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WEBINAR REPORT

Brazil-China post-Covid 19: **Food Security, Food Safety and Sustainability**

29 OCTOBER, 2020

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Brazil-China post-Covid 19: **Food Security, Food Safety and Sustainability**

29 OCTOBER, 2020

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Introduction

On October 29th, the Brazilian Center for International Relations (CEBRI), in partnership with Insper's Global Agribusiness Center (Insper Agro Global), organized the event "Brazil-China post-Covid-19: food security, food safety and sustainability", supported by the Embassy of China in Brazil. It is the third and last event in a series of webinars, dealing with Brazil-China cooperation in the post-Covid-19 era. Gathering renowned experts from academia, business representatives, and governmental authorities, the event addressed shared challenges and perspectives from China and Brazil within the areas of food security, food safety, and sustainability, as well as opportunities for bilateral cooperation, trade, and investment.

As both countries respond to the Covid-19 pandemic, bilateral trade has been reinforced as an essential component of food security strategies and economic recovery efforts. From the Brazilian perspective, the agricultural sector is expected to be a pillar of economic recovery in the post-Covid-19 era. Given China's continuous demand for agricultural products, Brazil's agri-food exports have not only persisted throughout the pandemic but also increased in comparison to the levels of 2019 – highlighting the mutual dependence between both economies.

The Covid-19 pandemic has also reinforced concerns over food safety, requiring clear and transparent communication between Chinese and Brazilian authorities in order to sustain steady trade flows. The trust-building gains achieved during the pandemic might also have lasting effects for market-opening efforts, facilitating the negotiation of sanitary and phytosanitary protocols and underpinning efforts to diversify Brazilian exports to China, by opening markets for products such as corn, fruits, and vegetables. However, market opening negotiations must be followed by successful marketing strategies by private companies, considering Chinese consumers' changing consumption patterns and demands, particularly regarding sustainability.

After decades of agricultural modernization focused on securing productivity gains, sustainability has come to the forefront of Chinese food security strategies. As the government has pledged to peak CO_2 emissions before 2030 and achieve carbon neutrality by 2060, major players in the agri-food sector have followed with their own commitments to promote sustainable practices – such as COFCO's goal of achieving 100% traceability for all soybeans imported from Brazil by 2023.

With persisting challenges in both countries within areas such as soil degradation, water quality, air pollution, and illegal deforestation, there is room for bilateral agricultural cooperation and investment. The mutual dependence between Brazil and China in the agri-food sector seals a long-term strategic partnership in food security, food safety, and sustainability, facing global food and environmental challenges.

Food security and sustainability in China and Brazil

As China finds itself in the last stages of elaborating its 14th 5-year-plan, the modernization of Chinese agriculture emerges as a key policy priority. China's agricultural development is also highlighted as a major priority of China's "Vision 2035", a strategy expected to set a new paradigm in Chinese economic development.

Since the economic reforms of the 1970s, Chinese agriculture has evolved consistently and reached high levels of productivity and innovation, currently relying on Industry 4.0 applications, artificial intelligence, robotics, drones, among other resources. After decades of agricultural development, China has become a major global producer of grains and oilseeds – with a production of 664 million tons in 2019, especially of wheat, corn, rice, and soybeans. Although only one-tenth of the world's arable land is located in China, it currently produces around one-fourth of the world's food and feeds one-fifth of the global population.

In Brazil, agricultural productivity has also undergone major transformations during the 1970s' Tropical Tech Revolution, setting the stage for its consolidation as a global producer and exporter in the agri-food sector. Through research and innovation, this process improved crops that are currently central to the bilateral trade relationship with China, such as soybeans, cotton, and sugar. Over the past decade, Brazil's soybean production has almost doubled and is projected to reach 133 million tons in 2021. At the same time, Brazil's soybean exports are forecasted to reach 85 million tons in the same year, - 65 million of which are destined to China. While Brazil's corn production has also doubled over the past decade – currently representing the country's second-largest crop – the Brazilian corn still faces restrictions in accessing the Chinese market.

The boom in Brazil's agri-food exports to China in the past decades is closely related to long-term demographic trends in China, including urbanization and improvements in income. The structural changes in consumption patterns across China have transformed the national food security landscape, as urbanization and industrialization have caused China's arable land to

steadily decrease: China's per capita arable land currently represents only 40% of the world's average. Unable to satisfy its growing demand with domestic production, China became a net food importing country in 2000.

As arable land has decreased, China has invested significantly in preserving quantity and quality of land, through investments in productivity-enhancing technologies, crop improvement, and widespread use of agricultural machinery – with mechanization rates in grain production currently reaching over 80%. In order to preserve its limited quantity of arable land, China has set a minimum red line of 120 million hectares of cultivated land as a threshold to ensure national food security.

After decades of agricultural modernization focused on increasing yields and productivity, sustainability and land quality have come to the forefront of China's food security strategies in recent years. As China has pledged to peak CO_2 emissions before 2030 and achieve carbon neutrality by 2060, the agricultural sector is expected to play a significant role in this process. In order to protect the quality of land and promote efficient and sustainable land use, China has been implementing a policy of balancing the occupation and replenishment of arable land – having developed over 42 million hectares of high-standard farmland since 2011. These land-use transformations have also played an important role in reducing poverty across China, as per capita grain consumption has risen from around 300 kilograms in 2003 to 470 kilograms in 2019.

Nonetheless, key environmental challenges remain within the areas of water quality, pollution, pesticide use, and soil degradation – as 40% of total arable land in China faces degradation, soil salinization, or desertification. In addition, uncertainties and natural disasters caused by climate change pose additional challenges for Chinese farmers. Likewise, Brazil's agri-food sector faces major environmental challenges, related to fighting illegal deforestation, preserving biodiversity, and securing land tenure. As consumers in China and elsewhere become increasingly aware of products' environmental impact, sustainability becomes a major concern for Brazilian producers to access global markets.

In China, the environmental difficulties posed by water availability are a key concern for producers, associated with an unequal geographical distribution of water across China: Although China's agricultural production is concentrated in Northern provinces, water is mostly available in Southern China. In recent years, major public and private investments have financed irrigation infrastructure and modern water-saving technologies – with the irrigation area currently accounting for around 50% of total farmland in China.

Farmers in China are also challenged by increasing costs in grain production, such as rice, corn, and wheat, due to rising costs of chemical inputs (e.g. fertilizers), of machinery, labor, and land. Moreover, despite high rates of mechanization, the use of agricultural machinery is often constrained by the limited size of arable land per household in China, especially in mountainous regions. For this reason, institutional reforms aimed at increasing the average size of farms are needed, in order to promote further mechanization and labor replacement, especially as the share of elderly farmers tends to increase due to rural-urban migration. Finally, post-harvest wastes and losses pose additional challenges to Chinese farmers, with 55 million tons lost each year throughout storage, transportation, processing, and consumption, especially in grain production.

Given the multiplicity of challenges facing China's domestic agricultural production, comprehensive national food security strategies must address not only the quantity and quality of arable land, but also the reliability of international suppliers – including Brazil, as the main single supplier of China's soybeans, beef, wood pulp, poultry, and sugar imports.

Bilateral trade: diversification and food safety

Despite the disruption of value chains caused by the Covid-19 pandemic, agricultural exports from Brazil to China reached a record high during the first semester of 2020, amounting to US$ 22 billion – a 27% increase in relation to the same period in 2019. This performance can be attributed to at least three factors: China's fast economic recovery from Covid-19, the lasting effects of the US-China trade conflict, and the consequences of the African Swine Fever epidemic in China.

While Brazilian soybean exports were favored by trade restrictions placed on the US by China, the African Swine Fever – which reduced China's swineherd with over 35% – sharply increased the demand for Brazilian animal protein, especially beef and pork.

The Covid-19 pandemic has also raised concerns over food safety in bilateral trade, with special attention given to animal protein cold-chain imports by Chinese authorities, who have been extremely cautious about a possible resurgence of the virus. In this context, the Brazilian Ministry of Agriculture, Livestock and Supply (MAPA), in particular its China Desk, has played a key role in preserving steady bilateral trade flows, by establishing transparent communication channels with Chinese authorities and adopting measures to reduce contamination risks among workers in meat processing plants, based on international standards and WHO recommendations.

The continuity in bilateral trade is also explained by structural complementarities between both economies, beyond circumstantial factors. While around a quarter of Brazil's GDP is represented by agribusiness, manufacturing accounts for 27% of China's GDP (versus 9% in Brazil), hinting at structural complementarities. Accordingly, Brazil's role as a supplier of agri-food products to China is attested by its large share in China's food imports, representing 86% of China's total soybeans imports and 19% of total agricultural imports in 2019. In the same year, China was the destination of 38% of Brazil's total agricultural exports, illustrating a mutually dependent and complementary bilateral trade relationship.

Brazil-China: mutual dependence in agriculture

Value in 2000/2019, anual growth, ranking & share

Product	Exports Brasil > China-HK (US$ milhões)		Annual Growth	Ranking and % of the total trade in 2018	
	2000	2019	% CAGR	Exports Brazil to China-HK**	Imports China-HK from Brazil***
Soy	358	20,684	24%	1º (83%)	1º (76%)
Beef	42	3,749	27%	1º (45%)	1º (37%)
Wood Pulp	54	3,250	20%	1º (42%)	1º (26%)
Poultry	75	1.527	17%	1º (18%)	1º (47%)
Pork	61	923	15%	1º (51%)	3º (13%)
Cotton	1.2	830	41%	1º (32%)	3º (11%)
Sugar*	0.07	824	64%	2º (08%)	1º (49%)
Total (Agri-food)	**1,000**	**34,029**	**20%**	**1º (38%)**	**1º (19%)**

Fonte: SECEX (2020), UN Comtrade (2020).
Values consider China and Hong Kong.
Total (agro) calculated on the MAPA classification of agrobusiness
*In sugar we consider the year 2016, which preceds the application of safeguards, which significantly reduce the Chinese imports of this product between 2017 e 2019
** Posiiton of China + Hong Kong as destinations of Brazilian exports and participation (%) in 2018
*** Brazil's position in the China + HK imports and participation (%) in 2018.

Moreover, Brazil's agri-food exports to China have been experiencing important diversification gains towards higher-value added products, particularly animal protein – although there is room for further diversification within the agri-food sector. From the Chinese perspective, **improvements in living standards and consumption patterns in China create a growing demand for higher quality food products, offering opportunities for diversification in Brazilian agri-food exports**. For instance, there are opportunities in niche markets such as organic soybeans, to be further explored by select Brazilian producers. In addition, Brazilian fruits and vegetables have a strong potential to reach Chinese consumers, as illustrated by the Brazilian melon, which gained access to the Chinese market in 2019.

While Brazilian authorities are aware of the need to diversify exports towards higher value-added goods, with lower exposure to price volatility, the endeavor requires engagement from multiple actors: from market opening efforts by governmental agencies to successful marketing strategies by private companies. Regarding market opening, MAPA has been actively engaged in the negotiation of sanitary and phytosanitary protocols with Chinese authorities, having already opened markets for around 90 new products since January

2019 – including traditional Brazilian nuts and herbs. However, the slow pace of negotiations – which must be conducted for one product at a time – can be aggravated by frictions in the bilateral relationship, as Chinese authorities must prioritize among demands by multiple trade partners. For instance, a bilateral protocol to allow regular exports of Brazilian corn to China is currently under negotiation, pending an agreement on its review from the Chinese side. On a positive note, the trust-building efforts and clear communication channels established in the context of the response to Covid-19 may contribute constructively to streamlining the negotiation of new protocols.

However, once new markets are opened, it is essential that adequate trade promotion and marketing strategies are in place for products to successfully reach Chinese consumers. Considering the diversity of consumption habits across different Chinese provinces, branding strategies must be carefully tailored to each region's particularities. In this process, Brazilian companies with a local presence in the Chinese business are better positioned to successfully market their products. Considering the costs of establishing a local presence in China, these efforts can be more feasible if undertaken through company clusters or sectorial associations. In addition, partnerships between Brazilian and Chinese companies may be instrumental in gaining knowledge and experience on local markets – a strategy often adopted by Chinese companies investing in Brazil.

Opportunities and challenges for investment and bilateral cooperation

Over the past decade, Chinese foreign direct investment in Brazil has reached unprecedented levels, amounting to around US$ 58 billion in 2018. **The agri-food sector stands out as a key destination of Chinese FDI in Brazil, where major players such as COFCO are present across different stages of agricultural value chains, seeking predictability in the supply of food products.** In the case of COFCO, its role as a major importer of soybeans, sugar, corn, and animal protein from Brazil is complemented by major investments in crushing, biodiesel production, processing, and other activities along agricultural value chains.

However, despite COFCO's strong presence in Brazil, rates of return for investments have not been optimal over the past decade, given stagnated growth rates, high currency devaluation, and a range of persisting bottlenecks in Brazil's business environment. The economic recession caused by Covid-19, for instance, has drastically aggravated the devaluation of the Brazilian currency, causing major losses for foreign investors. Between 2010 and 2020, the Brazilian real devalued around 220%, limiting profits for COFCO and many other long-term investors.

In addition, Brazil's complex tax system, with multiple charges at the federal, state and municipal levels, places an additional burden on investors, both foreign and national. According to the World Bank's 2020 Doing Business report, Brazil ranks as 124th out of 190 economies in "ease of doing business", scoring significantly below other BRICS countries. In this context, a stable currency and comprehensive tax reform would go a long way in attracting and maintaining Chinese foreign investment in Brazil.

Another major challenge faced by foreign investors in Brazil's agribusiness refers to freight and logistics cost. The internal logistics cost in Brazil is 2.5 times higher than in China, as transportation is highly dependent on trucks.

Today, around 50% of soybeans and corn is transported by truck, 40% by train, and 10% by boat. In order to bridge the distance of over 1.5 thousand kilometers between Brazil's main producing state, Mato Grosso, and both Northern and Eastern ports, exporters must face extremely high costs.

On the other hand, the challenges in logistics can also be regarded as opportunities for infrastructure investments, particularly in railway systems. Additionally, in contrast to China's limited arable land per household, Brazil's typically large farmlands may also create opportunities for Chinese investments, considering farms' huge demand for capital, chemical inputs, seeds, fertilizers, and overall agricultural technology.

Finally, as China's main investors in Brazil's agribusiness are state-owned-enterprises, sustaining a good bilateral relationship is essential to attract investments, acting as both a stabilizer and growth engine for agricultural cooperation. Overall, shared challenges in food security, food safety, and sustainability require close cooperation not only in business but also between governments and within academia. In research and development, China has a strong tradition as a cooperation partner globally: Since 1996, China has sent over 1100 agricultural experts and technicians to about 30 countries in Africa, Asia, and Latin America. In this regard, there are important opportunities to be explored for Brazil-China cooperation in agricultural research, particularly in the areas of crop improvement and breeding.

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