fibre is rising in part due to the growing industrial presence in these economies. The *Outlook* assumes rising oil prices and as a consequence the increase of the comparative advantage in the man-made fibre industry is expected to slow down.

Consumption in China is expected to fall to 6.2 Mt following the downward trend started in 2010, while India is expected to become the world's largest user of raw cotton (6.7 Mt) in 2026, increasing its share in total world consumption from 22% in the base period to 26%. Mill consumption in Pakistan is estimated to increase by 5% over the projection period, while Viet Nam is projected to keep its consumption at high levels. Chinese direct investment in mills might not continue in these countries as local prices are slowly moving closer to global levels. Higher cotton mill consumption by 2026 is also foreseen for Bangladesh, Indonesia, Turkey and other small Asian countries (mainly Turkmenistan and Uzbekistan).

By the end of the projection period, China is expected to lose its position as the largest consumer of cotton fibre – a position it has maintained since the 1960s – to India, continuing a shift underway since 2007. The price of cotton in China rose substantially in 2010 relative to the world price due to support policies for cotton farmers, and has since remained high. While the reform of China's cotton programme boosts China's share and level of cotton consumption in the outlook period to 2026, China's share of world cotton consumption in 2026 is projected to fall to 24%, from a peak of 41% in 2007.

Figure 3.8.4. World per capita consumption of cotton and world prices
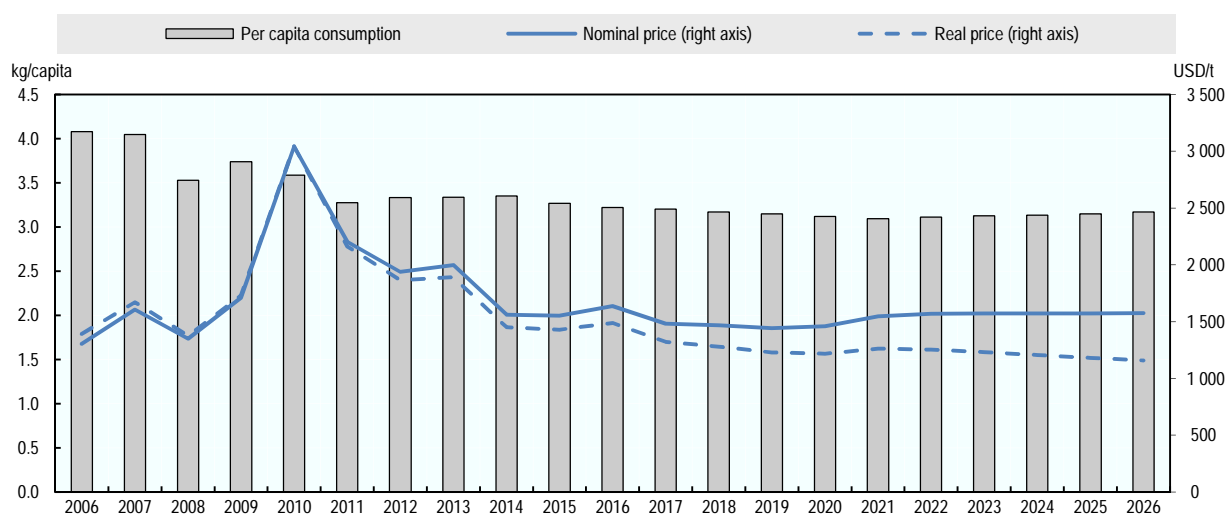
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The fastest growth among major consumers is expected in Bangladesh, Viet Nam and Indonesia, where consumption is expected to grow at 2.7%, 2.5% and 1.3% p.a. respectively, as their textile industries are expected to continue the rapid expansion that began in 2010. While Bangladesh had been widely expected to reduce its textile exports after the phase-out of the Multi-Fibre Arrangement (MFA) in 2005, its garment exports and cotton spinning have flourished.

Trade

Global cotton trade is expected to follow the ongoing transformations of the world textile industry which began several years ago, mainly driven by rising labour costs, cotton support prices, and incentives to obtain value-added in the cotton supply chain. As a consequence, China is projected to lose its position as the world's largest cotton mill consumer, while trade in cotton yarns and fabrics should be replacing some trade in (raw) cotton. Thus, while it is projected that world total cotton trade will reach 8.5 Mt in 2026, about 12% higher than during the base period, this would be considerably below 9.6 Mt, the average level for 2011-13. The transition period would also induce changes in cotton trade flows resulting in new importers and exporters on the world market.

The leading exporter throughout the outlook period is the United States, while Brazil is expected to become the world's second largest exporter followed by Australia and India (Figure 3.8.5). Australia is expected to increase exports by over 2.5% annually to reach 1 Mt by 2026, while the export projections for Brazil suggest a slowdown in growth reaching 1.1 Mt. Over the past few years, given its surge in productivity and production, India has become a major player on the world cotton market, accounting for 13% of the world's cotton exports during the base period. By 2026, this share is assumed to decrease by 36% to 0.64 Mt, accounting for 8% of world exports. This is mainly due to India's shift towards exporting more processed textiles.

Sub-Saharan African countries continue to play a major role as cotton exporters on the world market. It is expected that their share in world trade will grow to 18% with exports reaching 1.5 Mt by 2026. However, trade in the region has been volatile in the past few decades. Cotton mill consumption is limited throughout Sub-Saharan Africa and many countries export virtually all their production. With the increases in productivity, in particular through the adoption of bio-tech cotton in this region, production and exports are projected to be 17% and23% higher respectively in 2026 compared to the base period.

The transition in trade also induces changes in the composition of importers in the world cotton economy. During 2015 China has lost its position as the world's largest importer, held since its accession to the World Trade Organization (WTO) in 2001.Over the outlook period its share of world cotton imports will shrink from 17% to about 15% by 2026. The projected 1.3 Mt of cotton imports entering China in 2026 would be far smaller than the peak imports of about 5 Mt in 2011. In contrast, Bangladesh and Viet Nam are projected to be the leading importers. By 2026, they are expected to increase their imports by 41% and 42%, accounting together for over 36% of world trade.

Figure 3.8.5. Cotton trade concentration
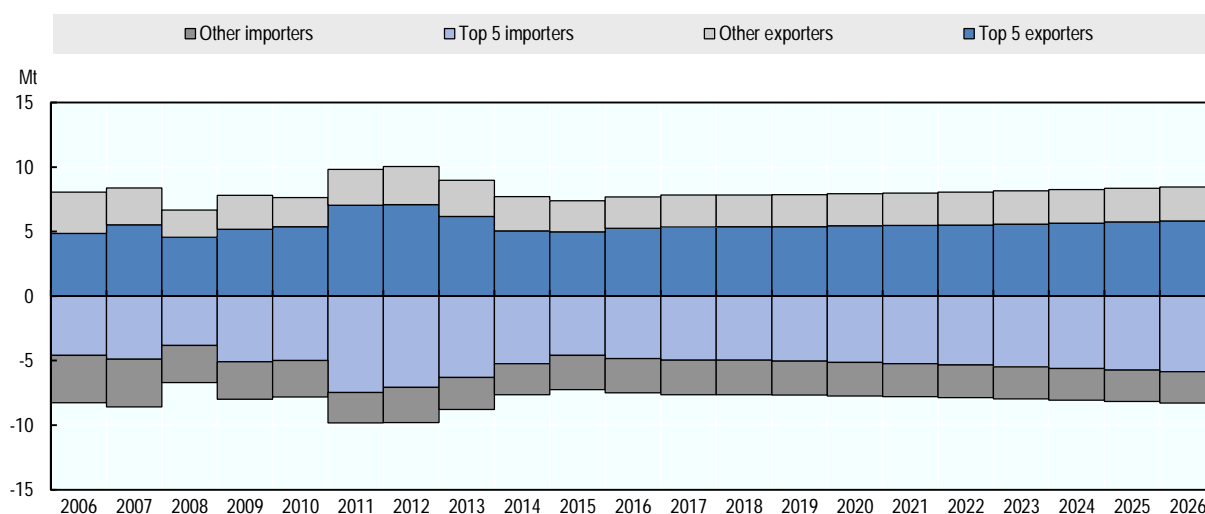
Note: Top 5 importers (2007-2016): Bangladesh, China, India, Turkey, Viet Nam. Top 5 exporters (2007-2016): Australia, Brazil, European Union, India, and the United States.
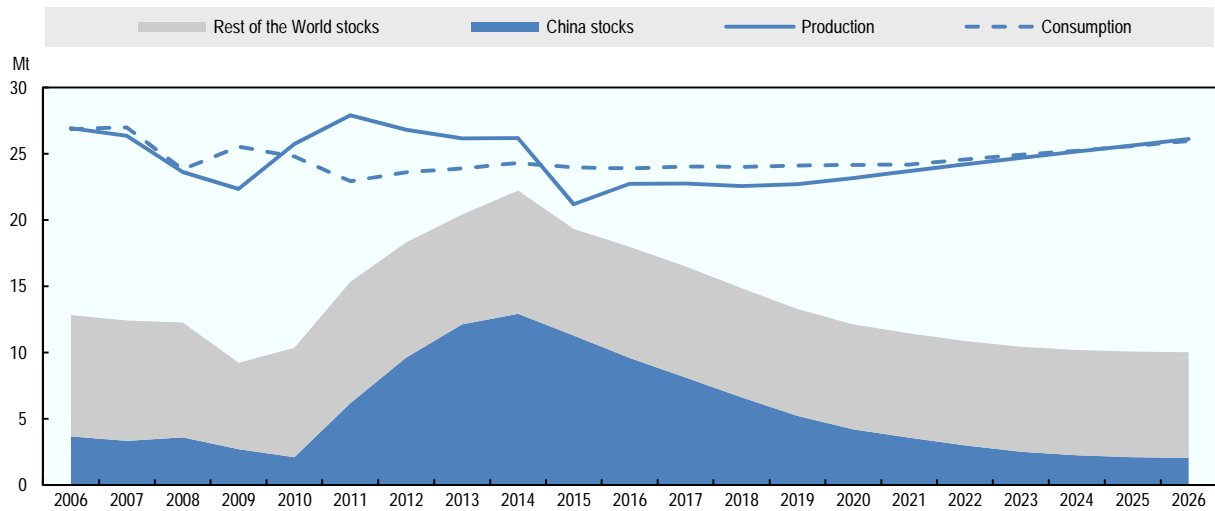*Source:* OECD/FAO (2017), "OECD-FAO Agricultural Outlook", *OECD Agriculture statistics* (database), http://dx.doi.org/10.1787/agr-data-en.

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Main issues and uncertainties

While the medium-term prospects for the world cotton market are stable, there will be potential short-term volatilities in demand, supply and prices that may result in significant short-term uncertainties in the current outlook.

Demand for raw cotton is derived from demand for textiles and clothing, which are very sensitive to changes in economic growth. In the scenario of a sudden slow-down in the global economy, global consumption of textiles and clothing would experience a sharp drop, which may also disturb market stability. Given the very high level of cotton stocks, a sharp decline in cotton demand would result in significant pressure on the price of cotton. As an example, the 2008-09 financial crisis, which caused world per capita consumption to fall by over 10%, resulted in a 40% reduction of cotton prices.

China's cotton policies are another important source of uncertainty. As the world's largest producer, consumer and importer during the base period, China's policy developments have important impacts on the world market. During 2011-13, China provided substantially more support to its cotton farmers than previously and did so primarily through government procurements at very high cotton prices. Consequently, 12 Mt of stock were built up in three years (Figure 3.8.6). When the government reformed its cotton policies from price support through state reserves purchases to income support in 2014, its cotton production dropped more than 15% in the next season. Given very high stock levels, and despite the fact that exports of textiles and clothing are slowly picking up, China may take further steps to reform its policies for cotton. This would have important implications for the world market, including a reduction of the cotton spinning sector in Viet Nam. In the past, China invested in this industry in Viet Nam because of its competitive pricing advantage. More recently, China's cotton stocks policy, has contributed towards a closer correspondence between the local prices in China and global market prices. For this reason the FDI of China in Viet Nam has been reduced.

Figure 3.8.6. World cotton production, consumption and stocks

Prospects for productivity gains around the world are another uncertainty, particularly in India where producers adopted GM crops and updated their management practices which increased productivity. However, yields remain far below those of many other cotton producers. The adoption of GM crops has been associated with an increase in total factor productivity in cotton in China, leading to significantly higher yields. In the United States, GM adoption and boll weevil eradication have reduced the cost of growing cotton, and in Australia the adoption of GM varieties specifically targeted to local production conditions has also increased productivity. It is likely these factors account for some of the downward movement of cotton prices relative to other commodity prices since 2000. Many countries have been more cautious in their approach to GM adoption. No trade restrictions have yet been applied to cotton fibre, yarn, or other textile products made with GM cotton, but GM adoption has nonetheless been slow in many countries. The recent example of Burkina Faso, where farmers realised that the applied GM varieties had shorter fibres and thus lead to reduced market revenues wherefore they went back to GM free varieties, shows however another level of uncertainty regarding the GM adoption. Future productivity growth in countries with low yields will in general be determined by their adoption of new technologies, including mechanisation and increased input use.

From:

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