Cotton:
Review of the World Situation

ICAC **International Cotton Advisory Committee**

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Summary of the Outlook for Cotton

Falling Consumption and Rising Stock Levels

Global consumption for 2019/20 is expected to be 23 million tonnes, an 11.3% decrease from the previous season. With global production expected for 2019/20 at 26.2 million tonnes, a 2% increase from the previous season, ending stock levels are expected to increase to 21.75 million tonnes, the highest level in the past five seasons. Consumption and trade have decreased in the wake of the containment measures to control the Covid-19 pandemic and all major consuming countries have been impacted by the retail losses that have led to decreased orders as well as the closure of mills to reduce the spread of Covid-19. Consumption in China, the world's leading country for mill-use, is expected to fall by 12% to 7.25 million tonnes from the previous season. With lower international cotton prices and as trade negotiation with the US move forward, China's consumption and import estimate have increased month to month, with imports currently estimated at 1.9 million tonnes for 2019/20 as manufacturing activity begins to resume and to refresh reserve stocks.

Consumption in India is expected to fall by 12% to 4.75 million tonnes. Stocks in India are estimated at 2.8 million tonnes, a historic high. With high minimum support prices, the CCI has accumulated a high level of stocks, putting downward pressure on domestic and international prices. With consumption slowing across the globe, the continued closure of mills and the reduction of the labour force, domestic mill-use has decreased to the lowest level in seven seasons. An increase in exports is anticipated as the CCI seeks export opportunities in nearby manufacturing countries.

Consumption decreases for 2019/20 are expected across the globe with losses concentrated in Asia and Southeast Asia. Consumption is expected to fall by 7% in Pakistan to 2.2 million tonnes, by 8% in Turkey to 1.4 million tonnes, by 8% in Vietnam to 1.4 million tonnes and by 25% in Bangladesh to 1.2 million tonnes.

Consumption in the United States is expected to fall to 580,000 tonnes in 2019/20. Ending stock level in the United States is expected to be 1.9 million tonnes by the end of the 2019/20 season as exports are estimated to fall to 3 million tonnes, an 8% decrease from the previous season. Agricultural support policies for cotton continue and the 2020/21 crop is currently projected at 4.25 million tonnes on 4.6 million hectares, a 2% contraction in planted area. Despite low international prices, but with a possible trade deal with China, the United States is expected to export 3 million tonnes in 2020/21.

Consumption in Brazil is expected to fall by 11% to 650,000 tonnes for the 2019/20 season. Brazil has exported 1.75 million tonnes through April and will remain the second largest exporter behind the US with an expected 1.82 million tonnes exported by the end of the season.

Global trade is expected to fall to 8.34 million tonnes in 2019/20, a 9.6% decrease from the previous season. Recovery for the coming 2020/21 season is currently expected to be modest under the current IMF projections for economic recovery. In order to recover to the consumption levels of the 2018/19 season at 26 million tonnes, consumption growth would need to be over 12%. The ICAC's current consumption projection for 2020/21 is at 23.75 million tonnes, a 3% increase from this season. Prices remain under pressure from the high stock levels, low consumption levels and high production levels for the 2020/21 season.

Prices

The Secretariat's current price projection for the year-end 2019/20 average of the A Index has been revised to 72.8 cents per pound this month. The price projection for the year-end 2020/21 average of the A Index is 58.8 cents per pound this month.
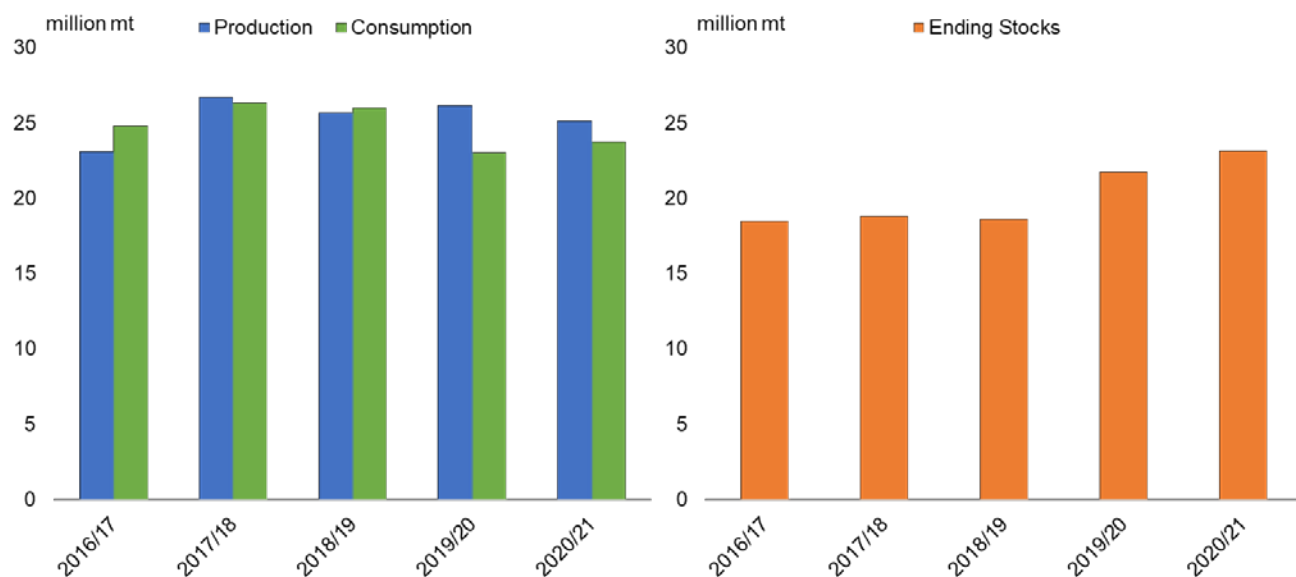
Falling Consumption Amidst Rising Production and Ending Stocks

Overview of Turkey's Cotton Sector

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The data presented in this article were current as of May 2020.

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Introduction

Turkey, with its unique strategic location at the crossroads of the Balkans, Caucasus, Middle East, and eastern Mediterranean, is a bridge between Europe and Asia. Thus, investing in Turkey means not only reaping the benefits of being part of a dynamic and promising market economy but also having access to a consumer base of approximately 1.5 billion people whose total Gross Domestic Product (GDP) make up more than 25 billion dollars. Flying 4 hours from Turkey, it is possible to reach Europe, Middle East, North Africa, Central Asia or Russia and Caucasus. The economy of Turkey is an emerging market economy as defined by the International Monetary Fund. Moreover, in accordance with World Bank classification of economies, Turkey is an upper middle-income country. In 2018, Turkey ranked as the 19th largest economy in the world and 7th largest in Europe (World Bank, 2020). Turkey's real GDP growth was 2.8% in 2018. Unfortunately, the Turkish economy were estimated to record zero percent growth in 2019 due to continued financial pressures together with depreciation in Turkish Lira, which affects inflation upwardly. However, with the recovery of growth in the third and fourth quarter of 2019, the growth rate realized at 0.9%. Accordingly, the growth forecast for 2020 is 0.5 %, which was estimated to be over 3% in the pre-COVID-19 period. The country is one of the world's leading producers of agricultural products; textiles; motor vehicles, transportation equipment; construction materials; consumer electronics and home appliances. The Turkish textile and ready-to-wear industry is the seventh largest supplier in the world, and the second largest supplier to the EU. Cotton is the essential raw material for the country's textile and ready-to-wear industry and Turkey is among the world's crucial cotton growers.

Cotton in Turkey as an Output of Agriculture

As a developing country, Turkey ranks as the 19th largest economy in the world with a GDP of $771 billion whilst having the 11th largest agricultural economy in the world. The agricultural sector remains as an essential contributor to Turkey's overall economy. While the share of agriculture was 42,8% of GDP when Republic of Turkey was established in 1923, it has decreased over time (39% in 1970, 26.1% in 1980, 17.4% in 1990, 10% in 2000, 9.8% in 2003, 6.7 % in 2013) to 5.8% in 2018, due to significant increases in industrial production, construction and services sectors. According to the Turkish Statistics Institute, the percentage of people actively engaged in agriculture comprises 16.4 % of the total labour force as of March 2020. Enterprise size is relatively small with small family farms are major contributors of crops and livestock production and household members constitute most of the labour requirements of the farms. The most important agricultural commodities are cereals, oil seeds, table olives, olive oil, cotton, various sorts of dried fruit, hazelnuts, as well as various kinds of vegetables. Amongst them, cotton, one of the main agricultural income supply for many farmers in Turkey, has been important in part for its significant role to the expansion of country's textiles and ready wear industries.

Although cotton has been cultivated since the first century BCE in the area of current day Turkey, formal cotton breeding studies began with the establishment of Republic of Turkey in 1923, which led to increase in production. In the early years

of the Republic, cotton production was around 55 thousand tonnes. In the 1990s, production reached 650 thousand tonnes in the 1990s and to more than 900 thousand tonnes more recently (977,000 tonnes in 2018/2019). Along with production, yield has moved upward, increasing from 396 kg/ha in 1925–1930 to a record high of 1883 kg/ha in 2018/2019.[1] The yield could be even higher in 2018/2019; however, due to heavy rainfalls during the early season that postponed the planting process and intensified the humidity of the soil, it was lower than expected, forcing farmers to do a second planting.[2] Nevertheless, in 2018/2019, Turkey was ranked as the sixth most important producer in the world surpassing Uzbekistan, Australia and Mexico. Turkey produces approximately 6% of the world's cotton, which is primarily marketed to mills in Turkey and the remainder is traded on a spot basis at the exchange in Izmir, a city in Turkey (Figure 1).
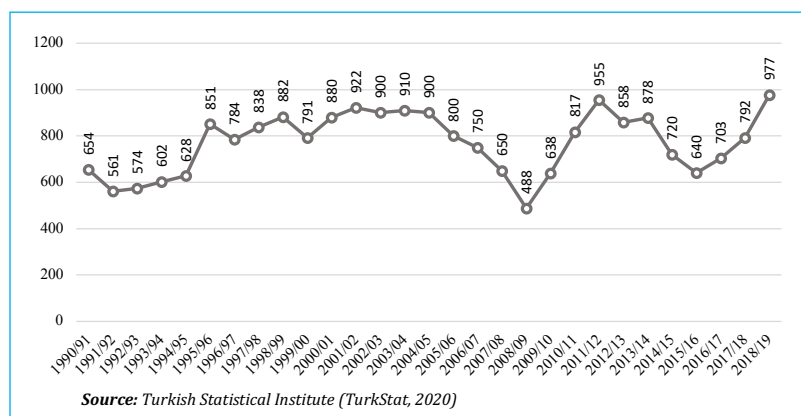

Source: Turkish Statistical Institute (TurkStat, 2019)

Figure 2. Share of Cotton Producing Regions in Turkey

Total cotton harvested area was 518,000 hectares for the crop year 2018/19. Turkish cotton planting area for crop year 2019/20 is expected to be about 478,000 hectares.

High input cost in cotton production not only results in decreases in the planted area but also negatively affects the competitiveness of the producer. Moreover, the premium support that Ministry of Agriculture and Forestry (MAF) provides to the farmers in Turkey has required them to make alternations in planted product which in return have led to fewer plantings of cotton in order to be supported by the MAF.

Decreasing the cost of production is the ultimate target towards the goal of sustainable cotton production in Turkey. To that end, both the cotton research facilities of the MAF and the private sector conduct research and development projects in order to improve the sustainability of cotton production techniques that cause no harm to the field and environmental resources. Production techniques, such as ridge planting, cultivation of a secondary crop after cotton and consumption of less water in cotton cultivation are among the practices that have been introduced following research and development.

Source: Turkish Statistical Institute (TurkStat, 2020)

Figure 1. Production (1000 tonnes)

Currently, almost all the cotton grown in Turkey is Gossypium Hirsutum L., "upland" type, whose lint characteristics have proven to be suitable to most applications. In Turkey, 100% of the cotton is produced from GMO (genetically modified organism)-free seeds. In recent years, Turkey has started to export GMO-free cotton seeds to various countries, including Azerbaijan, Greece, Spain, Syria, Kazakhstan, Iran, Tajikistan, and Ethiopia. Therefore, Turkey exported around 3,000 tonnes of cottonseed, worth $7.3 million in 2019.

Most of Turkey's cotton is planted between early April and late May and harvested from September through November. As you can see in Figure 2, cotton is grown in three main areas, namely, South-eastern Anatolia, Cukurova and the Aegean region. Small amounts of cotton are also produced around Antalya (Figure 2).

Cotton in Turkey as an Input to the Textile Industry

Owing to the ongoing developments in the textile and clothing industry over the last three decades, cotton has become highly critical input for the textile and clothing production of Turkey. Despite reaching to high record of 977,000 tonnes in the crop year of 2018/2019, cotton lint production has been insufficient to meet the demand of the domestic textile and clothing industry. As a result,

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1) Basal et al., 2019.
2) Turkey Country Report in 78th Plenary Meeting of the ICAC, 2019.

Turkey remains a significant cotton importer in the world with imports averaging 900,000 – 950,000 tonnes per year. For the 2018/2019 season, cotton consumption was 1.4 million tonnes. Compared to the previous season, domestic cotton consumption experienced a 0.5 % decrease. Moreover, in the long term the trend will likely continue to be positive with Turkey continuing to be a leading exporter of textile and clothing products. A growing youth population, immigration to urban areas and the rapid growth in number of shopping malls with clothing stores has significantly increased the total volume of textile products sold in the domestic market in recent years.

Source: Republic of Turkey, Ministry of Trade (2020)

Figure 3. Share of Cotton Suppliers (%)

Textile and clothing are among the largest and best-performing industries of the Turkish economy, accounting for almost 6% of the country's GDP. There are some 60,000 textile and clothing companies operating in the country and they employ 2 million people, corresponding to a 16% share of total employment. The Turkish clothing and textiles industry exported 65% of its production, accounting for nearly 14.7% of Turkey's total exports in 2019. In 2019, ready-to-wear items exports were $15.5 billion and textile exports totalled $9.8 billion. Overall, the Turkish textile and clothing industry covered approximately one sixth ($29.5 billion) of total export earnings ($171.5 billion) of Turkey.

Turkish textile and clothing exporters have the advantage of faster order response rates and higher quality products compared to many of their competitors. As can be deduced from the figures, there is a deficit in cotton production and consumption in Turkey. Hence, the textile industry is partially dependent on imported cotton. With the domestic cotton output not meeting the domestic demand, Turkey is the sixth largest cotton importer after China, Bangladesh, Vietnam, Indonesia and Pakistan. Turkey imported 761,000 tonnes in 2018/19, a 13% decrease from the previous season. The US was the leading cotton supplier of Turkey with a 45% share, followed by Brazil with 11% and Greece with 9%. Since textile mill use continues to grow in Turkey, it is forecasted that consumption will increase in the coming season. However, it is inevitable to say that the coronavirus pandemic may affect this increase downwardly. Accordingly, Turkey is generally one of the five leading importing countries (Figure 3).

Cotton production in Turkey mainly depends on changes on cost of production, price of cotton, price of substitute agricultural products, current planting and harvesting technics, technological improvements regarding both planting and harvesting processes, pest management, policies regarding cotton at the national and international
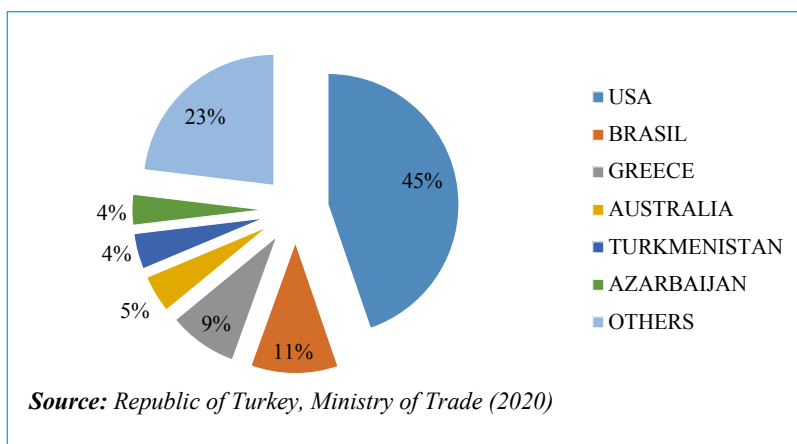
level and most importantly climate. Changes in climate not only affect cotton production but also pose a threat to man-made agricultural areas in general. Countries in the middle latitudes are considered to be sensitive to long and short-term climate changes on Earth. Due to its location, between the latitudes 36° and 42° north, Turkey is also considered as one of the vulnerable regions. In recent studies, it is argued that the South-eastern Region of Anatolia which has 3.2 million hectares out of 7.5 million hectares of land suitable for agricultural activities might be affected by the effects of climate change.[3] Climate change is a matter that requires global action for the long-term solutions. However, at least, in order to compensate for any reduction in natural rainfall, there should be investment on irrigation such as investment on construction of new dams. Otherwise, soil fertility and product range change will be have similar results to what had been experienced earlier in the South-eastern Anatolia region.

Policies in Cotton and Textile Industry

Turkey has had a fully liberalized cotton trading market since the 1990s, with no quantitative restrictions on exports, nor on imports. There is no duty or levy charged to exports or imports of cotton. Cotton is freely traded in the market and prices are determined by both domestic and international supply and demand conditions, reflected by the Cotlook A indices, New York ICE futures contract prices, and other related exchanges, such as the Indian and China Forward or Futures quotations. Cotton imports are subject to zero import tax. However, since April 2016, US cotton is subject to a 3% antidumping duty. Nonetheless, despite the 3% duty, US cotton remains the leading import destination for Turkey's cotton demand.

Currently Turkey is a net importer of cotton lint. Even if it is not a major exporting country in the world, Turkey's

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3) Avcı Kaymakcı, S., 2019.

cotton exports were about 104 thousand tonnes for 2018/2019. Bangladesh, Italy and Indonesia were the leading foreign destinations for Turkish cotton. Turkey is known and preferred for its GMO-free cotton distinction. There is an on-going debate whether GMO products pose a risk to human health, environment, biodiversity and ecological balance. Considering the consumers who agree with the risks of GMO products, and all other consumers as well, Turkey differentiates its cotton with its non-GMO distinction in the international market. National Cotton Council (UPK) and İzmir Commodity Exchange have launched the "GMO-Free Turkish Cotton" project. The purpose of the project is promoting GMO-Free Turkish Cotton and boosting the brand value of textile and clothing items that are produced from Turkish cotton. In the framework of this project, starting with the cotton bales, all cotton, textile and apparel products who use GMO-Free Turkish Cotton will be labelled as "GMO-Free", which requires several quality standards and will be certified by international certification organizations.

In addition, "the Better Cotton Initiative (BCI)" has enjoyed significant popularity in the recent years all around Turkey. Six years ago, Turkey became part of the BCI, which refers to cotton produced with sustainable farming practices such as using less chemicals and water during production. Although the textile and clothing industry is improving its environmental and social performance, the percentage of sustainable cotton in the total global cotton supply needs to be increased. Therefore, to share the global burden, Turkey built up an alliance with the BCI in 2011 and the Society of Good Cotton Agricultural Practices (IPUD), the national body works in cooperation with farmers and producers to promote non-polluting, economically viable and safe and healthful cotton for all stakeholders and signed a Strategic Partnership Agreement with the BCI in 2014. In alliance with the Agreement, cotton production complying with the BCI standard is being produced in cotton producing areas of Turkey; namely in the Aegean, Mediterranean, and the South East. In these areas, agricultural practices are constantly being improved by equipping the farmer with the necessary knowledge, skills and tools with project-based tasks that include data collection and monitoring as well. Hence, cotton production is maintained in accordance with the internationally recognized standards of sustainability.

The main initiative that increased and will continue to increase cotton-planting area in Turkey is the progress of the South-eastern Anatolian Project (GAP). In 1989, the GAP Master Plan envisaged the construction of 22 dams and 19 power plants and irrigation schemes on an area extending over 1.7 million hectares. Over the years, the Government's commitment to the project had continued by allocating large budgets annually to the GAP project to finalize the construction of dams, irrigation channels, and other infrastructure in the Southeast Anatolian region. So far 19 dams have been completed, 13 of which producing hydraulic energy and more than 30% of anticipated irrigation schemes now operating to meet the needs of farmers. Indeed, the GAP project still have around 7% share in the total national investments of Turkey and plays a critical role on mitigating the risks of climate change that will further affect agricultural sector including cotton.

Being a leading cotton consuming country, Turkey is highly sensitive to trends in the global textile industry. Particularly, any changes in demand by European countries, mainly the European Union that has an approximately 70% share of the total Turkish textile and ready-to-wear export. Turkey's textile and ready-to-wear export to the EU was $13.11 million in 2009, and it reached $16.23 million in 2019. The growth in exports primarily stems from the fact that many Turkish textile and clothing producers have moved on to new designs and fashion styles targeting high-end customers. Indeed, considering competitors like China and other Asian textile producing countries, labour costs in Turkey being above average; the rivalry for EU market has focused on production of fashion in a flexible and fast manner (Figure 4).

Source: *Republic of Turkey, Ministry of Trade (2020)*

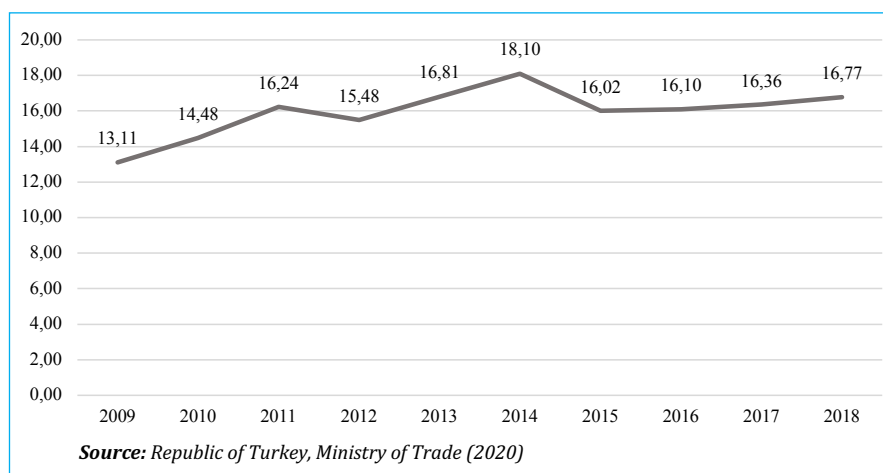Figure 4. Turkey's Textile and Ready-to-Wear Export to EU 28 (million dollars)

There have been growth slowdowns in EU economy in the years 2009, 2012, 2016 and 2018. Comparing the growth slowdowns with the trends in the textile and clothing export from Turkey to EU at the same and following years, it seems that the growth slowdowns have not had a devastating effect in Turkey's export to EU. Actually, it

is possible to say that there were still increase in export volume while the growth was downward in EU. However, in order to maintain and increase market share in Europe, Turkey needs to move up in the value chain and should export sophisticated and designed products to branded (Figure 5).
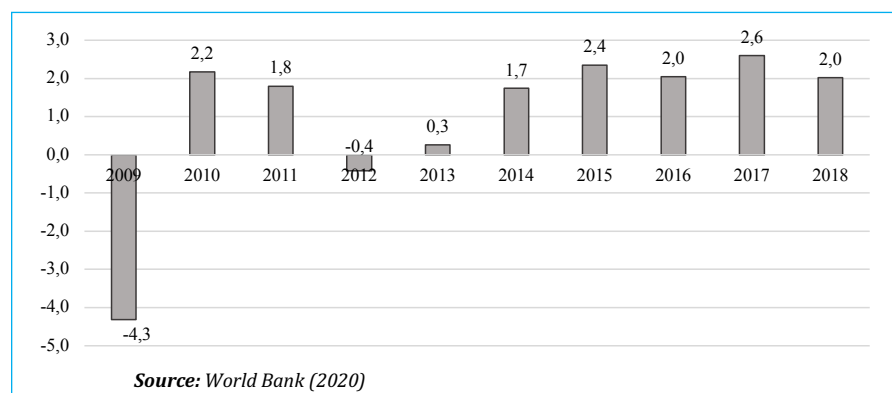

Figure 5. European Union GDP Growth Annual (%)

Despite not being influenced with the recent growth trends, the future of Turkish textile and clothing export to the EU faced with a short term shrinkage due to the spread of the novel coronavirus which has led to more than 60% decrease in the textile and clothing export of Turkey to EU in April 2020 compared to same period of previous year. Currently, in order to mitigate the effects of this pandemic, Turkey has made direct appeals to fashion brands to avoid cancellations and to work out payment plans. Obviously, with the recovery from the pandemic, the industry will gradually improve. For instance, with recovery from the pandemic in EU, the export volume from Turkey to EU is also going under recovery. Importantly, this outbreak will make all business partners reconsider their supply chain practices and think about what it means to produce with care and responsibility and not only aimed at quantity and price. It is likely that bio-antibacterial and environmentally safe products will take a competitive advantage more than ever.

Cotton Research and Development

Despite the lowest average amount of pesticide use per hectare and still without introducing biotech cotton, Turkey has achieved higher yields compared to many other important producers. A well-organized research and development framework has been a major contributor to this success. Founded in 1934, Cotton Research Institute (CRI), maintain research and development projects to meet the quality and yield targets of Turkish Cotton. The CRI collects and evaluates data about cotton in the field, participates in national studies, coordinates cotton research projects, organizes training programs and carries out socio-economic research studies. The CRI takes a role in developing laboratory and infrastructure facilities to execute research projects. The main purpose of the CRI is to improve the yield and quality of cotton through breeding genetics, development of new fibre and seeds that hold tolerance against climate change, improvements in cultivation techniques and development of new cotton genotypes that are tolerant to biotic and abiotic stress factors.

The National Cotton Council of Turkey (UPK) is the national institution that gathers the research and education institutions and vocational chambers related to cotton under one roof, to produce solutions based on the consensus of all stakeholders of cotton since 2007. The UPK uses its executive power and monitoring tools to ensure that if the solutions to cotton related problems are implemented properly. Additionally, the Cotton Research and Application Centre (CRAC), Ministry of Agriculture and Forestry, Ministry of Industry and Technology, The Scientific and Technological Research Council of Turkey (TUBITAK), International Agricultural Research and Training Centre, Diyarbakir Plant Protection Research Institute, Biological Control Research Institute, and various private sector initiatives are among the other institutions that support improvements in the cotton production, conduct studies and provide funds for the training of both researchers and farmers.

Conclusion

The Turkish textile and apparel industry, with its high level of employment rates, share of GDP, scale of current investments and large amount of exports is the centre of the Turkish economy. On the global scale, thanks to its fast fashion production and retailing capacity, Turkey competes with countries like China, India, Pakistan, Bangladesh and Vietnam all of which have advantages with lower input costs. Obviously, Turkey is a traditional cotton producer and uses this advantage in the textile and apparel sector as well. Despite currently being compatible with global standards and demands, the future bears some unfavourable conditions for both the textile and cotton industry. High input costs, contaminations, unpredictable climate conditions due to climate change, and poor irrigation management are among the major challenges to cotton production. Yet, the government funded GAP offers a remarkable opportunity to increase cotton production. With the finalization of the GAP, cotton production area in south-eastern region of Turkey has the potential of reaching one million hectares. On the other hand, cheaper

imported inputs for mill use both threaten the demand for cotton and the domestic textile sector. Despite these challenges, it is not inevitable for both industries to be affected by price competition. To be able to compensate price competition and for further healthy growth, cotton and textile manufacturing should internalize innovative techniques and move up in the global value chains by focusing more on higher value activities namely product design, R&D, marketing and after sales services. Only then it will be possible to have higher unit prices in both industries. Additionally, The Turkish Government's 'TURQUALITY®' project, which is executed by the Ministry of Trade, is also expected to help reinforce the textile and apparel market in the country. The project is intended to assist companies strategically positioning their products in the international markets. The future is quite promising in view of the collaboration between government and industry and the previous accomplishments of the two intertwined sectors.

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Recent Developments in Cotton Production in Zimbabwe

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Washington Mubvekeri: Head of Cotton Research Institute, a one stop public sector institution handling cotton agronomy, breeding, entomology, pathology research and technology transfer in Zimbabwe. He has deep interest in ecological agronomy

About Zimbabwe and Its Cotton Producing Region

Zimbabwe is a landlocked southern African country that lies between the equator and the Tropic of Capricorn. Sandwiched between the Zambezi River to the north and the Limpopo River to the south, the altitude ranges from 162 metres at the confluence of Runde and Save Rivers to 2592 metres at the peak of Mount Nyanga. The climate of the country is subtropical, with the rainy season beginning in November and extending to March of the following year. Zimbabwe straddles a high inland plateau. The highest area of the plateau is found in the centre of the country and is called the Highveld, which covers slightly more than a quarter of the country. Although rainfall is higher than other areas of plateau, temperatures are generally low in most areas which renders much of the Highveld unsuitable for cotton growing.

Figure 1. Zimbabwe Cotton Growing Areas

In Zimbabwe, cotton is mainly grown in the Lowveld and the Middleveld. The two plateau regions range from between 600 and 1200 metres above sea level. These areas are hotter than the Highveld and are characteristically drier as well.
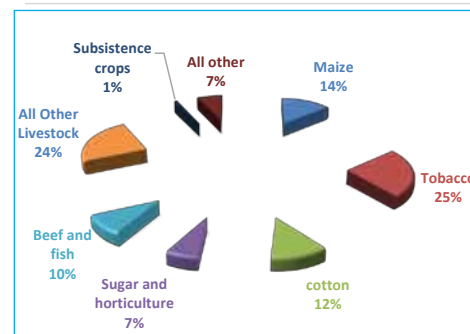
Figure 2. Contribution of Cotton to Gross Domestic Product

Agriculture is critical for food and nutrition security, employment, and economic development. Cotton is grown by and is a source of income for 200,000 to 350,000 smallholder farmers. Generally, the cotton sector of the economy supports over half a million people, which means sustainable cotton production offers invaluable socio-economic benefits. Among crops, cotton accounts for 12% of agriculture's contribution to Zimbabwe's gross domestic product — the third largest contributor after maize and tobacco.

How Cotton Production Relates to the National Development Agenda

Cotton has the potential to contribute immeasurably to the socio-economic transformation of Zimbabwe. In 2014, Zimbabwe launched the Cotton to Clothing (C_2C) Strategy with the goal of promoting the revival of the cotton industry by increasing national cotton production to 450,000 metric tonnes (seed cotton) and yields as high as 1500kg/ha (seed cotton). The increase in national cotton production would have a multiplier effect on both upstream and downstream levels of the cotton value chain. Since 2018, Zimbabwe has envisioned

becoming a prosperous and empowered upper-middle-income society by 2030. Cotton production is potentially an enterprise that, if well supported, can raise both income levels and the quality of life for the rural population of Zimbabwe because cotton is a cash crop. Anchoring efforts toward the realisation of 'Vision 2030' is the Transitional Stabilisation Programme (TSP) that runs from October 2018 to December 2020. The TSP seeks, among other things, to improve farmer access to markets. A national Comprehensive Road Rehabilitation Programme is an infrastructure development initiative to improve road networks in cotton growing areas in areas such as Gokwe, Guruve, Mr Darwin, Karoi, Binga, Nkayi and Siabuwa. This will significantly enhance cotton production.

Key Players in Zimbabwe's Cotton Production

The government of Zimbabwe (GoZ) is a major player in cotton research and development (R&D) through its Cotton Research Institute (CRI) and Agricultural Extension Services. The two organisations fall under the Ministry of Lands, Agriculture, Water, Climate, and Rural Resettlement. CRI has, since its establishment in 1925, supported the cotton industry with high-quality locally adapted cotton varieties and appropriate agronomic and entomocidal technologies. The institute's core business can be summarised as follows:

- Cotton variety development.
- Production technologies development.
- Cotton agro-chemicals evaluation and
- Information dissemination.

The Seed Services Institute (SSI) is a GoZ institution that supervises seed production in Zimbabwe. The SSI falls under the DR&SS and is both the Seed Registrar and Seed Inspectorate. The SSI is responsible for administering the Seeds Act [Chapter 19:13] enacted in 1971, Seeds Regulations and Seeds (Certification Scheme) Notice 2000, and Plant Breeders' Act [Chapter 18:16]. The scope of administering the Seed Act includes seed testing and quality control, recognition of varieties and variety protection and field inspections of seed crops. The legislation basically governs production, processing, labelling and marketing of certified seed in Zimbabwe. The purpose of the legislative instrument is to promote production and use of high-quality seed of proven performance for the protection of farmers. The cotton seed industry in Zimbabwe is undoubtedly strong.

Regulations that govern the production and marketing of seed cotton and cotton-based products are administered by the Agricultural Marketing Authority (AMA). AMA is a GoZ parastatal which was established in terms of the Agricultural Marketing Act (CAP 18:24). AMA seeks to increase the production of seed cotton for the textile industry. It ensures soundness and fairness in the marketing of seed cotton.

Cotton production sanitation is enforced by the Plant Quarantine Services Institute. Plant Quarantine Services carries out surveillance of pests of quarantine importance, and pest risk analysis. Plant health inspectors enforce cotton planting and destruction dates to ensure that pests do not spread from one season to another.

The GoZ has become the main cotton production financier. Since the 2015 season, GoZ initiated a free input support scheme for all willing cotton growers. Traditionally the Cotton Ginners Association (CGA), which was made up of ginners and cotton merchants, provided input financing to cotton growers under contract farming arrangements.

Private research, seed production organisations, and cotton growers also play important roles. The Cotton Company of Zimbabwe is the oldest and largest cotton entity in Zimbabwe; Quton is a private research and cotton seed producing institution whose major shareholder is Maharashtra Hybrid Seed Company (Mahyco). Five other companies are active in cotton seed production and distribution.

The producers of seed cotton are predominantly smallholder farmers. Lately there has been growing interest from large land holders to participate in commercial cotton production. Zimbabwe's post-farm cotton sub-sector is serviced by several ginning entities.

Cotton Production

Zimbabwe's national seed cotton production has been on a downward trend for the past two decades (Figure 3). In 2004, Zimbabwe recorded its highest seed cotton output of 364,266 tonnes (Figure3) from 331,716 hectares resulting in a yield of 1,098 kilograms per hectare. The average national seed cotton yield from 2000 to 2019 has stood at 683 kg/ha (Figure 4). Half of the 20 years obtained above-average production while the rest had below-average production. Over those 20 years, national seed cotton production was lowest in 2016 when 28598 tonnes were collected. The most dismal performance occurred in 2017 when annual average seed cotton yield plummeted to 352 kg/ha. Production levels from 2013 to 2019 have significantly hindered recovery efforts.
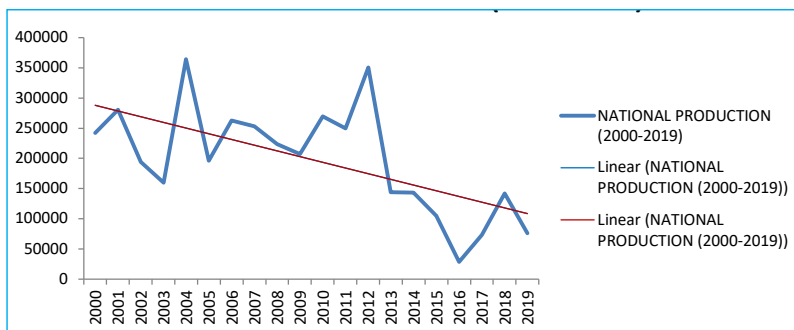
Figure 3. National Cotton Production from 2000 to 2019
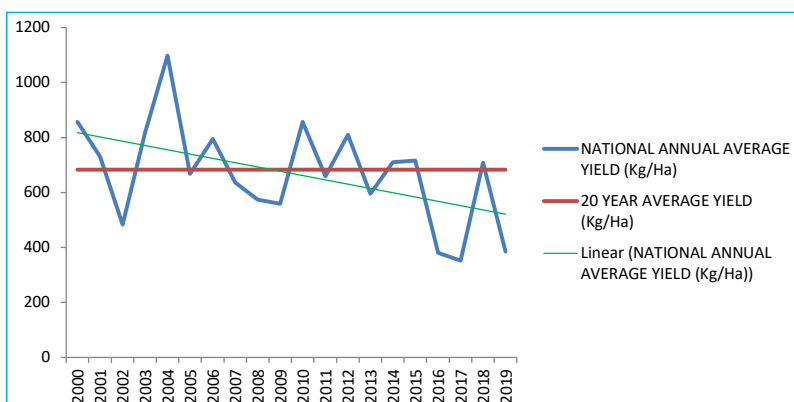
Figure 4. Annual Average Seed Cotton Yield from 2000 to 2019

Major Threats to Cotton Production

Recurrent droughts

Zimbabwe has experienced a number of poor rainfall seasons in the recent past, which has negatively impacted cotton production and productivity. Rainfall forecast for 2020 (Figures 5 and 6) still paint a picture that does not look promising.

High production costs

The government of Zimbabwe has invested more than US$125 million in a free input program for cotton growers in which growers are required to secure additional input in order to achieve a state of input adequacy for a given unit area. Such efforts were hampered by high prices of inputs caused by a shrinking manufacturing sector due to non-United Nations economic sanctions imposed on Zimbabwe. Cotton provides income for more than 600,000 people, so sanctions are directly hurting that population. The lifting of sanctions will provide a critical impetus to the recovery and growth of the cotton production and manufacturing sector as well as cotton inputs industry. Promotion of competitiveness in the agriculture input sector as well as the provision of incentives to private sector to invest in input production and supply systems are paramount in promoting inputs affordability.
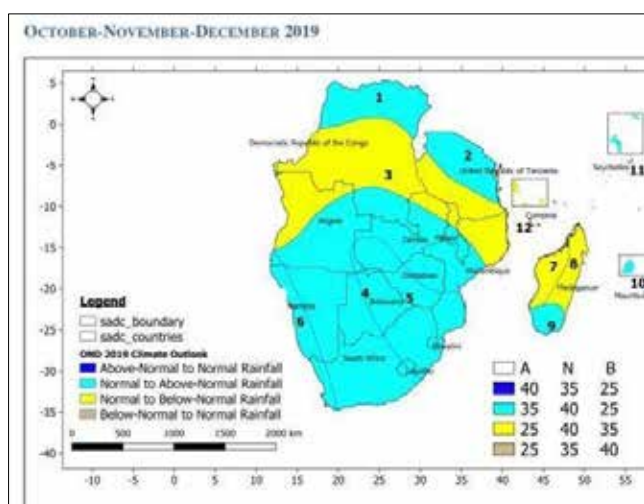
Figure 5. Adapted from Cotton Flashes.
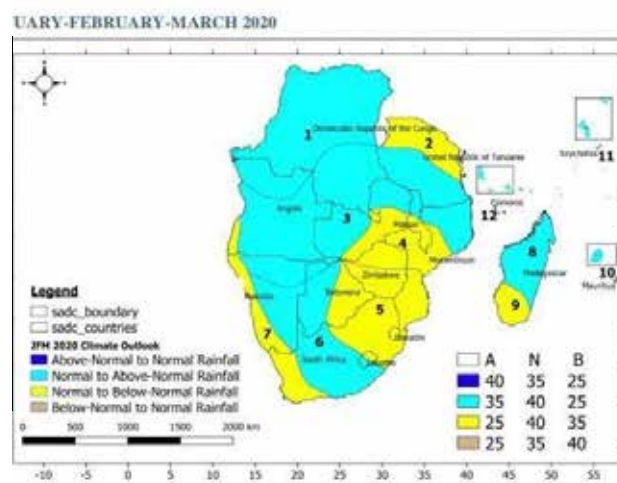
Figure 6. Adapted from Cotton Flashes.

Pests in the environment

In recent years the mealybug and fall armyworm have had a considerable negative effect on cotton production costs and yields. The behaviour of other traditional pests such as strainers (Figure 7) shows signs of changing. Low levels of compliance with cotton pest management best practices by growers has not helped production but has increased pest aggression towards the crop.

Figure 7. Strainers on Acacia Plant

Interventions for Improving Cotton Production in Zimbabwe

Although Zimbabwe's cotton production sector has experienced doldrums in recent years, the situation is far from hopeless. The cotton sector in Zimbabwe has exhibited a remarkable resilience and it may safely be said that the worst is over — especially now that the government is directly driving efforts to redeem the sector. That was a visionary initiative. For almost five years now, the government of Zimbabwe has empowered cotton producers with free inputs for cotton production. The GoZ hopes that the free input program will have a positive influence on the yield levels.

Smallholder Farmer Input Package:

- 1 x 20 kg planting seed.
- 2 x 50 kg compound fertiliser.
- 1 x 50 kg top dressing fertiliser.
- 2 types of herbicides (4 litres).
- 5 types of insecticides (6.5 litres).

A payment incentive was created in which farmers producing seed cotton bales weighing more than 200 kg are paid US$10 with the balance paid in Zimbabwean dollars. Seed cotton bales weighing less than 200 kg are paid US$5 with the balance in Zimbabwean dollars.

Large Scale Commercial Cotton Grower Input Package

This programme is in its formative season and seeks to improve production through the utilisation of irrigation facilities. With this program the contractor provides the grower with inputs sufficient to plant an agreed-upon area of commercial seed cotton. The grower has an obligation to deliver the entire crop grown under this arrangement to the contractor, with the income from the sale of lint shared equally between them. The input package for this programme is as follows:

- 1 x 20 kg planting seed.
- 6 x 50 kg compound fertiliser.
- 3 x 50 kg top dressing fertiliser.
- 1 x 1 litre of a pre-planting, pre-emergence, post-emergence (3 litres)

Addition efforts by Zimbabwe to promote improved productivity include:

1. Improving training of cotton growers and extension. That will enable effective and promote efficient utilisation of inputs.

2. Adopting sustainable farming approaches.

3. Promoting value addition by growers.

A Look at the Impacts of COVID-19 in the Latin America and the Caribbean Region

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Lorena Ruiz: Economist at the international Cotton Advisory Committee (ICAC) with 17 years of experience in the cotton sector. Lorena has a deep understanding of cotton market dynamics and human elements behind the statistics. Before joining the ICAC, Ms. Ruiz worked as statistician and then as economist at the cotton growers association in Colombia. Ms. Ruiz is responsible for forecasting cotton prices, projecting global and regional textile fibre demand, and conducting policy and market analyses.

The Latin America and the Caribbean (LAC) region[1] is composed of 33 member states from South and Central America, as well as some islands in the Caribbean. The LAC population is estimated at 648.1 million in 2019[2], equivalent to 8.4% of the total world population. Although the region faces significant challenges, it has increased its relevance in the world economy. The region has a combined GDP of $5.8 trillion[3] - with South America representing about 70% of the LAC's output.

According to the International Monetary Fund (IMF), the LAC's economy will be among the hardest hit by the COVID-19 pandemic. GDP in the LAC region is expected to shrink by 5.21% in 2020, before improving to 3.38% in 2021. The IMF forecasts that 32 out of 33 countries in Latin America and the Caribbean will show a contraction in their growth during 2020, which would be the worst recession since the Great Depression of the 1930's and could drive unemployment rates up to at least 11.5% at the end of the year. The Brazilian economy — the largest in the region — is expected to contract by 5.3% in 2020. In Mexico — the second largest cotton producer and consumer in the region — economic growth is expected to drop by 6.6%, the worst among major countries in the LAC region. GDP growth in Argentina, the third largest cotton producer and consumer in the region, is expected to contract for a third consecutive year in 2020, with GDP falling 5.72%.

Latin America and the Caribbean has faced seven consecutive years of slow economic growth, with rising unemployment rates, extreme poverty, and income inequality[4].

According to the Economic Commission for Latin America and the Caribbean (ECLAC[5]), the COVID-19 crisis will have serious short and long-term effects in the economy of the region. However, the final economic impact will depend on the actions taken at the national, regional and global levels.

According to the ECLAC's report, the coronavirus is affecting the region's economy in five different ways:

1. Decline in trade

2. Drop in commodity prices: The steep decline in prices will have a strong negative impact on the economies depending on those exports;

3. Interruption of global value chains: Mexico and Brazil, the largest manufacturing sectors in the region, would be affected by the disruption of supply chains in certain sectors, having a ripple effect to other sectors;

4. Lower demand for tourism services: Tourism is a huge contributor to the economies of all Caribbean countries; and

5. Greater risk aversion and worsening global financial conditions: significant depreciation of its countries' currencies, as we are already seeing now.

The organisation also explained that the sectors in major trouble are tourism (airlines, accommodation, restaurants and hotels), trade, manufacturing, real estate and administrative activities. These sectors are labour-intensive, and some have

1) According to the UN, LAC countries are: Antigua and Barbuda, Argentina, Bahamas, Barbados, Belize, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Dominica, Ecuador, El Salvador, Grenada, Guatemala, Guyana, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Santa Lucia, Saint Kitts and Nevis, Saint Vincent and the Grenadines, Suriname, Trinidad and Tobago, Uruguay, Venezuela

2) https://population.un.org/wpp/Download/Standard/Population/

3) https://data.worldbank.org/

4) https://www.cepal.org/en

5) https://repositorio.cepal.org/bitstream/handle/11362/45351/6/S2000263_en.pdf

Latin America and the Caribbean Economic Outlook

GDP Growth (annual %)

www.icac.org
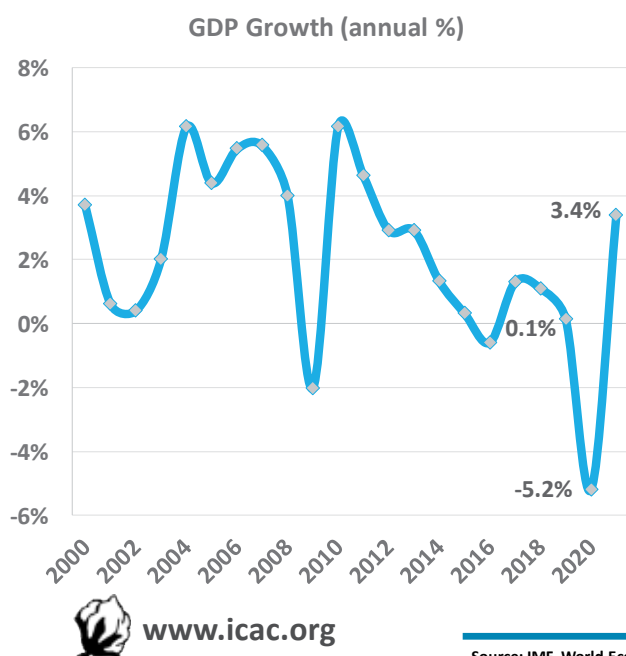
Country	2019	2020	2021
Venezuela	-35.0%	-15.0%	-5.0%
Belize	0.3%	-12.0%	7.6%
Antigua and Barbuda	5.3%	-10.0%	8.0%
St. Lucia	1.7%	-8.5%	6.9%
The Bahamas	1.8%	-8.3%	6.7%
St. Kitts and Nevis	2.9%	-8.1%	8.6%
Grenada	3.1%	-8.0%	6.1%
Barbados	-0.1%	-7.6%	7.1%
Mexico	-0.1%	-6.6%	3.0%
Ecuador	0.1%	-6.3%	3.9%
Nicaragua	-3.9%	-6.0%	0.0%
Argentina	-2.2%	-5.7%	4.4%
Jamaica	1.0%	-5.6%	3.5%
El Salvador	2.4%	-5.4%	4.5%
Brazil	1.1%	-5.3%	2.9%
Suriname	2.3%	-4.9%	4.9%
Dominica	9.2%	-4.7%	3.4%
St. Vincent and the Grenadines	0.4%	-4.5%	5.4%
Trinidad and Tobago	0.0%	-4.5%	2.6%
Peru	2.2%	-4.5%	5.2%
Chile	1.1%	-4.5%	5.3%
Haiti	-1.2%	-4.0%	1.2%
Costa Rica	2.1%	-3.3%	3.0%
Uruguay	0.2%	-3.0%	5.0%
Bolivia	2.8%	-2.9%	2.9%
Colombia	3.3%	-2.4%	3.7%
Honduras	2.7%	-2.4%	4.1%
Panama	3.0%	-2.1%	4.0%
Guatemala	3.6%	-2.0%	5.5%
Paraguay	0.2%	-1.0%	4.0%
Dominican Republic	5.1%	-1.0%	4.0%
Guyana	4.7%	52.8%	6.3%

Source: IMF, World Economic Outlook, April 2020

Economic Impacts of Covid-19 Pandemic in Latin America and the Caribbean

Short-Term Impacts	Medium & Long-Term Impacts
• Higher unemployment • Lower wages and incomes • Increasing poverty and extreme poverty • Health systems: fragmentation and inequalities of access	• Bankruptcies • Downturn in private investment • Weaker economic growth • Less integration into value chains • Erosion of productive capabilities and human capital

www.icac.org

Source: : Economic Commission for Latin America and the Caribbean (ECLAC)

a high concentration of informal employment. According to recent International Labour Organization estimates, informal employment is the source of income for many households in the LAC region, where the average informal employment rate is approximately 54%.

Coronavirus cases have been rising in many LAC countries and the WHO recently declared the region the new epicentre of the global pandemic, with more than 840,100 cases and more than 45,000 deaths have been recorded by 28 May, 2020. Most countries in the region have enforced quarantine and social distancing measures to prevent the growth and spread of the virus and several companies in the region have adopted teleworking or remote working options. However, many countries have neither the technology nor the infrastructure for workers to adopt this new form of work. Moreover, there are significant disparities in internet access both between and within countries. According to the Internet World Stats[6], Latin American internet penetration was at 69.6%, as of 30 June 2019. Argentina was the country with the highest internet penetration level at 92%, followed by Costa Rica at 85.5%, Uruguay at 83% and Chile at 82.3%.

The Organisation for Economic Co-operation and Development (OECD) stated that 'the COVID-19 crisis also hits the LAC region amid the largest migration crisis of its history. Between 2016 and 2019 almost 5 million Venezuelans left the country and thousands have left from Central American countries for Mexico and the United States. Migrants are particularly affected by the economic consequences of the pandemic, as many live in precarious housing and sanitary conditions and do not have access to basic services or social protection'.

Policy Stimulus

In order to ease the negative impacts caused by the pandemic and tackle the general economic slowdown, many governments in the LAC region have put it place economic stimulus. The stimulus packages include specific financing lines, low-cost or zero-interest loans, payment of salaries through public funds, postponement of various

6) https://www.internetworldstats.com/stats10.htm#spanish

Announced economic packages in selected LAC countries (% of GDP)
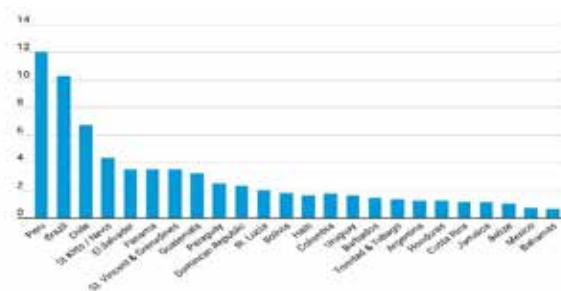
www.icac.org

Source: Werner, 2020. Economic Policy in Latin America and the Caribbean in the Time of COVID-19, IMF Blog

tax payments and social security contributions, and postponement of loan payments. Together, the World Bank, the Inter-American Development Bank (BID) and the CAF-Development Bank for Latin America have put together financial packages totalling $24.5 billion as of April 2020.

Impacts on Trade

The COVID-19 pandemic is also impacting the trade prospects for LAC countries. The ECLAC estimates that 'the value of the region's exports will fall by at least 10.7% by 2020. Most of the reduction in export value is explained by the fall in their prices, estimated to be 8.2%; in addition, export volume is expected to contract by 2.5%. At the country level, the greatest impact will be seen in South American countries, which specialize in the export of commodities and are therefore more vulnerable to a decline in their prices. Oil-exporting countries — Venezuela, Mexico, Colombia, Ecuador — are expected to have the greatest drop in the value of foreign sales'.

The value of exports from Latin America and the Caribbean totalled $1.05 trillion in 2019, while imports totalled $1.06 trillion. The United States and China are the key trading partners for the region, accounting for about 56% of overall LAC exports. The top five HS 6-digit level products exported by the region in 2019 were: petroleum oils ($83.6 billion); copper ores and concentrates ($35 billion); automobiles ($32.8 billion); soya beans ($32.1 billion) and iron ore concentrates ($21.4 billion).

According to the latest information from the International Trade Commission (ITC), the region's textile and apparel trade balance has been negative for 14 consecutive years. The LAC region is a net importer of textiles and apparel (T&A) products. LAC'S T&A trade balance recorded a deficit of $16.7 billion in 2018 and $10.3 billion in 2019. The main suppliers of T&A products to LAC countries are China, USA, India, Bangladesh and Vietnam.

The economic impact of the COVID-19 crisis in the region is manifold. Fiscal space and health systems capacity are limited in many LAC countries. The lockdown measures put in place for controlling the pandemic will negatively impact the region's economy and hit workers from the informal sector, as many don't have the resources to cope with the situation. Governments in the LAC region should implement policies to stimulate demand and support the most affected sectors. International cooperation and regional integration are the key factors to overcoming the challenges in the health industry and for economic recovery after the pandemic.

Latin America and the Caribbean Total Exports – by Value

Trillion US$
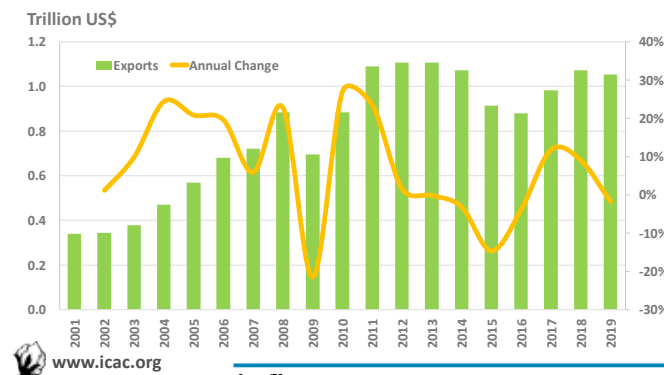
www.icac.org

Source: ITC

Textile & Apparel Trade Balance in the LAC Region

Billion US$
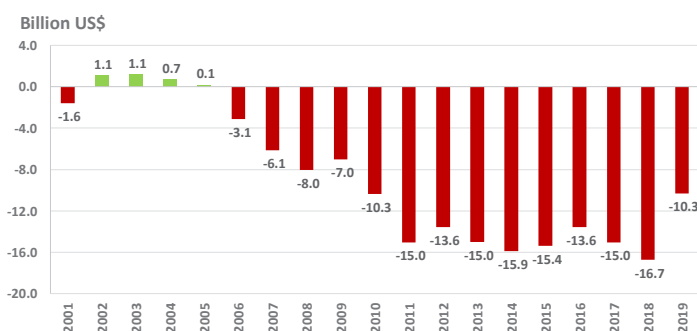
www.icac.org

Source: ITC

Correlations between the Cotlook A Index and Domestic Cotton Prices

Terry Townsend
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Terry Townsend.: Worked as Executive Director of the international Cotton Advisory Committee (ICAC) from January 1999 to December 2013; Statistician (ICAC) from August 1987 to December 1998; Economics Research Service (ERS) at the United States Agricultural Department (USDA) as Economics Editor, Agricultural Outlook, January 1986 to July 1987 and Cotton & Wool Outlook and Situation Coordinator, March 1983 to December 1985.

Introduction

The Cotlook A Index, an indicator of average world prices for cotton in cents per pound delivered to East Asian ports, is widely used as an indicator of the average level of world cotton prices. However, domestic cotton prices can vary widely from the A Index in both the level and the degree of change. This article looks at the correlation between annual averages of the A Index and annual average prices of cotton in major producing countries.

In nominal terms, the Cotlook A Index fluctuated between 40 cents per pound ($880 per metric ton) and 95 cents per pound ($2,090 per ton) between the early 1970s and 2018/19[1]. There was an extreme exception during 2010/11 and 2011/12 when cotton prices briefly exceeded $2 per pound, but with the exception of those two seasons, there was no statistically significant upward or downward trend in nominal cotton prices.
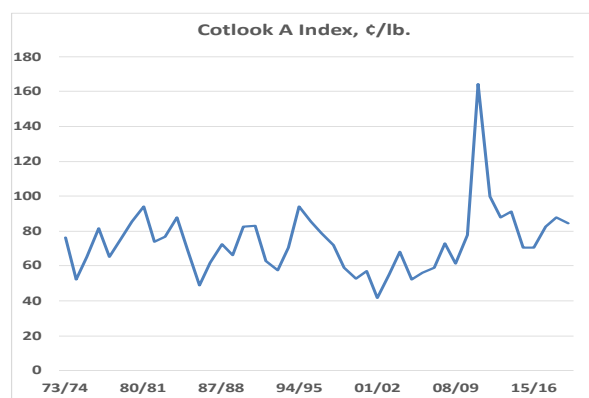
Cotlook A Index, ¢/lb.

Variations in Price Transmission

Between 1973/74 and 2017/18, the correlation between annual averages of the

Cotlook A Index and annual averages of daily closing values of cotton futures in New York was 82% (charts 14a and 14b)[2]. On average, NY futures closed about 6 cents per pound lower than the A Index, but the range in the basis between futures and the A Index was from 28 cents below to 16 cents above. On average, a change in the Cotlook A Index of one cent was associated with a change in NY futures of 0.74 cents. However, the direction of causality is not clear; it is highly possible that NY futures cause changes in the A Index. In all likelihood, the two series influence each other.

The correlation between annual averages of the Cotlook A Index and annual average prices for cotton paid to farmers in the United States during the same years was 63% (charts 15a and 15b)[3]. The USDA average farm price is calculated across all months and all regions and includes cotton qualities that are not included in A Index calculations, explaining the lower correlation compared to NY futures. Farm prices in the United States average 14 cents per pound below the A Index, but the range since 1973/74 was extremely large, from 83 cents per pound below the A Index in 2010/11 when many farmers forward contracted sales ahead of the sharp rise in prices, to 8 cents above the A Index in 1985/86, when there was a major change in U.S. cotton policies. On average, a change in the Cotlook A Index of one cent was associated with a change in US average farm prices of 0.47 cents .

With both the basis between the A Index and NY futures and the A Index and average farm prices in the United States, there

1) Cotlook Ltd., Liverpool, UK. Various Issues.
2) Data on New York futures from https://www.macrotrends.net/futures/cotton.
3) US annual average prices paid to farmers, USDA/AMS.

Chart 14a: A Index - NY Futures, C/Lb.

Chart 14b: A Index by NY Futures, C/Lb.

y = 0.74x + 14
R² = 0.82

Chart 15a: A Index - Avg Farm Prices, C/Lb.

Chart 15b: A Index by Avg Farm Prices, C/Lb.

y = 0.47x + 24
R² = 0.63
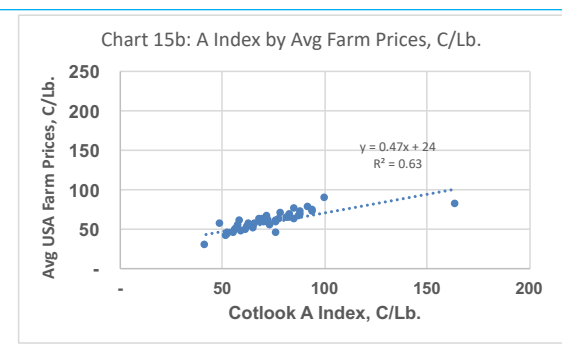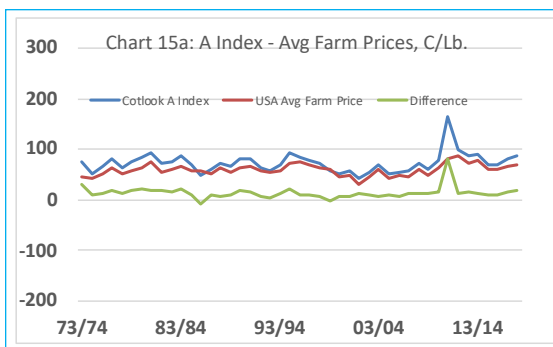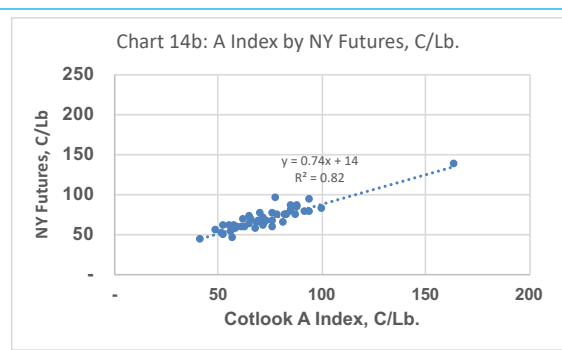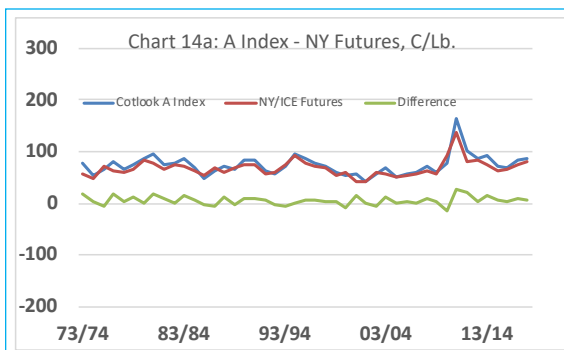
is no trend increase or decrease (The differences are trending neither upward nor downward.) This means that over more than four decades, with all the changes in government programs, farming practices, marketing practices, the rise in the use of information technology and changes in the operation of the futures market, there have been no fundamental changes in the relationships between the A Index, NY futures and prices of U.S. cotton. This reflects the reality that the United States has been, and continues to be, the dominant exporter of cotton, and prices of U.S. cotton set the basic trends in the world market.

Like cotton produced in the United States, cotton produced in Mexico, Brazil and Australia is priced directly off New York futures, resulting in a high correlation with the Cotlook A Index. Data on average farm prices for cotton in Mexico between 2003/04 and 2016/17 (charts 16a and 16b) indicate that the correlation between annual averages of the A Index and Mexican prices is 48%, and the difference averages just 5 cents per pound[4]. If the distortions caused by the market upheaval of 2010/11 are eliminated from consideration, Mexican prices and U.S. prices have the same correlation with the A Index.

For Brazilian cotton farm prices[5] (charts 17a and 17b), the correlation with the A Index is 98%, and the difference between prices paid to farmers in Brazil and the A Index averages just 2 cents per pound. There is a cent-for-cent relationship between changes in prices paid to farmers in Brazil and changes in the A Index each year.

Chart 16a: A Index - Mexico Avg Farm Prices, C/Lb.

Chart 16b: A Index by Mexico Avg Farm Prices, C/Lb.

y = 0.45x + 39
R² = 0.48
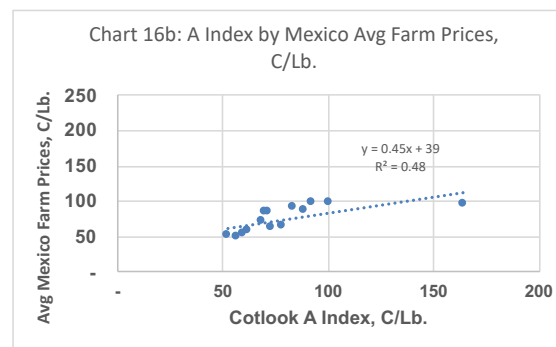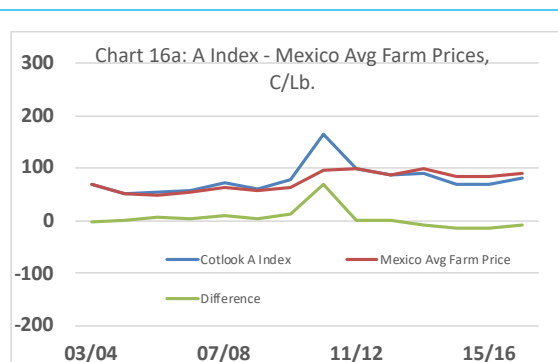
Likewise, prices received in Australia[6] are nearly identical to the A Index on average each season, with a correlation of 92% and an average difference of just 3 cents (charts 18a and 18b). On average, a change in the Cotlook A Index of one cent is associated with a change in Australian farm prices of 0.8 cents.

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4) Mexican average farm prices from FAOSTAT3.
5) Brazilian farm prices are from the Center for Advanced Studies in Applied Economics (CEPEA).
6) Australian prices are from Farmco and are published by Cotton Australia.

Chart 17a: A Index - Brazil Farm Prices, C/Lb.

Chart 17b: A Index by Brazil Farm Prices, C/Lb.

y = 1.03x - 4
R^2 = 0.98

Chart 18a: A Index - Australia Farm Prices, C/Lb.

Chart 18b: A Index by Australia Farm Prices, C/Lb.

y = 0.80x + 12
R^2 = 0.93
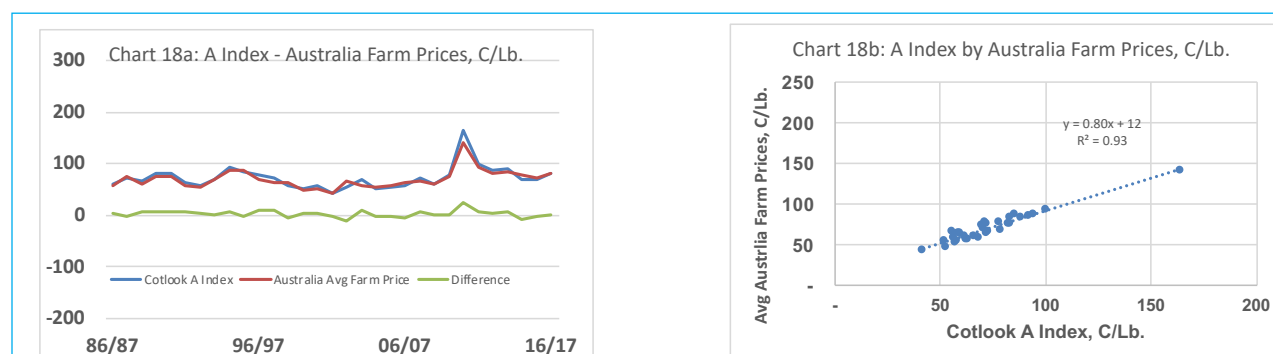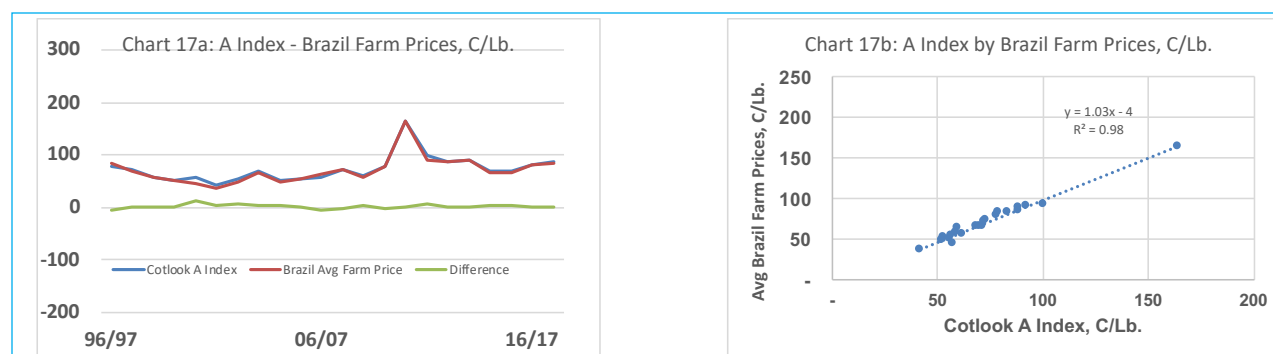
Season average prices received at procurement centers in India for H-4, a popular hybrid variety[7] (charts 19a and 19b) between 1996/97 and 2017/18 averaged just 5 cents per pound below the A Index, and the correlation with the A Index was 87%. A change in the Cotlook A Index of one cent is associated with a change in India farm prices of 0.74 cents.

cotton economies, with exports and imports freely allowed.

Data for Turkey provided by cotton cooperatives from 1997/98 through 2017/18[9] (charts 21a and 21b) indicate that the correlation between domestic prices paid to farmers and the Cotlook A Index is a robust 73%. (Turkey also

Chart 19a: A Index - India Farm Prices, C/Lb.

Chart 19b: A Index by India Farm Prices, C/Lb.

y = 0.74x + 14
R^2 = 0.87
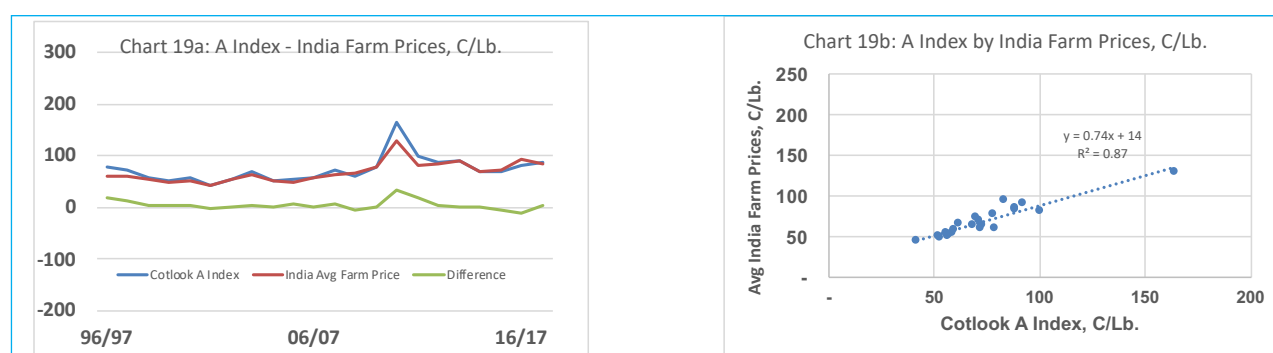
The correlation between prices received in Multan, Pakistan during 1996/97 through 2017/18 were also just 5 cents below the A Index on average and the correlation was even higher than in India, at 92% (charts 20a and 20b)[8]. A change in the Cotlook A Index of one cent is associated with a change in Pakistan farm prices of 0.82 cents. These data indicate that over the course of each season, there is almost a cent-by-cent change in domestic prices in Mexico, Brazil, Australia, India and Pakistan with changes in international cotton prices. All five countries have open

has an open cotton economy with large imports, mostly from the United States. However, Turkey also has a strong domestic cotton sector dominated by farmer-cooperatives that set procurement prices, and this may explain the lower correlation with international prices compared with India and Pakistan.)

On average prices paid to farmers by Çukobirlik in Turkey are 9 cents per pound of lint equivalent below the A Index. (Data are missing for two seasons, 2011/12 and 2012/13

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7) Indian prices published by the Cotton Corporation of India.
8) Pakistan prices published by the Pakistan Central Cotton Committee.
9) Turkey prices provided by Çukobirlik and published in the Country Statement of Turkey to the ICAC plenary meeting in 2018.

Chart 20a: A Index - Pakistan Farm Prices, C/Lb.

Chart 20b: A Index by Pakistan Farm Prices, C/Lb.

Chart 21a: A Index - Turkey Farm Prices, C/Lb.

Chart 21b: A Index by Turkey Farm Prices, C/Lb.

Chart 22a: A Index - Mali Farm Prices, C/Lb.

Chart 22b: A Index by Mali Farm Prices, C/Lb.
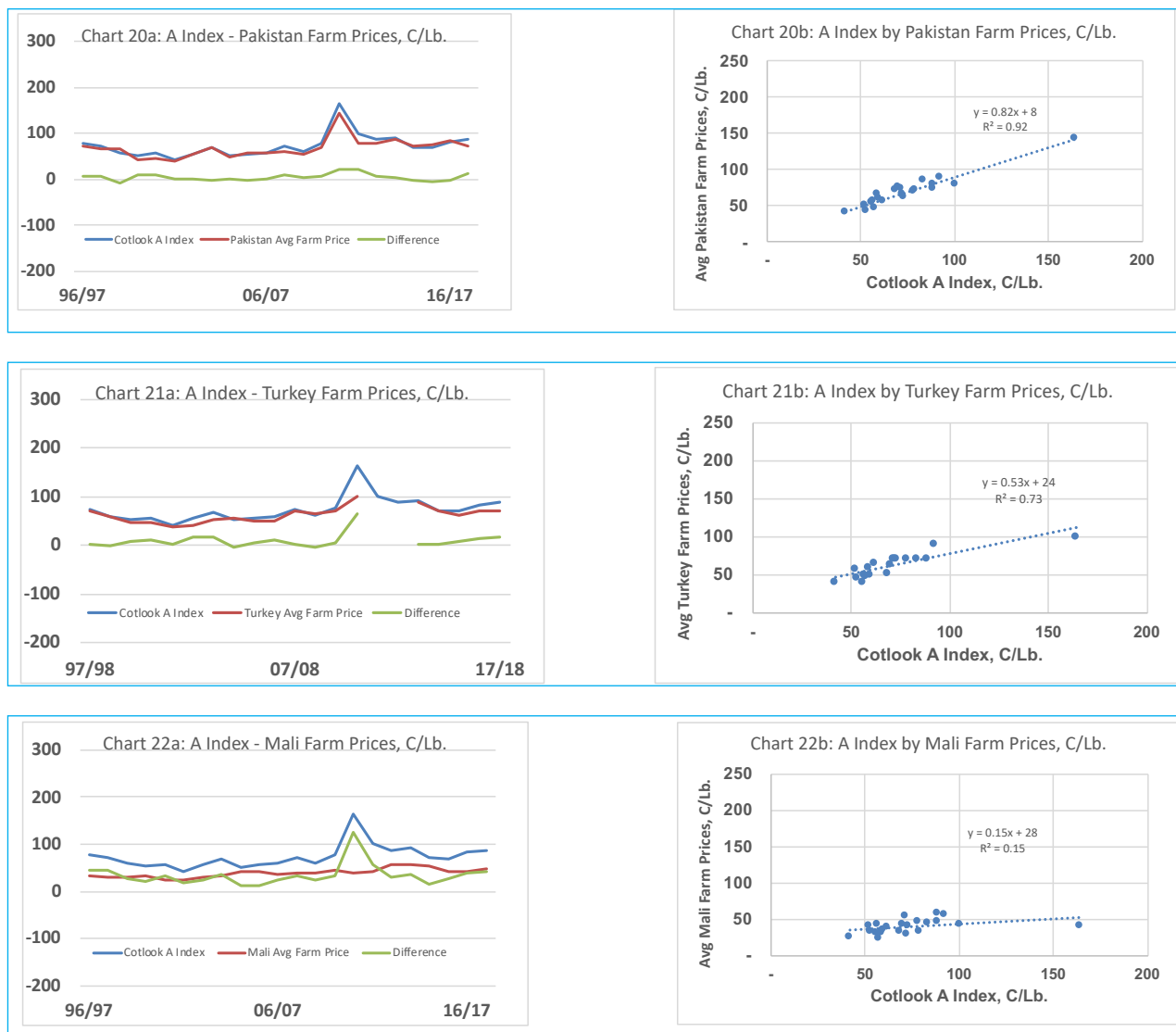
because variable prices were paid during the seasons of turmoil and the cooperatives did not calculate an average purchase price.) A change in the Cotlook A Index of one cent is associated with a change in Turkey farm prices of 0.53 cents.

In other countries with greater involvement by governments in the establishment of prices paid to farmers, the relationships between international prices and domestic prices can be much weaker. In Mali, procurement prices[10] (charts 22a and 22b) announced at the start of each season between 1996/97 and 2017/18 averaged 34 cents per pound of lint equivalent less than the Cotlook A Index, and the correlation between procurement prices and international prices was just 15%. While additional payments, "top-up payments" are made to growers at the end of successful seasons in which market prices are above the procurement prices, such payments occur too late to influence farmer behavior, and they are not guaranteed. A change in

the Cotlook A Index of one cent is associated with a change in Malian farm prices of 0.15 cents.

(Mali was chosen as representative of the pricing system in the CFA zone because it is usually one of the largest producers in the region. Mali has had a stable, continuous regulatory environment under the auspices of Compagnie Malienne pour le Développement des Textiles (CMDT), and production in Mali has not been disrupted by experiments with biotech cotton, as in Burkina Faso. While there has been political turmoil in Mali, that turmoil has never disrupted the operations of CMDT.)

Average prices paid to farmers in Tanzania between 1988/89 and 2010/11[11] (charts 23a and 23b) averaged 20 cents per pound below the Cotlook A Index and showed no correlation with international prices.

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10) Mali prices are from FAOSTAT3 and CMDT publications.
11) Tanzanian prices are published by the Tanzanian Cotton Board.

Chart 23a: A Index - Tanzania Farm Prices, C/Lb.

Chart 23b: A Index by Tanzania Farm Prices, C/Lb.

Chart 24a: A Index - China Farm Prices, C/Lb.

Chart 24b: A Index by China Farm Prices, C/Lb.
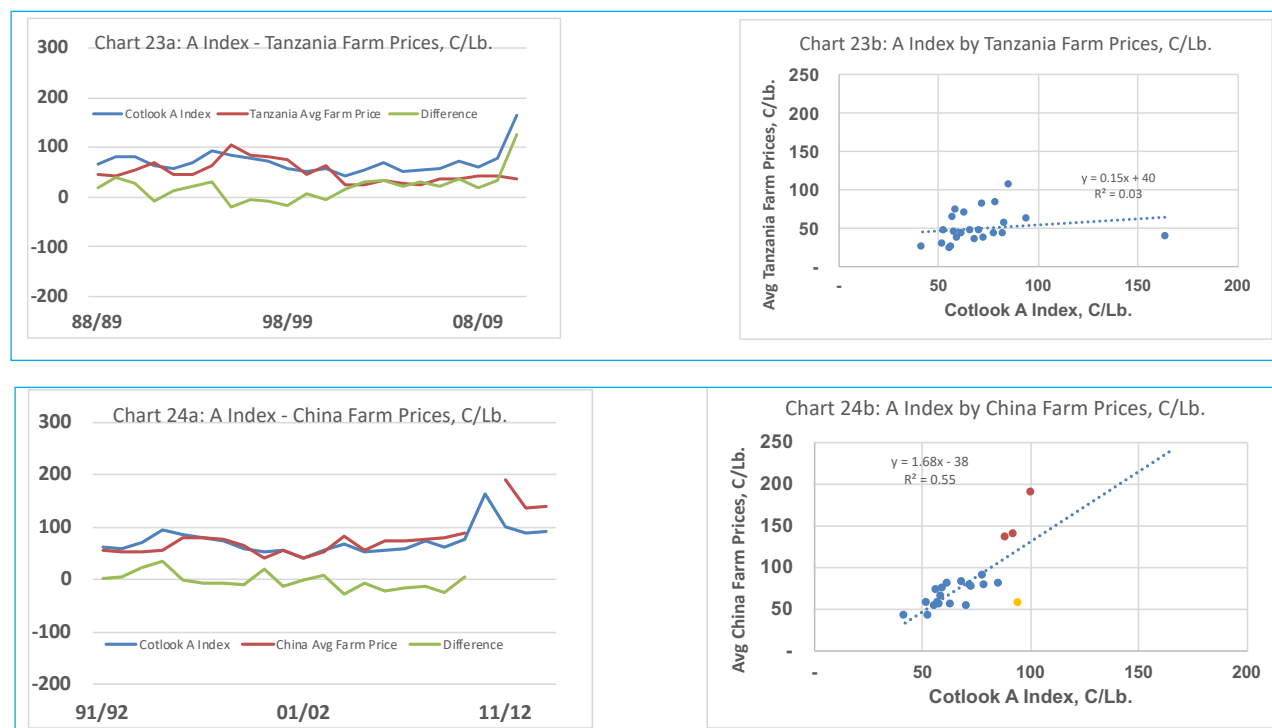
The cotton economy of China is heavily administered. Nevertheless, the difference between the A Index and prices paid to farmers[12] (charts 24a and 24b) was on average just 2 cents per pound during 1991/92 through 2010/11. However, with the price upheavals in the world market during 2010/11 and 2011/12, China instituted new policies that divorced domestic prices from international tribulations. Prices paid to farmers since 2010/11 in China, including the target price payments, average some 75 cents per pound above the A Index.

Prior to 2011/12, domestic prices in China were highly correlated with the A Index, but the correlation has weakened since 2011/12.

The impacts of policy change in the European Union are shown in the price data for Greece[13] (charts 25a, 25b and 25c). Between 1991/92 and 2005/06, prices paid to farmers in Greece averaged 83 cents per pound above

the A Index, and the correlation was just 32%. However, between 2006/07 and 2016/17, the difference between farm prices in Greece and the A Index narrowed to 9 cents per pound of lint equivalent, and the correlation with the A Index rose to 72%. Farmers in Greece still receive significance subsidies, but the 2006 policy reforms have had the intended effect of exposing Greek cotton farmers to market signals. Since 2006, a change of one cent per pound in the A Index was associated with a change of 0.57 cents in prices paid to Greek farmers.

The State Procurement Price in Uzbekistan, in Soum per kilogram of seed cotton, is determined administratively each year. Conversion to US cents per pound is approximate because official exchange rates from the IMF or World Bank for the Soum are not available between 2001 and 2013 and must be estimated from Uzbekistan National Bank data. Nevertheless, the pattern is clear. Farm prices

Chart 25a: A Index - Greece Farm Prices, C/Lb.

Chart 25b: A Index by Greece Farm Prices, C/Lb.
1991/92-2005/06
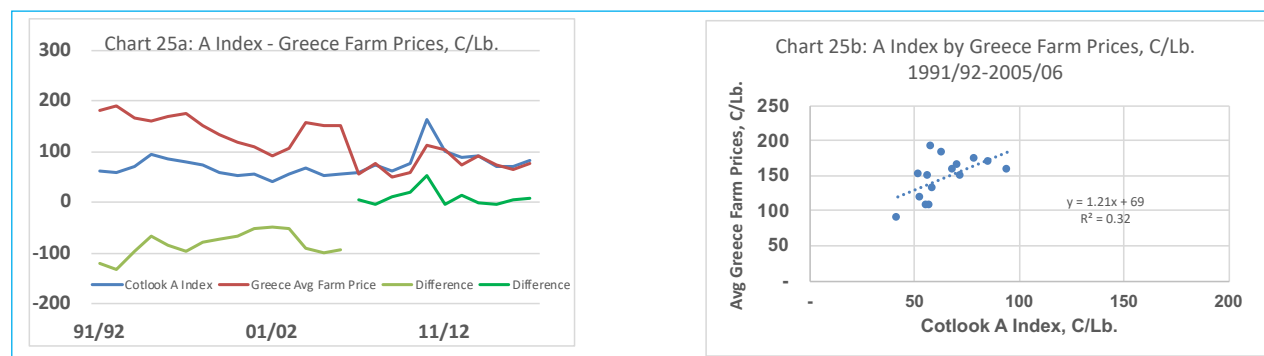
12) China prices from FAOSTAT3.
13) Greek prices from FAOSTAT3.

Chart 25c: A Index by Greece Farm Prices, C/Lb. 2006/07-2016/17
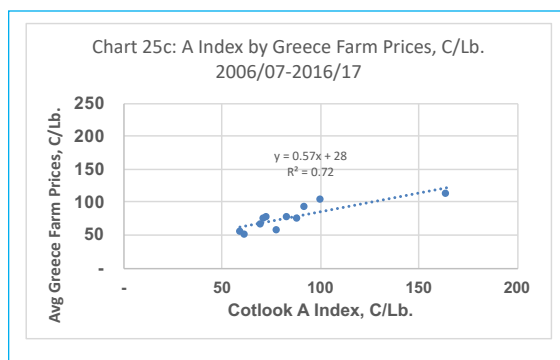
for cotton in Uzbekistan were approximately 10 cents per pound equivalent of seed cotton until 2010, and then rose to about 20 cents per pound. While prices in Soum rise each season, because of inflation, prices in dollars are essentially invariant from season to season. The correlation with the A Index is 0.03.

Summary

In summary, market prices paid to farmers each season in the Western Hemisphere, Europe, South Asia and Australia are highly correlated with world market developments, while prices paid to farmers in China, Central Asia and Africa are much less so.

Accordingly, farmers accounting for about two-thirds of world cotton production receive prices more or less directly tied to market forces, although many of these farmers receive subsidies that blunt the impacts of those forces. Meanwhile, farmers in countries representing about one-third of world production receive prices that are determined administratively, and while market forces will affect administrative decisions, the impacts of those decisions are felt less immediately, if at all.

INTERNATIONAL COTTON ADVISORY COMMITTEE

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Supply and Distribution of Cotton

Seasons begin on August 1

	2015/16	2016/17	2017/18	2018/19 Est.	2019/20 Proj.	2020/21 Proj.
			million metric tonnes			
Beginning stocks						
World Total	**22.95**	**20.31**	**18.48**	**18.82**	**18.63**	**21.75**
China	14.12	12.65	10.35	9.03	8.88	9.25
USA	0.79	0.83	0.60	0.94	1.08	1.88
Production						
World Total	**21.48**	**23.08**	**26.71**	**25.68**	**26.19**	**25.12**
India	5.75	5.87	6.35	5.35	6.20	5.74
China	5.20	4.90	5.89	6.04	5.80	5.68
USA	2.81	3.74	4.56	4.00	4.34	4.25
Pakistan	1.54	1.66	1.80	1.67	1.32	1.31
Brazil	1.29	1.53	2.01	2.73	2.88	2.45
Uzbekistan	0.83	0.79	0.80	0.64	0.64	0.64
Others	4.07	4.59	5.32	5.26	5.01	5.06
Consumption						
World Total	**24.14**	**24.79**	**26.35**	**26.01**	**23.06**	**23.75**
China	7.60	8.28	8.50	8.25	7.25	7.80
India	5.30	5.15	5.42	5.40	4.75	4.75
Pakistan	2.15	2.15	2.35	2.36	2.20	2.16
Europe and Turkey	1.68	1.61	1.64	1.70	1.57	1.57
Bangledesh	1.32	1.41	1.66	1.58	1.18	1.21
Vietnam	1.01	1.17	1.51	1.51	1.39	1.42
USA	0.75	0.71	0.77	0.64	0.58	0.63
Brazil	0.66	0.69	0.68	0.73	0.65	0.65
Others	3.67	3.64	3.82	3.84	3.49	3.55
Exports						
World Total	**7.54**	**8.19**	**9.02**	**9.08**	**8.34**	**8.47**
USA	1.99	3.25	3.45	3.21	2.95	2.96
India	1.26	0.99	1.13	0.80	0.53	0.89
CFA Zone	0.98	1.00	1.06	1.18	1.16	1.21
Brazil	0.94	0.61	0.91	1.31	1.82	1.48
Uzbekistan	0.50	0.40	0.34	0.13	0.06	0.06
Australia	0.62	0.81	0.85	0.79	0.24	0.27
Imports						
World Total	**7.59**	**8.09**	**8.99**	**9.22**	**8.34**	**8.47**
Bangledesh	1.38	1.41	1.67	1.54	1.18	1.20
Vietnam	1.00	1.20	1.52	1.51	1.39	1.42
China	0.96	1.10	1.32	2.10	1.87	1.91
Turkey	0.92	0.80	0.88	0.76	0.62	0.62
Indonesia	0.64	0.74	0.76	0.69	0.63	0.64
Trade Imbalance 1/	**0.06**	**-0.10**	**-0.04**	**0.14**	**0.00**	**0.00**
Stocks Adjustment 2/	**-0.03**	**-0.01**	**0.00**	**0.00**	**0.00**	**0.00**
Ending Stocks						
World Total	**20.31**	**18.48**	**18.82**	**18.63**	**21.75**	**23.12**
China	12.65	10.35	9.03	8.88	9.25	8.99
USA	0.83	0.60	0.94	1.08	1.88	2.54
Ending Stocks/Mill Use (%)						
World less China 3/	**46**	**49**	**55**	**55**	**79**	**89**
China 4/	**166**	**125**	**106**	**108**	**128**	**115**
Cotlook Index A 5/	**70.39**	**82.77**	**87.98**	**84.35**		

1/ The inclusion of linters and waste, changes in weight during transit, differences in reporting periods and
   measurement error account for differences between world imports and exports.
2/ Difference between calculated stocks and actual; amounts for forward seasons are anticipated.
3/ World-less-China's ending stocks divided by world-less-China's mill use, multiplied by 100.
4/ China's ending stocks divided by China's mill use, multiplied by 100.
5/ US cents per pound.

2018/19 Supply and Use of Cotton by Country 1 June 2020

	Area	Yield	Prod	Beg Stocks	Imports	Cons	Exports	End Stocks	S/U *	S/MU **
	000 Ha	Kgs/Ha			000 Metric Tonnes				Ratio	Ratio
Canada				0.05	0.35	0.35		0.04	0.12	0.12
Cuba	4	269	1	1	2	3		1	0.19	0.19
Dom. Rep.					1	1		0	0.47	0.47
Mexico	245	1,692	414	182	183	440	113	226	0.41	0.51
USA	4,130	968	3,999	936	1	644	3,214	1,078	0.28	1.67
N. America	**4,384**	**1,007**	**4,415**	**1,120**	**187**	**1,090**	**3,328**	**1,305**	**0.30**	**1.20**
El Salvador				9	35	35		9	0.26	0.26
Guatemala				7	27	27		7	0.26	0.26
Honduras	0.14	318	0.04	0.19		0.00		0.23		
C. America	**1**	**522**	**1**	**16**	**62**	**63**		**16**	**0.26**	**0.26**
Argentina	333	773	257	347	1	167	118	320	1.12	1.91
Bolivia	4	640	3	2	1	3	0.22	2	0.50	0.53
Brazil	1,618	1,685	2,726	1,598	4	730	1,310	2,287	1.12	3.13
Chile				0.02	0.05	0.05		0	0.41	0.41
Colombia	15	870	13	4	27	40		4	0.10	0.10
Ecuador	1	439	1	3	10	11		3	0.31	0.31
Paraguay	10	420	4	2	2	3	2	3	0.72	1.35
Peru	25	819	21	39	47	59	1	46	0.77	0.78
Uruguay				0.001	0.009	0.009		0.001	0.06	0.06
Venezuela	15	392	6	3	5	10		3	0.30	0.30
S. America	**2,022**	**1,499**	**3,030**	**1,997**	**96**	**1,024**	**1,431**	**2,669**	**1.09**	**2.61**
Algeria				0.06	1	1		0	0.05	0.05
Egypt	142	782	111	98	105	145	71	98	0.46	0.68
Morocco				3	7	7		3	0.38	0.38
Sudan	180	578	104	16		18	86	16	0.15	0.89
Tunisia				3	12	12		3	0.22	0.22
N. Africa	**322**	**668**	**215**	**120**	**126**	**184**	**157**	**120**	**0.35**	**0.65**
Benin	656	449	295	146		1	292	147	0.50	107.48
Burkina Faso	646	283	183	137		3	200	116	0.57	38.82
Cameroon	250	530	132	60		2	125	66	0.52	34.85
Cent. Afr. Rep.	32	251	8	0.32			4	4	0.93	
Chad	60	117	7	14		0.26	14	6	0.43	24.32
Cote D'Ivoire	392	514	202	56		2	195	61	0.31	29.77
Guinea	12	286	3	1			3	2	0.58	
Madagascar				3				3		
Mali	698	395	276	66		2	300	40	0.13	19.79
Niger	4	469	2	0.24		1	1	0	0.11	0.25
Senegal	22	285	6	1		1	5	1	0.18	1.41
Togo	180	313	56	19			47	28	0.59	
F. Africa	**2,953**	**396**	**1,171**	**504**		**12**	**1,187**	**475**	**0.40**	**38.60**
Angola	3	304	1	0.29		1	0.24	0.29	0.34	0.48
Ethiopia	78	737	57	19	6	52	7	22	0.37	0.42
Ghana	15	373	5	12		1	4	12	2.22	9.28
Kenya	13	149	2	2	1	3	0.06	1	0.33	0.34
Malawi	86	248	21	3		3	9	12	0.99	3.99
Mozambique	140	151	21	15		1	20	15	0.69	
Nigeria	250	205	51	22	1	28	29	17	0.31	0.63
South Africa	42	1,142	48	39	15	19	31	51	1.03	2.71
Tanzania	420	193	81	23		44	43	18	0.20	0.40
Uganda	81	430	35	22		2	33	22	0.63	12.94
Congo, Dr				2	7	7		2	0.30	0.30
Zambia	121	392	47	48		2	34	60	1.68	
Zimbabwe	212	292	62	25		3	44	39	0.83	13.98
S. Africa	**1,481**	**294**	**436**	**244**	**54**	**193**	**257**	**285**	**0.63**	**1.48**
Kazakhstan	113	665	75	51	0	13	58	55	0.76	4.14
Kyrgyzstan	14	851	12	4	3	1	13	5	0.33	4.79
Tajikistan	191	535	102	34		15	85	36	0.36	2.43
Turkmenistan	534	561	300	91		141	143	106	0.37	0.75
Uzbekistan	900	712	641	259		630	127	144	0.19	0.23
C. Asia	**1,752**	**645**	**1,130**	**439**	**3**	**800**	**427**	**345**	**2.01**	**0.43**

2018/19 Supply and Use of Cotton by Country (cont'd) 1 June 2020

	Area	Yield	Prod	Beg Stocks	Imports	Cons	Exports	End Stocks	S/U *	S/MU **
	000 Ha	Kgs/Ha	000 Metric Tonnes						Ratio	Ratio
Austria				1	3	3		1	0.18	0.18
Azerbaijan	143	672	96	34		20	66	44	0.50	2.13
Belarus				4	11	11		4	0.34	0.34
Belgium				1	7	3	4	1	0.19	0.43
Bulgaria	1	324	0.28	1	6	6	0.08	1	0.17	0.17
Czech Rep.				0.22	2	2		0.10	0.04	0.04
Denmark					0.01	0.01			0.12	
Estonia										
Finland										
France				2	9	8	1	1	0.14	0.17
Germany				9	19	16	3	9	0.49	0.57
Greece	277	1,083	300	38	7	16	298	31	0.10	1.89
Hungary				0.02				0		
Ireland				0.02	0.16	0.16		0	0.11	0.11
Italy				8	34	32	2	8	0.22	0.23
Latvia				0.01	0.26	0.20	0.06	0	0.03	0.04
Lithuania				0.10				0		
Moldova				1	2	2		1	0.34	0.34
Netherlands				0.45	4	4		0	0.11	
Norway										
Poland				1	2	2	0.29	1	0.60	0.63
Portugal				7	38	38	1	7	0.19	0.19
Romania				0.04	0.34	0.34		0	0.10	0.10
Russia	0.02	1,750	0.04	6	22	22	0.04	6	0.28	0.28
Slovak Rep.										
Spain	65	1,092	71	38	3	3	52	40	0.56	11.94
Sweden				0.01	0.01	0.01		0		
Switzerland				0.16	1	0.48	0.35	0	0.19	0.33
Ukraine				0.44	2	2		0	0.26	0.26
United Kingdom				0.03	0.25	0.25		0	0.12	0.12
Former Yugoslavia				1	7	7		1	0.19	0.19
Europe	**486**	**962**	**467**	**154**	**179**	**199**	**427**	**158**	**0.25**	**0.79**
Including EU-27	**343**	**1,083**	**371**	**108**	**136**	**136**	**301**	**102**	**0.23**	**0.75**
China	3,367	1,794	6,040	9,033	2,100	8,250	30	8,885	1.07	1.08
Hong Kong				30	0.47	0.41	0.06	30	51.93	
Australia	343	1,414	485	452		6	791	140	0.18	23.14
Indonesia	6	618	3	70	685	700		59	0.08	0.08
Japan				8	50	51		7	0.14	0.14
Korea, D.R.				1	5	5		1	0.24	0.24
Korea, Rep.				40	170	171	1	38	0.22	0.22
Malaysia				13	162	94	68	13	0.08	0.14
Philippines	0.01	570	0.01	5	13	13		5	0.35	0.35
Singapore				0	6		6	0	0.05	
Taiwan				21	138	138		21	0.15	0.15
Thailand	2	520	1	56	234	236		56	0.24	0.24
Vietnam	0.30	667	0.20	196	1,510	1,506		200	0.13	0.13
E. Asia	**351**	**1,395**	**490**	**861**	**2,974**	**2,921**	**867**	**538**	**0.14**	**0.18**
Afghanistan	36	387	14	5		4	11	4	0.25	0.90
Bangladesh	45	768	35	422	1,544	1,579		422	0.27	0.27
India	12,600	425	5,350	1,989	340	5,400	800	1,479	0.24	0.27
Myanmar	239	634	152	69	56	207	0	69	0.33	0.34
Pakistan	2,325	718	1,670	819	638	2,358	16	754	0.32	0.32
Sri Lanka				0	2	2		0	0.12	0.12
S. Asia	**15,248**	**474**	**7,222**	**3,306**	**2,580**	**9,552**	**1,180**	**2,729**	**0.26**	**0.29**
Iran	71	710	50	52	71	116		58	0.50	0.50
Iraq	9	362	3	2	5	8		2	0.24	0.24
Israel	4	2,009	9	2			8	2	0.27	
Syria	18	958	18	9		14	4	9	0.49	0.61
Turkey	520	1,878	977	918	762	1,555	105	997	0.60	0.64
Sub Total	**626**	**1,691**	**1,058**	**987**	**855**	**1,713**	**117**	**1,071**	**0.59**	**0.63**
World Total	**33,011**	**778**	**25,682**	**18,816**	**9,219**	**26,009**	**9,079**	**18,629**	**0.72**	**0.72**

*/ Ending stocks divided by consumption plus exports.   Subtotals and total include countries not shown.

**/ Ending stocks divided by consumption.

2019/20 Supply and Use of Cotton by Country 1 June 2020

	Area	Yield	Prod	Beg Stocks	Imports	Cons	Exports	End Stocks	S/U *	S/MU **
	000 Ha	Kgs/Ha			000 Metric Tonnes				Ratio	Ratio
Canada				0.04	0.31	0.31		0.04	0.13	0.13
Cuba	4	269	1	1	2	3		1	0.19	0.19
Dom. Rep.					1	1		0	0.47	0.47
Mexico	224	1,644	369	226	117	396	90	226	0.46	0.57
USA	4,700	923	4,336	1,078	1	581	2,954	1,880	0.53	3.24
N. America	**4,933**	**954**	**4,707**	**1,305**	**122**	**983**	**3,044**	**2,107**	**0.52**	**2.14**
El Salvador				9	35	35		9	0.24	0.24
Guatemala				7	27	27		6	0.23	0.23
Honduras	0.10	318	0.03	0.23		0.00		0.27		
C. America	**1**	**522**	**0.50**	**16**	**61**	**63**		**15**	**0.24**	**0.24**
Argentina	455	736	335	320	1	134	94	428	1.88	3.19
Bolivia	4	641	3	2	1	3	0.2	2	0.50	0.53
Brazil	1,671	1,723	2,879	2,287	3	650	1,823	2,697	1.09	4.15
Chile				0	0	0		0	0.41	0.41
Colombia	21	847	17	4	19	36		4	0.11	0.11
Ecuador	1	439	1	3	10	11		3	0.31	0.31
Paraguay	10	420	4	3	1	2	4	2	0.34	0.98
Peru	24	819	20	46	40	59	1	46	0.78	0.79
Uruguay				0.001	0.01	0.01		0.001	0.06	0.06
Venezuela	14	392	6	3	5	10		3	0.30	0.30
S. America	**2,200**	**1,483**	**3,264**	**2,669**	**80**	**905**	**1,922**	**3,185**	**1.13**	**3.52**
Algeria				0.06	1	1		0.06	0.07	0.07
Egypt	102	657	67	98	83	102	48	98	0.66	0.97
Morocco				3	7	7		3	0.40	0.40
Sudan	180	722	130	16		18	96	32	0.28	1.75
Tunisia				3	12	12		3	0.22	0.22
N. Africa	**282**	**699**	**197**	**120**	**103**	**140**	**145**	**136**	**0.48**	**0.97**
Benin	700	450	315	147		1	265	196	0.74	204.27
Burkina Faso	735	283	208	116		3	183	139	0.75	46.20
Cameroon	250	559	140	66		2	127	77	0.60	40.62
Cent. Afr. Rep.	34	252	9	4			9	4	0.44	
Chad	248	298	74	6		0.20	60	20	0.33	100.61
Cote d'Ivoire	426	514	219	61		2	189	88	0.46	43.33
Guinea	12	287	4	2			4	2	0.44	
Madagascar				3				3		
Mali	782	390	305	40		2	265	77	0.29	38.63
Niger	5	470	2	0.24		1	1	0	0.11	0.25
Senegal	20	255	5	1		1	5	0	0.05	0.38
Togo	180	311	56	28			53	31	0.59	
F. Africa	**3,392**	**394**	**1,336**	**475**		**12**	**1,161**	**638**	**0.54**	**53.90**
Angola	3	308	1	0.29		1	0.28	0.29	0.33	0.48
Ethiopia	82	741	60	22	3	54	7	24	0.40	0.45
Ghana	15	375	6	12		1	4	12	2.14	9.24
Kenya	25	220	6	1	1	4	0	4	0.87	0.88
Malawi	85	249	21	12		3	18	12	0.55	3.92
Mozambique	147	152	22	15		1	21	15	0.66	
Nigeria	250	205	51	17	1	28	25	17	0.33	0.63
South Africa	28	1,017	29	51	14	19	22	54	1.33	2.84
Tanzania	441	247	109	18		45	41	40	0.47	0.90
Uganda	89	416	37	22		4	30	25	0.75	6.85
Congo, Dr				2	7	7		2	0.30	0.30
Zambia	118	393	46	60		2	30	74	2.29	
Zimbabwe	212	292	62	39		3	59	39	0.64	13.99
S. Africa	**1,515**	**299**	**454**	**285**	**52**	**199**	**259**	**332**	**0.73**	**1.67**
Kazakhstan	117	669	78	55	0.05	13	58	61	0.86	4.56
Kyrgyzstan	14	855	12	5	3	1	13	5	0.36	5.41
Tajikistan	196	538	106	36		15	82	45	0.47	3.04
Turkmenistan	545	564	307	106		141	149	123	0.42	0.87
Uzbekistan	900	712	641	144		578	64	144	0.22	0.25
C. Asia	**1,772**	**646**	**1,144**	**345**	**3**	**748**	**366**	**378**	**2.33**	**0.51**

2019/20 Supply and Use of Cotton by Country (cont'd) 1 June 2020

	Area	Yield	Prod	Beg Stocks	Imports	Cons	Exports	End Stocks	S/U *	S/MU **
	000 Ha	Kgs/Ha		000 Metric Tonnes					Ratio	Ratio
Austria				1	3	3		1	0.19	0.19
Azerbaijan	146	677	99	44		29	63	51	0.55	1.73
Belarus				4	11	11		4	0.34	0.34
Belgium				1	7	3	4	1	0.19	0.44
Bulgaria	1	324	0.26	1	6	6	0.08	1	0.17	0.17
Czech Rep.				0.10	2	2		0.14	0.07	0.07
Denmark										
Estonia										
Finland										
France				1	8	8	1	1	0.11	0.12
Germany				9	16	15	3	8	0.43	0.51
Greece	277	1,264	350	31	7	16	320	51	0.15	3.18
Hungary				0.02				0		
Ireland				0.02	0.15	0.15		0	0.12	0.12
Italy				8	32	31	1	8	0.23	0.24
Latvia				0.01	0.26	0.20	0.06	0	0.03	0.04
Lithuania				0.10				0		
Moldova				1	2	2		1	0.34	0.34
Netherlands				0.45	4	4		0	0.11	
Norway										
Poland				1	2	2	0.29	1	0.59	0.65
Portugal				7	36	36	1	7	0.20	0.20
Romania				0.04	0.33	0.33		0	0.11	0.11
Russia	0.02	1,759	0.04	6	22	22	0	6	0.27	0.27
Slovak Rep.										
Spain	66	1,061	70	40	3	3	52	45	0.66	13.83
Sweden				0.01	0.01	0.01		0.01		
Switzerland				0.16	1	0.46	0.35	0.16	0.19	0.34
Ukraine				0.44	2	2		0.44	0.27	0.27
United Kingdom				0.03	0.25	0.25		0.03	0.11	0.11
Former Yugoslavia				1	7	7		1	0.19	0.19
Europe	**490**	**1,060**	**519**	**158**	**172**	**203**	**445**	**188**	**0.29**	**0.93**
Including EU-27	**344**	**1,222**	**420**	**102**	**129**	**131**	**301**	**125**	**0.29**	**0.96**
China	3,300	1,758	5,800	8,885	1,866	7,250	30	9,250	1.27	1.28
Hong Kong				30	0.23	0.39	0.06	30	53.01	
Australia	61	2,231	135	140		6	235	34	0.14	5.93
Indonesia	5	621	3	59	630	630		62	0.10	0.10
Japan				7	48	48		7	0.14	0.14
Korea, D.R.				1	5	5		1	0.24	0.24
Korea, Rep.				38	136	136		38	0.28	0.28
Malaysia				13	162	101	61	13	0.08	0.13
Philippines	0.01	573	0.01	5	14	14		5	0.34	0.34
Singapore				0.33	6		6	0	0.05	
Taiwan				21	104	104		21	0.20	0.20
Thailand	2	522	1	56	211	212		56	0.26	0.26
Vietnam	0.30	667	0.20	200	1,385	1,386		200	0.14	0.14
E. Asia	**68**	**2,047**	**140**	**538**	**2,701**	**2,641**	**302**	**436**	**0.15**	**0.16**
Afghanistan	36	387	14	4		4	11	3	0.19	0.68
Bangladesh	46	772	35	422	1,184	1,184		458	0.39	0.39
India	12,700	488	6,200	1,479	450	4,752	528	2,849	0.54	0.60
Myanmar	239	634	152	69	24	187		59	0.31	0.31
Pakistan	2,631	502	1,320	754	823	2,204	10	682	0.31	0.31
Sri Lanka				0.20	2	2		0	0.11	0.11
S. Asia	**15,655**	**493**	**7,723**	**2,729**	**2,484**	**8,336**	**1,180**	**4,051**	**0.46**	**0.49**
Iran	71	711	50	58	54	104		58	0.56	0.56
Iraq	9	362	3	2	5	8		2	0.24	0.24
Israel	4	1,851	8	2			8	2	0.28	
Syria	18	968	17	9		14	3	9	0.51	0.63
Turkey	520	1,567	815	997	616	1,431	71	926	0.62	0.65
Sub Total	**625**	**1,433**	**895**	**1,071**	**693**	**1,576**	**83**	**1,000**	**0.60**	**0.63**
World Total	**34,251**	**765**	**26,185**	**18,629**	**8,339**	**23,065**	**8,339**	**21,750**	**0.94**	**0.94**

*/ Ending stocks divided by consumption plus exports.   Subtotals and total include countries not shown.

**/ Ending stocks divided by consumption.

2020/21 Supply and Use of Cotton by Country 1 June 2020

	Area	Yield	Prod	Beg Stocks	Imports	Cons	Exports	End Stocks	S/U *	S/MU **
	000 Ha	Kgs/Ha	000 Metric Tonnes						Ratio	Ratio
Canada				0.04	0.28	0.28		0.04	0.13	0.13
Cuba	4	271	1	1	2	3		1	0.19	0.19
Dom. Rep.					1	1		0.46	0.47	0.47
Mexico	191	1,650	315	226	128	396	97	176	0.36	0.44
USA	4,593	924	4,246	1,880	1	632	2,957	2,538	0.71	4.02
N. America	**4,795**	**952**	**4,564**	**2,107**	**133**	**1,034**	**3,054**	**2,715**	**0.66**	**2.63**
El Salvador				9	35	35		9	0.24	0.24
Guatemala				6	27	27		6	0.21	0.21
Honduras	0.10	318	0.03	0.27	0.00	0.00		0		
C. America	**1**	**515**	**0.38**	**15**	**62**	**63**	**0.02**	**15**	**0.24**	**0.24**
Argentina	360	657	237	428	1	135	102	428	1.81	3.18
Bolivia	4	641	3	2	1	3	0	2	0.50	0.53
Brazil	1,454	1,685	2,449	2,697	3	650	1,481	3,019	1.42	4.64
Chile				0.02	0.05	0.05		0.02	0.41	0.41
Colombia	18	847	16	4	20	36		4	0.11	0.11
Ecuador	1	440	1	3	10	11		3	0.31	0.31
Paraguay	10	420	4	2		1	3	2	0.54	1.95
Peru	23	819	19	46	40	59	1	46	0.78	0.79
Uruguay				0.00	0.01	0.01		0	0.06	0.06
Venezuela	14	392	6	3	5	10		3	0.31	0.31
S. America	**1,885**	**1,450**	**2,734**	**3,185**	**80**	**905**	**1,587**	**3,508**	**1.41**	**3.88**
Algeria				0	1	1		0.06	0.07	0.07
Egypt	102	660	67	98	76	100	44	98	0.69	0.99
Morocco				3	7	7		3	0.41	0.41
Sudan	180	722	130	32		18	100	44	0.37	2.42
Tunisia				3	12	12		3	0.22	0.22
N. Africa	**282**	**700**	**197**	**136**	**96**	**138**	**144**	**148**	**0.52**	**1.07**
Benin	700	450	315	196		1	273	237	0.86	246.54
Burkina Faso	735	283	208	139		3	188	156	0.81	51.87
Cameroon	250	559	140	77		2	127	88	0.68	46.23
Cent. Afr. Rep.	34	252	9	4			9	4	0.45	
Chad	252	298	75	20		0.20	61	34	0.55	168.02
Cote d'Ivoire	426	529	225	88		2	190	121	0.63	59.49
Guinea	13	287	4	2			4	2	0.45	
Madagascar				3				3		
Mali	782	390	305	77		2	299	81	0.27	40.50
Niger	5	470	2	0.24		1	1	0	0.11	0.25
Senegal	20	256	5	0.30		1	2	2	0.74	2.96
Togo	180	311	56	31			54	33	0.62	
F. Africa	**3,396**	**396**	**1,344**	**638**		**12**	**1,209**	**761**	**0.62**	**64.25**
Angola	3	308	1	0		1	0.26	0.29	0.34	0.48
Ethiopia	82	741	61	24	3	55	7	27	0.43	0.49
Ghana	15	375	6	12	1	1	6	12	1.75	9.24
Kenya	25	220	6	4	1	8		3	0.32	0.32
Malawi	84	249	21	12		3	18	12	0.55	3.87
Mozambique	146	152	22	15		1	24	11	0.45	8.81
Nigeria	258	205	53	17	1	28	26	17	0.32	0.63
South Africa	28	1,154	32	54	14	19	22	60	1.47	3.15
Tanzania	437	247	108	40		45	41	62	0.72	1.38
Uganda	101	426	43	25		4	39	25	0.59	5.89
Congo, Dr				2	7	7		2	0.30	0.30
Zambia	117	393	46	74		2	32	86	2.52	47.73
Zimbabwe	209	292	61	39		3	48	50	0.98	17.67
S. Africa	**1,525**	**304**	**463**	**332**	**54**	**204**	**265**	**381**	**0.81**	**1.87**
Kazakhstan	119	669	80	61	0.05	13	66	61	0.77	4.56
Kyrgyzstan	14	855	12	5	3	1	14	5	0.34	5.41
Tajikistan	196	538	106	45		15	91	45	0.43	3.04
Turkmenistan	556	564	314	123		143	146	148	0.51	1.03
Uzbekistan	900	712	641	144		578	64	144	0.22	0.25
C. Asia	**1,786**	**645**	**1,152**	**378**	**3**	**750**	**381**	**403**	**2.28**	**0.54**

2020/21 Supply and Use of Cotton by Country (cont'd) 1 June 2020

	Area	Yield	Prod	Beg Stocks	Imports	Cons	Exports	End Stocks	S/U *	S/MU **
	000 Ha	Kgs/Ha		000 Metric Tonnes					Ratio	Ratio
Austria				1	3	3		1	0.20	0.20
Azerbaijan	100	677	68	51		29	38	51	0.75	1.72
Belarus				4	11	11		4	0.34	0.34
Belgium				1	7	3	4	1	0.19	0.46
Bulgaria	1	324	0.26	1	6	6	0.08	1	0.17	0.17
Czech Rep.				0.14	2	2		0	0.07	0.07
Denmark					0.01	0.01				
Estonia										
Finland										
France				1	9	8	1	1	0.11	0.12
Germany				8	17	14	3	8	0.45	0.54
Greece	277	1,173	325	51	7	16	325	42	0.12	2.59
Hungary				0				0		
Ireland				0	0	0		0	0.12	0.12
Italy				8	31	29	1	8	0.24	0.26
Latvia				0.01	0.26	0.20	0.06	0	0.03	0.04
Lithuania				0.10				0		
Moldova				1	2	2		1	0.34	0.34
Netherlands				0.45	4	4		0	0.11	0.11
Norway										
Poland				1	2	2	0.20	1	0.59	0.65
Portugal				7	36	36		7	0.20	0.20
Romania				0.04	0.33	0.33		0	0.11	0.11
Russia	0.02	1,759	0.04	6	22	22	0.04	6	0.26	0.26
Slovak Rep.				0				0		
Spain	66	1,061	70	45	3	3	70	45	0.62	13.83
Sweden				0.01	0.01	0.01		0	0.81	0.81
Switzerland				0.16	1	0.46	0.35	0	0.19	0.34
Ukraine				0.44	2	2		0	0.27	0.27
United Kingdom				0.03	0.25	0.25		0	0.11	0.11
Former Yugoslavia				6	7	7	1	5	0.66	0.76
Europe	**444**	**1,043**	**463**	**193**	**171**	**201**	**444**	**182**	**0.28**	**0.91**
Including EU-27	**344**	**1,150**	**395**	**125**	**134**	**133**	**419**	**116**	**0.21**	**0.87**
China	3,211	1,769	5,680	9,250	1,912	7,800	50	8,992	1.15	1.15
Hong Kong				30	0.23	0.39	0.17	30	52.42	75.45
Australia	152	2,375	361	34		6	270	119	0.43	20.75
Indonesia	5	621	3	62	637	640		62	0.10	0.10
Japan				7	50	51		6	0.13	0.13
Korea, D.R.				1	5	5		1	0.15	0.15
Korea, Rep.				38	143	143		38	0.26	0.26
Malaysia				13	202	135	67	13	0.07	0.10
Philippines	0.011	573	0.006	5	14	14		5	0.34	0.34
Singapore				0	6		6	0	0.05	
Taiwan				21	105	105		21	0.20	0.20
Thailand	2	522	1	56	226	217		66	0.30	0.30
Vietnam	0.30	582	0.36	200	1,421	1,420		201	0.14	0.14
E. Asia	**159**	**2,296**	**365**	**436**	**2,809**	**2,735**	**344**	**531**	**0.17**	**0.19**
Afghanistan	36	387	14	3		4	10	3	0.20	0.68
Bangladesh	46	772	35	458	1,196	1,214		475	0.39	0.39
India	12,065	475	5,735	2,849	360	4,752	893	3,299	0.58	0.69
Myanmar	239	634	152	59	25	187		49	0.26	0.26
Pakistan	2,368	552	1,307	682	864	2,160	10	682	0.31	0.32
Sri Lanka				0	2	2		0	0.11	0.11
S. Asia	**14,757**	**491**	**7,245**	**4,051**	**2,447**	**8,321**	**1,055**	**4,509**	**0.49**	**0.54**
Iran	71	711	50	58	54	104		58	0.56	0.56
Iraq	9	362	3	2	5	8		2	0.24	0.24
Israel	4	1,851	8	2			8	2	0.28	
Syria	18	973	18	9		15	3	8	0.45	0.55
Turkey	520	1,583	823	926	622	1,431	67	873	0.58	0.61
Sub Total	**626**	**1,445**	**904**	**1,000**	**699**	**1,577**	**79**	**946**	**0.57**	**0.60**
World Total	**32,883**	**764**	**25,118**	**21,754**	**8,470**	**23,748**	**8,470**	**23,124**	**0.97**	**0.97**

*/ Ending stocks divided by consumption plus exports.   Subtotals and total include countries not shown.
**/ Ending stocks divided by consumption.