BRAZILIAN CENTER FOR INTERNATIONAL RELATIONS

WEBINAR REPORT

The challenge of innovation and sustainability in agribusiness

8 DECEMBER, 2020

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In its activities, CEBRI prioritizes themes with the greatest potential to leverage the country's international insertion into the global economy, proposing pragmatic solutions for the formulation of public policies.

It is a non-profit institution, headquartered in Rio de Janeiro and internationally recognized. Today, its circa 100 associates represent diverse interests and economic sectors and mobilize a worldwide network of professionals and organizations. Moreover, CEBRI has an active Board of Trustees composed of prominent members from Brazilian society.

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8 DECEMBER, 2020

OPENING:

Luiz Fernando Furlan, CEBRI's Trustee Emeritus and former Minister of Development, Industry and Foreign Trade

Marcos Jank, Member of CEBRI's International Advisory Board and Coordinator of Insper's Global Agribusiness Center

PARTICIPANTS:

Paul Leonard, Member of the European Risk Forum (ERF)'s Council

Adriana Martin, Executive-Director for Innovation and Technology at the Brazilian Agricultural Research Corporation (Embrapa)

Ligia Dutra, Head of International Relations at the Brazilian Confederation of Agriculture and Livestock (CNA)

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Introduction

On December 8th, the Brazilian Center for International Relations (CEBRI) promoted the event "The challenge of innovation and sustainability in agribusiness", supported by BASF. Gathering a diverse range of stakeholders, from think tanks to agricultural research institutes and associations, the event addressed pressing global challenges related to innovation and sustainability and their implications for the agri-food sector in Brazil.

The event was moderated and hosted by Marcos Jank, Member of CEBRI's International Advisory Board and Coordinator of Insper's Global Agribusiness Center, and by Luiz Fernando Furlan, CEBRI's Trustee Emeritus and former Minister of Development, Industry and Foreign Trade. Following an opening lecture by Paul Leonard, Member of the European Risk Forum (ERF)'s Council, the event gathered insights from Adriana Martin, Executive-Director for Innovation and Technology at the Brazilian Agricultural Research Corporation (Embrapa), and Lígia Dutra, Head of International Relations at the Brazilian Confederation of Agriculture and Livestock (CNA).

Global trends and agricultural innovation in Brazil

Having experienced important innovation cycles in past decades, Brazil's agribusiness currently faces the challenge of preparing for a new cycle of technological innovation, coupled with sustainable practices, to consolidate its role as a major global agricultural producer and exporter.

The COVID-19 pandemic has only reinforced the agri-food sector's role as a pillar of Brazil's economic performance, driving prosperity and employment especially in Brazil's rural areas and local economies. Agribusiness has also been the main driver of Brazil's export performance during the pandemic: by the end of 2020, Brazil's trade balance is set to reach a surplus of over US$ 50 billion, a figure not many countries have been able to achieve this year.

Since before the pandemic, the global landscape has featured macro trends that have strongly influenced the agri-food sector. For instance, improvements in income per capita and urbanization, especially in China, have uplifted demand for animal protein exports. On the other hand, the intensification of protectionism worldwide has restricted access to certain markets, including as part of national food security strategies geared towards reducing dependence on agri-food imports, e.g. as observed in Russia and Saudi Arabia. The creation of strategic food reserves to prevent shortages during crises, as seen in China, has also influenced trade flows in the agribusiness.

Most significantly, global macro trends related to environmental, social, and governance (ESG) concerns have substantially affected the sector, as global investors increasingly evaluate companies' ESG performance when structuring portfolios. For instance, major global asset manager BlackRock has recently announced that, by the end of 2020, all its portfolios will be integrated to ESG. Accordingly, stock exchanges worldwide have reformulated sustainability indicators to better reflect growing ESG concerns, as observed in Brazil's Corporate Sustainability Index (ISE B3). In this context, topics such as product traceability and animal well-being have come to the forefront of consumer demands, challenging producers to mainstream sustainable practices and prevent, for example, the use of livestock originating from illegally deforested areas.

Given this changing global landscape and the growing demand for sustainable practices in agricultural production, an enabling regulatory environment for innovation is a pre-condition for the development of new technologies that couple productivity and sustainability in Brazil's agribusiness. In the past, Brazil's agriculture has undergone major technological transformations, introducing game-changing innovations and practices that have boosted agricultural productivity while ensuring sustainability, e.g. through direct seeding, crop-livestock-forestry integration, and overall low-carbon agriculture practices. Since the 1970s' Tropical Tech Revolution, grain production has increased five-fold in Brazil (while planted area has doubled), cattle herd has doubled (while rangeland has decreased), and the forestry sector has experienced productivity gains of 140%.

As a driving force behind agricultural innovation in Brazil, the Brazilian Agricultural Research Corporation (Embrapa) remains committed to its mission of promoting innovative solutions for the sustainability of Brazilian agriculture. Currently with 34 research portfolios in strategic topics, including climate change, digital and precision agriculture, biotechnology, and automation, Embrapa leverages partnerships with universities, public institutions, and the national and international private sector to develop cutting-edge technologies. For example, building on a 29 years-old partnership with BASF, Embrapa has developed an inoculant for biological nitrogen fixation in sugarcane – Aprinza –, enhancing crop productivity by up to 18%, coupled with sustainability gains.

However, beyond producing innovative solutions, a key challenge for Brazil's agricultural innovation refers to the diffusion of new technologies across the country, especially for smallholder farmers. According to the 2017 agricultural census, only one third of producers use agricultural defensives, while the remaining thirds are often unable to afford such productivity-enhancing technologies. In addition, the share of producers receiving technical assistance has fallen over the past decade – from 22% in 2006 to 20% in 2017 – stressing the need to invest in technical assistance as a tool to diffuse new technologies among smallholder farmers.

Looking ahead, global trends require from Brazil a new cycle of innovations focused on sustainability in order to consolidate its role as a global agri-food producer and exporter, exploring areas such as gene editing, digital and precision agriculture. To enable the technological breakthroughs of the future, however, it is essential that Brazil has in place a regulatory framework that is able to balance two complementary requisites: the need for precaution when developing new technologies, considering their potential social and environmental impacts, but also the need for innovation and risk taking.

The innovation principle

The European regulatory environment offers important lessons in institutionalizing the need for innovation as part of legislative and decision-making processes, advocating for a balance between precaution and innovation in policymaking.

Over the past decade, European innovative businesses have shown growing concern over the negative effects caused by increasingly risk-averse legislation on businesses' ability to innovate and invest in new technologies. While precaution is acknowledged as an essential principle to safeguard societal and environmental integrity, it is argued that technological innovation is an inherently risk-taking activity that requires certain levels of uncertainty and risk, often constrained by precautionary regulations.

From a historical perspective, major technological breakthroughs have frequently depended on certain levels of risk, including for the development of steam engines, medical radiography, mobile phones, and other foundational technologies. Historical experience has also shown the importance of media vehicles in promoting social acceptance or rejection of new technologies, whether through accurate or inaccurate depictions of such technologies.

Currently, it is uncertain if the regulatory environment for innovation in Europe is conducive to the development of the "enabling technologies of the future", including related to areas such as autonomous driving, artificial intelligence, nanotechnology, and synthetic biology. Within the agri-food sector, scientific progress in areas such as digital and precision farming, or gene editing, also requires some measure of risk taking.

Against this backdrop, in July 2014, twenty-two CEOs of innovative multinationals signed a letter to then-President of the EU Commission Jean-Claude Juncker expressing their concerns with the regulatory environment for innovation, and introducing a new idea to address its challenges: the innovation principle. Aiming to stimulate confidence and investment in innovation, the principle relates to the quality and application of EU legislation, expressing the general notion that: "*Whenever legislation is under consideration, its impact on innovation should be assessed and addressed*".

The European Council responded positively to the letter, setting a mandate for the EU Commission and Member-States to evaluate the potential of the innovation principle in stimulating competitiveness and innovation. However, the principle has been interpreted by consumer and environmental NGOs as opposing the precautionary principle, potentially undermining socio-environmental safeguards. In order to clarify this dichotomy, in November 2019, the EU Commission launched a study concluding that "*the innovation principle does not entail a deregulatory approach, and is not incompatible with the precautionary principle*" and that its use in EU policymaking "*is essential in addressing key challenges, from climate change to cancer*".

Rather than mutually exclusive, the innovation and precautionary principles are complementary and represent "two sides of the same coin". In order to address the global challenges of tackling climate change and achieving food security, policymakers will need to strike the right balance between precaution and innovation. In particular, the integration of the innovation principle into decision-making can significantly support agricultural innovation – a critical tool for achieving the UN Sustainable Development Goals, especially in the areas of water, food security, renewable energy, and climate change.

National regulations, private standards, and international trade

Beyond influencing businesses' ability to innovate, national regulations related to ESG have affected international trade in agribusiness. For example, differing national regulations regarding maximum residue limit (MRL) have greatly impacted agricultural producers.

Despite attempts by Codex Alimentarius to harmonize requirements internationally, MRL national regulations still vary greatly across countries, requiring exporting companies to comply with different regulations for each market – a cost ultimately passed on to consumers through higher prices. Similarly, the differences between countries' national regulations regarding genetically modified organisms (GMOs) also place burdens on agricultural producers, required to check whether each market has approved the use of specific GMOs during production – an issue particularly impactful for Brazilian agri-food exports to China.

In some cases, concerns over environmental sustainability have underpinned the design of national regulations ultimately restrictive to trade, often without a holistic view of regulations' impact on the economic and social dimensions of sustainable development. For example, national regulations on agrochemicals often disregard their impact on reducing water and land use, due to increased productivity. In the European Union, landmark sustainability-based regulations have been approved without solid economic viability analysis – in some cases, even without effective environmental gains: since 2013, the EU's Common Agricultural Policy (CAP) has introduced "greening" policies aimed at enhancing the environmental performance of CAP, based on direct payments to farmers for environmental services. However, in 2017 the European Court of Auditors demonstrated that such policies had little to no environmental impact, consisting essentially of an additional cash transfer program.

Moreover, the precautionary principle and ESG concerns have not only underpinned the design of public regulations, but also informed the creation of private regulation mechanisms. The proliferation of private standards in the past decade is closely related to the mainstreaming of sustainability concerns and the precautionary principle, resulting in a myriad of uncoordinated private certifications. According to the Ecolabel Index, there are currently over 500 different private sustainability certifications. In practice, however, it has been shown that many private standards offer little guarantees of products' sustainability, and tend to exclude small producers that are unable to afford certification costs. In addition, under certain circumstances, private standards may also restrict innovation, when prohibiting the use of specific technologies or methods.

Overall, although sustainable development is a global agenda that needs to be addressed by governments and businesses alike, it is important to ensure that public and private mechanisms are effective in reaching their sustainability objectives, also taking into account the social and economic dimensions of sustainable development.

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