THE COVID-19 PANDEMIC AND FOOD SUPPLY CHAINS: AN ANALYSIS OF SELECTED POLICIES TO MINIMIZE THE IMPACTS OF PRESENT AND FUTURE CRISES ON POPULATIONS AND MARKETS IN THE MERCOSUR CONTEXT

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List of keywords

- Covid-19 pandemic;
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- food supply chains;
- essential goods
- Brazilian Food Acquisition Program (PAA);
- family farming;
- Mercosur;
- e-commerce;
- international trade;
- competition law;
- Mercosur Digital System;
- public policy;
- institutional innovation.
EXECUTIVE SUMMARY

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INTRODUCTION AND CONTEXT OF THE TEAM REPORT

The COVID-19 pandemic generated severe health, economic, and social impacts. Several supply chains for essential goods have been affected in many ways. It was no different with food. Different problems have been identified in the food market, both on the demand side and on the supply side.

Our project has three fundamental purposes, directly related to the Sustainable Development Goal nº 2: “End hunger, achieve food security and improved nutrition and promote sustainable agriculture”. First, to examine in detail and explain the main problems encountered in food supply chains, based especially on the experiences of Latin America. The design and evaluation of excellent public policies first requires a solid understanding of the problems that must be tackled.

Second, to review some good public policies, measures, and practices adopted in the Latin American context. We analyze the Brazilian Food Acquisition Program (PAA), an important policy to promote food and nutritional security based on public purchases, describing its institutional arrangement, several empirical studies that suggest its effectiveness, and recent measures aiming to strengthen the program to respond in pandemic times. Next, we examine public policies for food and familiar agriculture in the context of the Mercosur. We then highlight the potential of e-commerce. Lastly, we examine some exceptional measures of competition law.

Third, to propose possible public policies to mitigate the effects of pandemics on food. We show how the Brazilian Food Acquisition Program (PAA) meets the best recommendations for our scope and propose that other states should replicate this policy. We also recommend that PAA be applied at the international level, which constitutes challenging institutional innovation, but can benefit from the Mercosur framework and digital platforms. We also propose the creation of the Mercosur Digital System. Finally, we provide competition law recommendations to reduce the negative effects of COVID-19.

We hope that this project will serve as a set of good policies and practices and can guide decision making to mitigate the effects of the pandemic on the population's food and nutrition security and on farmers' incomes. Section 1 covers the first objective in detail. Section 2 intends to develop the second objective and Section 3 covers the third.

KEY MESSAGES
We note that the COVID-19 pandemic has created several challenges in maintaining food supply chains. We summarize these challenges in seven subsections:

i) **Disconnection among supply and demand** - We show how the pandemic generates supply and demand shocks. The loss of purchasing power of the most vulnerable populations jeopardizes food security, labor shortages and difficulties in accessing markets affect small farmers, and logistical problems lead to supply chain disruptions.

ii) **Sector-specific characteristics** - seasonality, perishable food, storage and price volatility – We highlighted the main challenges to the food sector. Before the pandemic, small rural farmers already confronted challenges such as climate change, commodity price volatility and difficulties in accessing seeds, inputs, insecticides and fertilizers. The arrival of the pandemic brings new challenges, such as risks and uncertainties in the sale of perishable and fresh produce and low storage capacity and losses in production. Furthermore, the sector succumbs to other specific circumstances, such as seasonality that greatly affects food production. In this sense, the pandemic harms both producers and workers since this type of labor cannot easily move to telework, unlike other activities.

iii) **Family farming, food security and COVID-19** – This paper emphasized the importance of family farming as a measure for eradicating poverty, food security strategy, rural activity development, and traditional community preservation. The COVID-19 pandemic puts small farmers' health at risk due to their specific vulnerabilities, such as difficulties in preventing contagion, access to treatment and their age group that generally possess comorbidities. The illness' risk for these workers implies a possible decrease in food production, affecting market availability and commercial prices. In addition, supply chain disruptions undermine consumer access to these products, which has encouraged the demand for less healthy and more industrialized items. Moreover, small rural producers will suffer from the intensification of safety and hygiene controls on food products, as they may not have recourse to maintain the required quality, especially in the international market. Several developing countries, such as in Latin America and the Caribbean, will suffer as their economies depend on food exports.

iv) **Low liquidity and financing challenges** – When small farmers face liquidity problems, with low cash flow and difficulty in obtaining credit, they struggle to acquire the necessary inputs for production.

v) **International market dependence and possible threats** - fuel prices and exchange rate fluctuations – The dynamics of the international market in times of a pandemic ultimately hinder food imports, which especially damages those countries dependent on imports for the availability of basic foods. Latin American countries heavily depend on exports of energy sources and the sharp drop in fuel prices deteriorates the terms of trade for these net energy exporting countries, in turn reducing their revenues. In addition, fluctuations in exchange rates can further damage imports.
vi) **Tariffs and trade in Mercosur** – Although tariffs have stayed at a historically low level internationally, new tariffs have emerged due to trade wars between certain international actors. Countries traditionally set tariffs high at the Mercosur level for the import of essential agriculture inputs from developing countries and developed countries imposed several tariff barriers on agricultural products, including fresh foods. Due to the pandemic and considering the institutional and international context institutions must promote mechanisms that lower tariffs to enable low cost inputs for family farmers and guarantee access to international markets.

vii) **Non-tariff (sanitary and phytosanitary) measures** – Mercosur does not contain a convergence of sanitary and phytosanitary measures, which proves an issue of dispute between Argentina and Brazil. During the pandemic, however, the countries raised no new restrictive sanitary and phytosanitary policies, instead opting to take facilitating measures. Countries in the region impose restrictive measures for export products, such as red beans and pesticides, claiming security issues.

We present a few successful policies and practices to address some of these challenges, explaining these policies in four subsections:

i) **The Food Acquisition Program in Brazil** – The Food Acquisition Program (PAA) constitutes a Brazilian policy that consists of the public purchase of food produced by family farming and the distribution of a large portion of this food to the population in a situation of food and nutritional insecurity or social vulnerability. Strong empirical evidence demonstrates that PAA strengthens family farming and contributes to combating food insecurity. Although the program has suffered budget cuts since 2012, Brazil has recently taken some initiatives to expand the PAA budget, on an emergency basis, to tackle the effects of the pandemic.

ii) **Food policies for familiar agriculture in Mercosur** – In this section, we present the Reaf, an instrument used inside Mercosur to discuss and implement policies for small farmers, especially those considered family farmers. The meeting contributed through the development of one unified definition of the meaning of family agriculture for the members of the bloc. The institution also helps in propagating good public policies, such as PAA, through technical assistance and creates one Fund to finance projects, called the Fund of Familiar Agriculture.

iii) **E-commerce measures in Brazil and Mercosur during pandemic times** – Throughout the section we demonstrate the growth of e-commerce during the pandemic and its ability to improve efficiency. The SNR/CENAR system proves one of the best models, because it allows farmers, consumers and logistic companies to better coordinate actions to increase the market mechanisms of supply and demand. The initiative of the protocol of mutual recognition of firms in Mercosur serves as one regional initiative that could help to increase the exchange of products and solve logistical problems.

iv) **Competition law measures: co-operation among competitor examples and anti-price gouging** – Throughout the section, this paper explored the possibility of cooperation among competitors through
approved agreements, for the duration of the pandemic crisis, through the relaxation of certain horizontal practices. The measure seeks efficiencies that help several sectors, including the food sector, such as a) maintenance and/or improvement of production processes; b) distribution and supply of goods; c) reduction of variable and fixed costs; d) optimization of resources such as labor, inventory, and storage capacities; e) cooperation to ensure the flow of production for exportation and importation. We have highlighted some historical examples of collaboration agreements used to mitigate the effects of natural disasters and the main recent agreements approved in developed countries facing the pandemic. We also listed some measures regulated in Latin America and some difficulties competition authorities will face in approving these agreements, such as the risk of price gouging, which may require sophisticated institutional articulation and regulation in some sectors.

Upon analyzing the set of challenges and examining the selected set of good practices, we suggest the adoption of some public policies, explained in four subsections:

i) **The Food Acquisition Program: possibilities of expansion, replication and internationalization** - The PAA meets FAO recommendations to mitigate the impacts of the pandemic on the food supply chain, both the side of supply and the side of demand. Brazil, which already has a legal and institutional arrangement established for implementing the PAA, should strengthen this policy, expanding its coverage and allocating more resources. We also show that this policy has the potential for replication by other states. Finally, we suggest that states may implement a similar model at the regional or international level, considering the existing mechanisms and structures inside Mercosur, such as the Reaf and the Familiar Agricultural Fund and benefiting from digital innovation.

ii) **The creation of Mercosur Digital System** – We argue that the creation of Mercosur Digital System could favor and optimize the free trade of perishable food, guaranteeing food security and income for producers through the digital integration of data from the agricultural and livestock trade, facilitation of commercial transactions, and agility in communication between public and private agents involved.

iii) **Competition Law recommendations: crisis protocol for exceptional approval of cooperation agreements and alignment with consumer protection** - As a measure for adoption in a possible crisis protocol in an international agreement, we recommend the creation of special administrative procedures aimed at speeding up agreements among competitors in a pandemic context. To this end, we recommend the following basic guidelines for competition authorities to observe, such as the standards that the OECD sets forth: (i) indispensability of the agreement in dealing with this specific market disturbance due to the COVID-19 crisis; (ii) maintenance or stimulus for manufacturing, supply, distribution of a product, or preservation of the functioning of supply and distribution chains as a goal; (iii) consumer welfare as the ultimate goal; (iv) time limitation of the collaboration; (v) prohibition of exchange sensitive information. We also recommend a model for the
Latin American context, the procedures of the Administrative Council for Economic Defense (Brazilian competition authority), adapting it to each specific jurisdiction, ensuring legal security, standardization and speed responding to health emergencies. This allows production chains to function even in a global pandemic. Finally, as an accessory measure, we recommend the increase of institutional cooperation and synergy among agencies responsible for competition defense and consumer law, to instruct market players against price gouging practices and other conducts harmful to competitors and consumers, an essential element in a context of emergency crisis.
ABSTRACT

In recognizing that the Covid-19 pandemic has severe impacts on food supply chains, we state three objectives. First, explaining the main risks and impacts that the pandemic generates for populations and markets, especially in Latin American countries, aggravating the already enormous and fundamental challenge of promoting food security. Second, to review a selected set of good practices in the context of Mercosur: the Brazilian Food Acquisition Program (PAA), policies for food and familiar agriculture in Mercosur, the potential of e-commerce, and exceptional measures of competition law. Third, based on analysis of these good practices, to propose possible public policies to mitigate the effects of pandemics on food supply chains, including an international version of the Food Acquisition Program, the creation of the Mercosur Digital System, and competition law recommendations.
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INTRODUCTION

Recent estimates for 2019 show that 690 million people were undernourished, representing 8.9 percent of the global population. Initial analysis shows a growth in the number of hungry people in the world, even without considering the effects of the COVID-19 pandemic. However, the COVID-19 pandemic will certainly make the situation worse, considering its impacts on health and nutrition, food availability, and general socioeconomic consequences. Preliminary projections suggest that undernourishment may affect an additional 83 to 132 million people in 2020 due to the impacts of COVID-19. Furthermore, 25.9 percent of the global population, which comprises two billion people, “experienced hunger or did not have regular access to nutritious and sufficient food in 2019”\(^1\).

This indicates a failure in promoting Sustainable Development Goal nº 2: “End hunger, achieve food security and improved nutrition and promote sustainable agriculture.” On the contrary, we continue to move away from this fundamental objective. This necessitates an examination of the possibilities for mitigating the effects of the pandemic on food supply chains, striving to make the supply chains more resilient and to protect consumers and fragile producers. This analysis will benefit from lessons learned through previous experiences and good practices adopted by other countries. These lessons learned must adapt to the specific crises of the present and the future, starting, naturally, with the pandemic of COVID-19.

The COVID-19 pandemic generated severe health, economic, and social impacts, affecting several supply chains for essential goods in numerous ways. Food supply chains were no exception. Different problems have arisen in the food market, both on the demand and on the supply side and we can summarize the main problems as follow: i) difficulty in accessing markets; ii) changes in the demand profile and consumer preferences; iii) drop in demand due to the closure of schools and other spaces; iv) shortage of labor for agriculture, especially in intensive labor production; v) price volatility; vi) difficulties in accessing credit, inputs, and services; vii) general logistics problems; viii) loss or deterioration of the income of the poorest; ix) storage difficulties and perishable food; x) problems related to the seasonality of production; xi) budgetary bottlenecks in the implementation of the necessary public policies; xii) low liquidity and financing challenges; xiii) international market threats and restrictions on international trade in countries dependent on food imports; xiv) intensification of problems related to tariff and non-tariff barriers.

Our project has three fundamental purposes. First, to examine in detail and explain the main problems encountered in food supply chains, based especially on the experiences of Latin America. The design and evaluation of excellent public policies first requires a solid understanding of the problems that must be tackled.

Second, to review some good public policies, measures, and practices adopted in the Latin American context. We analyze the Brazilian Food Acquisition Program (PAA), an important policy to promote food and nutritional security based on public purchases, describing its institutional arrangement, several empirical studies that suggest its effectiveness, and recent measures aiming to strengthen the program to respond in pandemic times. Next, we examine public policies for food and familiar agriculture in the context of the Mercosur. We then

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highlight the potential of e-commerce. Lastly, we examine some exceptional measures of competition law.

Third, to propose possible public policies to mitigate the effects of pandemics on food. We show how the Brazilian Food Acquisition Program (PAA) meets the best recommendations for our scope and propose and that other states should replicate this policy. We also recommend that PAA be applied at the international level, which constitutes challenging institutional innovation, but can benefit from the Mercosur framework and digital platforms. We also propose the creation of the Mercosur Digital System. Finally, we provide competition law recommendations to reduce the negative effects of COVID-19.

We hope that this project will serve as a set of good policies and practices and can guide decision making to mitigate the effects of the pandemic on the population’s food and nutrition security and on farmers’ incomes. Section 1 covers the first objective in detail. Section 2 intends to develop the second objective and Section 3 covers the third.
1. THE IMPACT AND CHALLENGES OF THE COVID-19 PANDEMIC ON FOOD SUPPLY CHAINS

The first section emphasizes the impacts of the global pandemic and consequent lockdowns on farmers. Before the pandemic induced problems, various economic agents linked to the agricultural industry already dealt with the effects of climate change and commodity price volatility on the international market. Now farmers face a global pandemic that directly disturbs food production and distribution chains.

The figure below illustrates the function of the food market and the main elements that compose its structure. As highlighted, the food market easily succumbs to minute changes. Changes on the international level can cause large-scale externalities, especially for the most vulnerable.

Figure 1 – Channels of transmission of the impacts of the Covid-19 pandemic on food and agriculture


The main challenges essential product suppliers faced in the list above point out which elements should receive consideration in the design of public policies against the COVID-19 economic crisis for this sector. First, we detail the major obstructions in the production and distribution of the agricultural market, especially the disconnection between supply and demand caused by lockdowns. Unemployment and consequent lower purchasing power have lowered demand and changed consumers preference. Furthermore, workforce paralysis, difficulties in

accessing inputs and fertilizers, and changes in production costs have compromised food supply chains. General market characteristics such as seasonality, difficulties in storing perishable food, volatile commodity prices and a loss of harvests all contributed to the disruption. These aspects, along with international market dependence, give a better understanding of how the sector works and its current circumstances.

This paper analyses the effects of Covid-19 on family farming and approaches family farming following the standards of Brazil, which exhibits known public policies for this sector. We approached the subject according to international goals that consider small producers in the eradication of poverty, public practices and food security strategies. The COVID-19 pandemic particularly weakens food supply, compromising food safety and food security. Because of specific vulnerabilities that we delineate in the following section, small producers and family farmers face greater difficulties in gaining access to the market, from bureaucratic barriers and from control over their perishable products, due to the risk of contamination.

This section also addresses issues related to the drastic decrease in liquidity in the market and financing problems. In general, small producers have lower credit security conditions and higher debt risks. In the face of the pandemic and economic crash, this situation tends to get worse.

Finally, this section continues to explore the impacts of tariff and non-tariff measures in a pandemic context, especially for Mercosur countries. Although the world has seen a general decrease in tariff barriers, the global pandemic forced countries to deal with a huge national economic burden, and these barriers will most likely increase again on the international level. This element defies the facilitation of commercial logistics between countries and affects the trade balances of developing countries.

Notwithstanding, during pandemic times, countries may feel tempted to raise their phytosanitary barriers as protectionist measures. This situation starkly affects the food sector in particular, which usually needs to deal with this type of regulatory barrier in international trade. In this sense, the lack of standardization and unclear aim criteria can sacrifice even more small producers, especially those who sell perishables products and fresh foods.

1.1. PRODUCTION, DEMAND AND LOGISTICS

1.1.1. DISCONNECTION AMONG SUPPLY AND DEMAND.

The COVID-19 pandemic has brought numerous challenges to markets in various sectors around the world, imposing a race for creative and innovative solutions to satisfy the immediate needs of society. The nature of the health crisis led to the adoption of general social distancing measures and lockdowns in most countries, causing a collapse in the dynamics of several markets through a major market failure: the disconnection between supply and demand.

Each region of the planet suffers from vulnerabilities caused by the consequences of Covid-19 on food systems. In Latin America and the Caribbean, for example, the dominant
vulnerabilities stem from a dependence on the international market, underdevelopment, and the risk of food insecurity when supply chains are affected.

Changes in the profile of demand and consumer preference occurred, especially as a result of the closure of schools and other public spaces. At first, the lockdown applied to numerous workers paralyzed the food sector, induced a higher demand for basic and non-perishable products, as also an increased demand for e-commerce. On the other hand, the trade of fruits, vegetables, and other perishables decreased. In addition, mass unemployment caused a shock in demand, further contributing to the deterioration of the incomes of the poorest. As a result, the population will most likely face lower purchasing power and changes in food habits and diet as a result of poverty, ultimately consuming cheaper and less healthy food. In developing countries such as those Latin American, this scenario can rise quickly in the pandemic context.

The global economic recession will increase poverty and hunger and other forms of food insecurity, especially in countries with weak social safety nets. ECLAC expects the GDP of Latin America and the Caribbean to contract by at least 5.3% in 2020, with sharper falls in Mexico (-6.5%) and South America (-5.2%) than in the Caribbean (-2.5%) and Central America as a whole (-2.3%). In Latin America, ECLAC (2020a) estimates that if the effects of COVID-19 lead the economically active population to lose 5% of their income, poverty could increase by 3.5 percentage points, while extreme poverty is expected to rise by 2.3 percentage points, equivalent to 13.5% of the region’s population, the highest incidence in the last two decades. This means that 15.9 million more people could fall into extreme poverty, bringing the total to 83.4 million people in 2020.

Because of these circumstances, many countries have organized programs to transfer resources to the poorest through financial or food assistance and extended the programs to cover all those in need.

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For supply, social distancing measures and movement restrictions have created transporting and supply chain barriers, hampering access to markets. In China, for example, small producers have found difficulties in selling their products and purchasing inputs, causing income decrease and production loss, a phenomenon that will negatively affect the next harvests. Logistical problems can lead to supply chain disruptions, especially in local retail and wholesale, such as farmers' markets and supermarkets. The supply of goods to these places succumbs to vulnerabilities, considering that generating crowds of consumers and workers in the sector became particularly dangerous during the Covid-19 pandemic.

The chart below illustrates some breaks in the food chains reported in the press in some Latin American countries.

**Chart 1 – Latin America and the Caribbean (11 countries): food supply chain disruption warnings**

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>EXAMPLES OF DISRUPTION WARNINGS</th>
</tr>
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<tbody>
<tr>
<td>Agricultural Production</td>
<td><strong>Colombia:</strong> Colombian Farmers’ Association (SAC), “Drama en el campo: no hay quién compra y las cosechas se pierden”, 25 May 2020 [online] <a href="https://sac.org.co/drama-en-el-campo-no-hay-quiencompre-y-lascosechas-se-pierden/">https://sac.org.co/drama-en-el-campo-no-hay-quin comprase-y-lascosechas-se-pierden/</a>.</td>
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<tr>
<th><strong>Cuba:</strong></th>
<th>agricultural production down as a result of lower incomes and the closure of the tourism sector.</th>
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<tbody>
<tr>
<td><strong>Harvest management and storage</strong></td>
<td>Brazil: coronavirus puts pressure on milk producer prices.</td>
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<tr>
<td><strong>Colombia:</strong> Contexto Ganadero, “Falta de transporte preocupa a productores de Nariño en medio de la pandemia”, 26 May 2020 [online]</td>
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<tr>
<td>Distribution to wholesalers and retailers</td>
<td>Brazil: COVID-19 causes a 9.6% drop in sales in wholesale markets in São Paulo.</td>
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<tr>
<td><strong>Peru:</strong> “Lima: Gran Mercado Mayorista Cerrará de manera parcial por el coronavirus”, 21 May 2020 [online]</td>
<td></td>
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<tr>
<td>Commerce: supermarkets and corner shops</td>
<td>Costa Rica: El Mundo, “87% de las pymes cayeron o detuvieron su actividad como resultado de la crisis del COVID-19”, 13 May 2020 [online]</td>
</tr>
<tr>
<td>Consumers</td>
<td>Antigua and Barbuda: Curfew and opening time restrictions have affected the sales of supermarkets and food businesses.</td>
</tr>
<tr>
<td>Chile: Mercopress, “Protestas en barrios populares de Santiago de Chile reclaman do trabajo y alimentos”, 26 May 2020 [online]</td>
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Moreover, these restrictions have affected food production itself, despite the production’s status as an essential service, because the reduction in the flow of people has led to labor shortages, especially in regions where agriculture depends on seasonal labor\(^\text{10}\) or labor-intensive production\(^\text{11}\). As such, these restrictions deeply affect rural workers and place them in a highly vulnerable group, as they cannot easily relocate to the labor market through telework, for example.

Disruption in the payment chain has specific consequences for the agricultural sector which is characterized by a multiplicity of actors, thousands — in some countries, millions — of small, informal agricultural companies that produce primary goods, dependence on climate and on other public goods, long biological cycles and price volatility, in addition to other uncertainties and risks\(^\text{12}\).

Small farmers, who once had to struggle with economic and environmental issues, now need to deal with the complex health issues brought by the pandemic. In regular times, small producers already are “very vulnerable to economic and environmental shocks; low incomes and volatile commodity prices; and livelihoods with high labor and operating costs, and limited investment and profit”\(^\text{13}\). This scenario worsened with COVID-19's conjunctures.

1.1.2. SECTOR-SPECIFIC CHARACTERISTICS: SEASONALITY, PERISHABLE FOODS, STORAGE AND PRICE VOLATILITY.

The problems worsen when farmers have low storage capacity for their products, causing a loss of production. Difficulties in meeting supply and demand are even more severe.
in cases of perishable food. This problem closely relates to the previous one: with difficulties in market access and an inability to store products, a loss of production logically follows\textsuperscript{14}.

In some contexts, small farmers find themselves dependent on inputs and services. Thus, the restrictive measures to combat a COVID-19 pandemic, such as closing ports and borders, limit access to the necessary inputs for production and greatly affect these farmers. Among other harmful effects, a fault in access to necessary inputs can drastically delay planting time. Due to the highly seasonal nature of agriculture, a delay in the proper planting time causes significant losses.

For example, in East Africa (Kenya, Somalia and parts of Ethiopia), planting for the main agricultural season starts now; any delays in input flows will cause a snowball effect. In the Sahel region, where acute food insecurity rose significantly last year (from 10.6 million in the 2019 lean season to 17 million forecasts in the coming lean season), the planting season starts in June and farmers need to access inputs as soon as possible\textsuperscript{15}.

The health, economic and social crisis caused by the COVID-19 pandemic has severely affected food supply chains and created challenges for maintaining food and nutritional security. To understand the food sector’s vulnerabilities to crises, we can learn from past experiences. After all, the world has gone through several recent health crises, such as cholera in Latin America in 1991; the plague in South Asia in 1994; HIV / AIDS in Africa in 1990-2000; the Severe Acute Respiratory Syndrome (SARS) in Asia in 2003; and Ebola in Africa in 2014, among others\textsuperscript{16}.

Africa, for instance, recently experienced an epidemic with some socioeconomic effects similar to the COVID-19 pandemic. The Ebola outbreak, from the end of 2013 to 2016, highlights the consequences of restrictive measures to contain disease on food supply chains, such as closing borders, closing markets and limiting the transit of people\textsuperscript{17}. Therefore, like the pandemic of COVID-19, the Ebola outbreak created systemic risks that affected various sectors of social life.

Ebola affected agricultural production due to less availability of work and restrictions on mobility, but the main impact was on the transport of products from production to consumers, which was “linked to collectors’ reluctance to travel to contaminated zones” and other transport difficulties\textsuperscript{18}. The Ebola outbreak can help us understand which supply chains have greater or lesser resilience to shocks. While more organized producers managed to better resist shocks and to use new regional trade circuits, other economic stakeholders could not, especially those with low storage capacity, perishable products, and more labor and input-intensive chains\textsuperscript{19}.

The food sector easily succumbs to price volatility and feels the influence of external factors. The trade of each product feels these effects in a different way, surfacing again during the pandemic situation. In the period before the Covid-19 pandemic, food prices faced relative volatility in the period from 2007 to 2011 and subsequent price increases from 2011 to 2015. However, since 2016, the situation maintained stability, with favorable conditions for food production, especially for the cereal market (forming the base of the diet of many cultures around the world). Along these lines, the global pandemic coincided with a decrease in prices for most food groups on the international scene. According to the ECLAC-FAO report "Preventing the COVID-19 crisis from becoming a food crisis: urgent measures against hunger in Latin America and the Caribbean", which considered World Bank data, average commodity prices decreased in the first five months of this year.

 [...] On average, food prices fell by 9.1% between January and April 2020, compared with declines of 12.5% in metal prices and 47.9% in energy prices. Most food prices have taken an overall downward trend (see figure 5). Rice was the only major product essential to food security to record an international price rise between January and May 2020 (15.7%). Meanwhile, the prices of wheat and maize fell, by 8.3% and 16.2%, respectively. Excluding bananas and arabica coffee, whose international prices climbed by 10.5% and 5.4%, respectively, key products in the region’s export basket also saw their international prices fall between January and May 2020. This was the case for soybean complex products —soybean cake (-4.7%), soybeans (-7.2%), soybean oil (-21.9%) — and for robusta coffee (-8.5%) and cocoa (-11.0%).

The figure below illustrated the prices of food products and fertilizers among January-May 2020.

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For the fertilizer market, through an analysis of the World Bank data from 2018 to 2020, we see a decrease in prices from October/November 2018 onwards. Notwithstanding, in the face of the pandemic, prices seem to exhibit growth in 2020.

**Figure 4 – International fertilizer prices, monthly, 2018–2020**

Price volatility in regards to inputs, fertilizers and insecticides mainly affect small producers, complicating the access to these essential goods and increasing the risk of supply disruption. Transport and locomotion restrictions caused by the pandemic further strain the situation. For this reason, fear of input shortages already disrupts the sector, especially the smallest and most vulnerable farmers.
Finally, the lack of transparency in international commodity price systems finds itself extremely noteworthy. A lack of information exists on the role of financial actors, governments and transnational companies, their competitive mechanisms, structures and internal powers over markets. Nontransparent information prevents the proper design and implementation of public policies that circumvent the problems the sector faces with the rise of the pandemic\textsuperscript{23}.

1.1.3. FAMILY FARMING, FOOD SECURITY AND COVID-19.

It is imperative to address the relationship between the general economic impact of Covid-19 and the specific impact on family farming, especially in developing countries.

In 2014 the UN General Assembly launched a guideline called International Year of Family Farming (IYFF) to increase the visibility of family farming and small farmers, focusing worldwide attention on its important role in the eradication of hunger and poverty, provisions for food and nutritional security, improvement of livelihood, management of natural resources, protection of the environment and for sustainable development, particularly in rural areas.

In Brazil, family farming finds itself equally important and holds a paramount role in the country’s economic aspects. Family farming includes all family-based agricultural activities and connects to several areas of rural development. Family farming serves as a means of organizing agricultural, forestry, fishing, pastoral and aquaculture production, mainly managed and operated by a family and predominantly dependent on family labor activities of both women and men.

According Brazilian legislation, family farming constitutes an economic activity presented in Law No. 11,326 / 2004. Family farmers and rural family entrepreneurs are those who practice activities in rural areas, have an area of up to four Brazilian fiscal modules\textsuperscript{24}, use family labor, gain a minimum percentage of family income from economic activities in their establishment and manage the establishment or enterprise by the family itself.

The identity of Brazilian family farming has a unique relationship with the land — a closer relationship due to family tradition. In Brazil, most municipalities have less than 20 thousand habitants and family farming serves as an integral part of the local culture and corresponds to the economic base of 90% of these municipalities\textsuperscript{25}.

The Covid-19 pandemic extends beyond just a health emergency, specifically for family farmers found in the higher disease risk categories because they not only have difficulty in treating and preventing the Covid-19 contagion due to their preexisting conditions, broader implications exist beyond merely health.


\textsuperscript{24} A fiscal module is a unit of measurement used as a legal parameter for its application in different contexts. It tries to express the minimum area necessary for a production unit to be economically viable.

\textsuperscript{25} BRASIL, ‘O que é agricultura familiar?’. Available at: <http://sistemas.agricultura.gov.br/vitrine/o-que-e-a-agricultura-familiar >.
According to Josephine Francis, President of the Farmers Union Network of Liberia (FUN), “farmers too sick to work in their fields or sell their produce will earn less money, making it more difficult to buy inputs, cultivate and sell and pay their debts”\textsuperscript{26}.

Family farmers feel the effects of Covid-19 in a complex and profound way due to the fact that the pandemic can affect the family farming sector in two fundamental aspects: food security and food safety.

First of all, we define food security as the basic availability of resources for a people's food satisfaction and their essential needs. FAO's official concept of Food Security states that: “food security exists when everyone, at all times, has economic, physical and social access to nutritious, safe and sufficient food to meet their dietary needs and food preferences for a lifetime active and healthy”\textsuperscript{27}.

The concept of food security reaffirms the need for immediate and timely attention. Systems should always urgently address the unavailability of resources, the lack of which constitutes a grave detriment to maintaining life.

Food safety differs from food surveillance in that food surveillance seeks to maintain the safety of food throughout the production process and to the final consumer, preserving quality and its essential elements for nutrition. Food safety constitutes the “assurance that food will not cause harm to the consumer when it is prepared and/or consumed according to its intended use”\textsuperscript{28}.

Since December 2019, when the first Covid-19 cases were identified in Wuhan, Hubei, China, local, regional and global food trade has felt the impact of food shortages and food supply chain transformation, mainly due to the disruptive changes in foreign trade.

Almost half a year after the first reported cases in Asia, with the expansion of the pandemic across the planet, countries initially affected by the disease have imposed phytosanitary barriers on food products from countries later affected by the virus that have the highest rates of contamination per capita in the world.

Importing countries justified the suspension of exports from countries and regional blocks that depend heavily on exportation, such as Latin America, by citing the exporting countries’ lack of control over food safety issues such as food surveillance and hygiene and a lack of control over food products. Such actions by the importers only increase the problems that these export-dependent regional blocks already face, especially with small agricultural producers who do not have the resources to maintain the quality of their products in accordance with international safety standards, especially in the context of the pandemic. Food safety standards must find a balance between protecting consumers and not transforming into a harmful economic barrier. These food safety policies contribute exponentially to the overall debate on international barriers to trade, now justified by an unprecedented phytosanitary crisis.


1.1.4. LOW LIQUIDITY AND FINANCING CHALLENGES

Difficulty in accessing markets and production drain can both worsen by the low liquidity of small farmers. The low cash flow and the difficulty to obtain credit can severely hinder farmers in maintaining their essential activities, which in turn creates problems for the acquisition of the necessary inputs for production.

In Brazil, the preexisting indebt scenario leads to an intensification of the problems in financing rural agricultural endeavors. Estimates show the total debt of agricultural producers at R$ 600 billion in February 2019. During the COVID-19 pandemic, Andaterra, a Brazilian national association of farmers and ranchers, has asked the Brazilian government for help through direct financing from the National Bank for Economic and Social Development, a Brazilian public company. Andaterra complains about the interest that financial institutions charge and about existing debts.

In 2019 Brazil created the Rural States Notes (Cédula Imobiliária Rural), a credit security that works as a financing method at the disposal of farmers. Once farmers cannot dispose of liquid money to pay a debt, the rural property becomes linked as a guarantee of the debt. However, this does not serve as an effective source of financing in times of crisis. Besides, the use of rural property as a guarantee of payment could have serious impacts for the most affected farmers, who had at least a reduction in their income, causing the loss of rural property and all the various consequences resulting from it.

FAO explains that the main economic response from governments has been to inject liquidity into the economy to sustain demand, “including postponing financial obligations, safety nets such as cash transfers for the newly unemployed, and adequate supply of credit”. However, in an action that also helps to sustain supply, rich countries have been using quantitative-easing to curb interest rates. These countries have also pursued emergency policies to expand credit for small businesses. FAO warns that the injection of liquidity will prove a challenge for emerging and poor countries.

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1.1.5. INTERNATIONAL MARKET DEPENDENCE AND POTENTIAL THREATS: FUEL PRICES AND EXCHANGE RATE FLUCTUATIONS.

Food supply chains find themselves vulnerable to factors related to the dynamics of the international market, which, in times of a pandemic, succumb to significant fluctuations. An important factor is the drop-in fuel prices. After all, many Latin American countries depend heavily on exports of energy sources. The sharp drop in fuel prices reflects the regression in economic activity caused by the pandemic and deteriorates the terms of trade for net energy exporting countries, ultimately reducing their revenues.\(^{36}\)

As a result, net energy exporters experience a reduction in their revenues, which also reduces their ability to import food, especially when these countries also maintain a net import of agriculture food products. On the other hand, the fall in fuel prices benefits net energy importing countries.\(^{37}\)

Exchange rate volatility also poses a risk for some Latin American countries. In February, March and April 2020, the region's currencies suffered significant devaluations. This may benefit some exporting countries to a certain extent, but the devaluation negatively affects importers. The strongest fluctuations in exchange rates occurred in countries that constitute at the same time net importers of agriculture food products and net exporters of energy. For those countries already affected by the fall in fuel prices, the depreciation of the exchange rate may make importing food even more difficult.\(^{38}\)

International market dependence for food availability proves a fundamental issue outside of Latin America as well. Some countries like Liberia, that depend on imports of staple foods like rice, suffer from the possibility of food shortages as such imports come mainly from Asian countries. These Asian countries tend to prioritize the supply of local markets in times of crisis, as explained by Josephine Francis, so the pandemic has profoundly affected the availability of food throughout the production chain.\(^{39}\)

1.2. TARIFF AND NON-TARIFF MEASURES AND TRADE IN MERCOSUR

1.2.1. TARIFFS AND TRADE IN MERCOSUR

As a consequence of the WTO effort and institutional environment, the average customs duties imposed worldwide are already very low. This does not mean that high tariffs do not still

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exist and create barriers to the movement of goods in several countries, especially agricultural goods and their inputs. Mercosur contains an imperfect customs union, which means free movement of goods between the States parties, except for the automotive and sugar sectors, and a common external tariff with some national exceptions. After the end of the tariff revocation schedule in 2019, a network of Economic Complementary Agreements signed under Latin American Integration Association created an almost free circulation area of goods, although the existence of some main exceptions such as sugar and autos.

The Mercosur, however, maintains a high common external tariff, constituting a barrier to the purchase of essential inputs for agriculture produced outside the bloc. For example, Brazil trades little and has average tariffs higher than those found in countries with similar characteristics.

Considering that the incomes of agricultural producers have dropped and the greater difficulties in acquiring inputs for agricultural production due to lockdown measures, easier access to these products must occur. Tariffs on fresh food, an enormous part of the market for family agriculture, stay very high and intermediaries products, such as fertilizers and pesticides, have heterogeneous tariffs, but stay high on the international level. The agreement between Mercosur and the European Union contains an effort to reduce these barriers that provides for tariff reductions for many products in the fresh food sector, which will prove an excellent opportunity for producers.

Despite the historically low levels of tariffs, recent events have shown an increase in the imposition of these measures by important players in the international system, of which the WTO already warned in its 2019 report. These measures have affected several agricultural product markets. Even before the outbreak of the health crisis, the increasing imposition of tariffs by the USA and the consequent retaliatory measures taken against the country, including food products, has demonstrated negative effects on economic growth, jobs and wages at US.

Latin America and the Caribbean, in addition to the free movement of goods, have adopted many measures to facilitate trade. Some, for example, address the problem of certificates of origin for granting tariff exemption to Mercosur in the pandemic’s context. Others, such as Resolution 49/19 of the Common Market Group, allow tariff reductions outside the commitments of the Common External Tariff in the event of shortages, a regulation not only incorporated by Paraguay.

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44 Erica York, ‘Tracking the economic impacts of U.S. Tariffs and Retaliatory Measures’. Available at: <https://taxfoundation.org/tariffs-trump-trade-war/>.
1.2.2. NON-TARIFF MEASURES

Producers usually endure cost variations, shocks to demand, difficulties in access to inputs, and other typical problems of economic relations in this market. Furthermore, farmers face bureaucratic costs to trade their products. This subsection explores some examples of disincentives brought by some regulatory barriers that can worsen the situation of the food sector, especially in the Mercosur.

The low level of tariffs imposed by states has placed non-tariff measures as the greatest threat to international trade. Nevertheless, not all these measures can be considered protectionist, as they prove fundamental in protecting human and animal life and safety within states, especially in a health crisis. These measures also serve to address logistical and organizational customs issues that do not necessarily constitute substantial barriers to trade and prove necessary for the good administration of trade policies.

Non-tariff measures include sanitary and phytosanitary measures, governed by the WTO SPS agreement, and technical barriers, governed by the TBT agreement, also by the WTO. In addition, import and export Quantitative Restrictions and export bans exist, both prohibited by GATT, but possible with certain exceptions. Other measures relating to anti-dumping and safeguards also lead to barriers and the WTO agreements govern these actions as well. All these rules contain a particular focus for the agricultural market, with some specialties in the RTA.

In the case of the fresh food market, much stricter health procedures for imports govern the actions of the sector, due to a much higher risk of spreading pests and other diseases. Sanitary and phytosanitary measures aim to protect human, animal and plant health through standards, procedures and controls applicable to international trade in agricultural products. These measures strive to ensure the safety and quality of food consumed domestically and exported, as well as the protection of the national territory against pests and diseases.

According to the SPS Agreement, any health measure imposed must take root in the best scientific evidence. The SPS Agreement states that the measures adopted by the countries must have as reference the standards established by the following International Organizations: the Codex Alimentarius, the World Organization for Animal Health (OIE) and the International Convention for the Protection of Vegetables (CIPV). Thus, the measure seeks to balance the objective of increasing free trade by harmonizing sanitary or phytosanitary measures and the consequent reduction of barriers to trade caused by different standards, with due respect to the right of members to choose their own levels of protection.

46 Sanitary or phytosanitary measures include all relevant legislation, decrees, regulations, requirements and procedures, including, inter alia, criteria relating to the final product; production processes and methods; the procedures for testing, inspection, certification and approval; quarantine regimes, including relevant requirements associated with the transport of animals or plants or the materials necessary for their survival during transport; the provisions relating to the relevant statistical methods, sampling procedures and risk assessment methods; and packaging and labeling requirements directly related to food safety. UNCTAD, ‘United Nations Conference on Trade and Development. Medidas Sanitárias e Fitossanitárias’. (UNCTAD, 2003). Available at: <https://unctad.org/pt/docs/edmmisc232add113_pt.pdf>.  
Bilateral or bi-regional trade agreements, which involve Mercosur, seek to detail the provisions provided for in the SPS agreement, among them, the deadlines for the emergency exchange of information in cases of pests, simplified rules for recognizing the equivalence of sanitary and phytosanitary systems, recognition of the principle of regionalization, scientific evidence and specific risk analysis, and less harmful alternative measures to trade.48

However, in Mercosur, little progress has occurred concerning the issue since the incorporation of the SPS Agreement as a regulatory framework of the bloc by the decision of the CMC n. 6/96. The bloc reached bilateral agreements49 on the issue that usually confined themselves to reaffirming the commitment of not using these measures as barriers. An Argentine parliament member at Parasul brought the possibility of an agreement focusing on the harmonization of these measures to the Mercosur Parliament, a document in which the parliamentarian also criticizes sanitary barriers imposed on fruits and other products50.

Thus, for the crisis of COVID-19, the FAO report51 proves immensely important, highlighting the non-transmissibility of COVID-19 through food products. According to the public database of the WTO and UNCTAD, Mercosur member states took no additional restrictive sanitary measures; in fact, measures were taken to digitize and harmonize sanitary and phytosanitary parameters. Nevertheless, some countries approved export restriction measures, such as the export ban on red beans in Honduras and El Salvador, for food security reasons, and export restrictions on various products, including food and inputs for agricultural production as insecticides, by Paraguay and Colombia. Although they did not address specific countries, the US circulated a complaint52 that member states were taking unnecessary sanitary measures against agricultural goods.

2. REVIEW OF INTERNATIONAL GOOD PRACTICES

This section reviews good practices at the domestic and regional level and addresses the problems described in the previous section. Each one plays a complementary role in maintaining the function of the food supply chain in Mercosur and other areas. The first and main policy we review, the Food Acquisition Program in Brazil, constitutes a public purchase program of food produced by family farming, with no need for public bidding, distributed to


49 Which included Bolivia, India, Chile, Peru, Southern African Customs Union and the group composed by Venezuela, Colombia e Ecuador. Other agreements waiting signature and ratifications which included the SPS measures are Mercosur-UE and Mercosur-EFTA.

50 Parlamento Del Mercosur. ‘Propuesta de recomendación del Parlamento del MERCOSUR al Consejo Del Mercado Común para implementar un Acuerdo General de Normas Sanitarias y Fitosanitarias que coadyuve a establecer un Estatus Fitosanitario Común e Integrado en el MERCOSUR y extensivo a otros países de la región lo que se refiere a la producción, inspección, muestreo, ensayos, importación, traslado y certificación del material vegetal’. (MERCOSUR, 2016). Available at: <https://www.parlamentomercosur.org/innovaportal/file/15585/1/2018.08.03-proyecto-barreras-fitosanitarias.pdf>.


52 COVID-19 testing on imported food and agricultural products and “letter of commitment” attestations (G/SPS/GEN/1798).
the population in a situation of food and nutritional insecurity or social vulnerability. We describe the institutional arrangement, empirical evidence of its effectiveness, and operationalization under the COVID-19 crisis. All countries in Mercosur and some countries in other regions have adopted this program with certain particularities through technical assistance provided by Brazil. We must also explain the institutional arrangement of the bloc to family farming and food policies. Furthermore, as a consequence of movement restriction and sanitary measures, the tendency of e-commerce accelerates. This acceleration serves as a channel to drain production and creates tools to improve firms’ efficiency, transparency, and market mechanisms. In the end, antitrust measures intend to describe the application of OECD recommendations in several countries, to promote cooperation among competitors and delineate how to minimize risks of market distortions.

2.1. THE FOOD ACQUISITION PROGRAM IN BRAZIL

2.1.1. INSTITUTIONAL ARRANGEMENT

As a public policy on food and nutritional security, in 2003, Brazil instituted the Food Acquisition Program (PAA). The program consists of the public purchase of food produced by family farming, with no need for public bidding. The government distributes the purchased food to groups that social assistance networks serve. Moreover, this public policy is intended to supply the regular consumption of public administration facilities, build strategic stocks, and promote family production.

Thus, in addition to promoting food supply with an goal to reduce food insecurity, the program aims to strengthen local and regional circuits and marketing networks, thus valuing biodiversity and organic and agroecological food production, encourage healthy eating habits and encourages associationism.

Either the Brazilian National Supply Company (CONAB) or public entities in partnership with states, municipalities and public consortia, through the Term of Adhesion, operate the program. The adhesion comprises the signature of a document that establishes the commitments between the Management Unit (Ministry of Citizenship or Ministry of Agriculture, Livestock and Supply) and the Executing Units to implement the program.

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53 The PAA budget consists of resources from the Ministry of Citizenship. According to article 23 of Law No. 12.512 of 2011, payment to suppliers is made directly by the Federal Government or through official financial institutions, with the agreement with credit cooperatives and cooperative banks for transfer to beneficiaries. BRASIL, ‘Lei nº 12.512, de 14 de outubro de 2011’. (BRASIL, 2011). Available at: <http://www.planalto.gov.br/ccivil_03/_ato2011-2014/2011/Lei/L12512.htm>.


56 The Management Unit may also propose, annually, to the Executing Units, the financial amounts, targets and parameters for the execution of the PAA. With the proposal, the units can also sign or not an Operational Plan. BRASIL. Ministério do Desenvolvimento Social e Combate à Fome, ‘Manual operativo do Programa de
The PAA Management Group defines the specific regulation of the program. The group constitutes a collegiate body comprising representatives of the Ministry of Citizenship, Secretariat of Family Agriculture and Cooperatives, Ministry of Agriculture, Livestock and Supply; Ministry of Planning, Budget and Management; Ministry of Finance; and Ministry of Education.

Through resolutions, the Management Group defines the measures for operationalizing the program. The group defines how the modalities work, methodology for setting reference prices for food purchases, donation conditions for purchased products, conditions for the formation of public stocks and criteria for prioritizing beneficiaries, suppliers and consumers.5758

Currently, the Program comprises six modalities: Simultaneous Donation, Direct Purchase, Inventory Building, PAA Milk, Institutional Purchase and Seed Acquisition. All of these modalities involve family production, differing according to their objectives, types of food purchased, source and limit of resources, and how farmers access them.

**Chart 2: PAA’s modalities**

<table>
<thead>
<tr>
<th>Modality</th>
<th>Policy function and description</th>
<th>Executing Body</th>
<th>Farmers access</th>
<th>Source of funds</th>
<th>Annual limit</th>
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57 For this purpose, are considered regional differences and the reality of family farming.


59 The GGPAA resolutions demonstrate the normative attention given to the dimensions of food and nutritional security. Resolutions no. 50 and 59 bring flexibility to the price research rule for organic products, which highlights the nutritional and environmental dimensions. The social dimension stands out when prioritizing supplier beneficiaries registered in the Single Registry for Social Programs of the Federal Government - CadÚnico, beneficiaries of the Bolsa Família Program, women, organic or agroecological food producers, indigenous people, quilombolas, land reform settlers and other peoples and traditional communities and the public served by actions of the Brasil Sem Miséria Plan. And GGPAA Resolution No. 68/2014 requires the exclusive acquisition of traditional, local and Creole seeds, which, as mentioned previously, meets the cultural dimension. BRASIL. Ministério do Desenvolvimento Social e Combate à Fome, ‘Manual operativo do Programa de Aquisição de Alimento: modalidade compra com doação simultânea’. (MDS, 2014). Available at: <http://www.mds.gov.br/webarquivos/publicacao/seguranca_alimentar/manualPAA.pdf>.
| Purchase with simultaneous donation | Agricultural promotion and consumption subsidy: Acquisition of various foods and simultaneous donation to receiving units, entities in the social assistance network and SAN equipment (Epsan) or directly to consumer beneficiaries. | Conab, States and Municipalities | Individual, cooperative, association and informal group | Ministry of Citizenship | R$ 6,500.00 per individual independent farmer; R$ 8,000.00 per family unit inserted in a supplier organization; R$ 2,000,000.00 per Supplier Organization |
| Direct Purchase | Agricultural promotion: Acquisition of a product portfolio directly from farmers. Purpose: to support the prices of a specific product list defined by the GGPAA; the constitution of public stocks of these products; and meeting the demands of food access programs (CONAB, 2019a). | Conab | Cooperative and association | Ministry of Citizenship or MAPA | R$ 8,000.00 per family unit |
| Institutional Purchasing | Agricultural promotion: Acquisition of food, with no need to bid, to supply the regular consumption of public administration facilities,^{60} | Interested entity | Cooperative and association | Public administratio n institution | R$ 8,000.00 per family unit |

^{60} After the purchasing agency sets the demand, a Public Call notice is published indicating the quantity of each product is demanded and their sale prices. The public call is defined as the administrative procedure aimed at selecting the best proposal for the acquisition of products from beneficiary suppliers and supplier organizations (art. 4, VI, Decree 7.775 / 2012). The definition of prices must be preceded by at least three properly documented surveys in the local or regional market. All those who submit proposals within the price stipulated in the notice will be qualified. BRASIL. Ministério do Desenvolvimento Social e Combate à Fome, ‘Resolução GGPAA nº 50, de 26 de setembro de 2012: Dispõe sobre a sistemática de funcionamento da modalidade de execução Compra Institucional, no âmbito do Programa de Aquisição de Alimentos da Agricultura Familiar - PAA’. (MDS, 2012). Available at: [http://www.mds.gov.br/webarquivos/arquivo/seguranca_alimentar/compra_institucional/RESOLUCAO_N50_26 SETEMBRO2012.pdf >].
<table>
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<tr>
<th>Stock formation</th>
<th>Agricultural promotion: Credit granted to producer organizations to build stocks.</th>
<th>Conab</th>
<th>Cooperative and association</th>
<th>MAPA</th>
<th>R$ 8,000.00 per family unit</th>
<th>R$ 1,500,000.00 per Supplier Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purpose: to financially support the creation of food stocks by family farming organizations / and add value to production.</td>
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<tr>
<th>Seed Acquisition</th>
<th>Agricultural promotion: Acquisition of seeds from food crops for donation to needy family farmers.</th>
<th>Conab</th>
<th>Cooperative and association</th>
<th>Ministry of Citizenship</th>
<th>R$ 16,000.00 per family unit</th>
<th>R$ 6,000,000.00 per Supplier Organization</th>
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<tr>
<td>Purpose: to stimulate food production, and promote food and nutritional security by donating raw materials</td>
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<tr>
<th>Incentive to milk production and consumption</th>
<th>Agricultural promotion and consumption subsidies: Purchase of milk for donation to needy families in states in the semiarid region.</th>
<th>State governments</th>
<th>Individual, cooperative, association and informal group</th>
<th>Ministry of Citizenship</th>
<th>R$ 4,000.00 per family unit per semester</th>
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The chart of the PAA modalities shows that the modalities have different spectrum but exist within the same macro objective of promoting food security and strengthening family farming. In terms of food security, the Purchase with Simultaneous Donation serves as the most comprehensive measure that considers both the profile of the beneficiaries and the territorial application, since besides strengthening agriculture, the consumption subsidy also has a political function through the national territory.

Program planning by the Executing Unit must match the entities’ demand for food and the supply of food by local family farming. In this stage, the Executing Units select the beneficiaries that supply the program, the entities to receive food, the products for purchase and define the prices in the purchase operations. In the end, the Participation Proposal registers in
the Computerized System of the Food Acquisition Program (SISPAA), which the Management Unit team subsequently analyses for approval.\(^{61}\)

After the selection of the beneficiary suppliers, states formalize a contract for participation in the program, and farmers receive a specific bank card from the Executive Unit, which pays for products.\(^{62}\) With the issuing of bank cards to participating farmers, the Executive Units may purchase their products and send them to registered organizations\(^{63}\) (consumer beneficiaries).\(^{64}\)

Supplier beneficiaries comprise family farmers settled by agrarian reform, foresters, aquaculturists, extractivists, artisanal fishermen, indigenous people, members of the remaining communities of rural quilombos and other traditional peoples and communities, who meet the requirements outlined in article 3 of Law 11,326, of July 24, 2006.\(^{65}\) The condition of "family farmer" is attested through The Declaration of Aptitude to Pronaf (DAP) establishes the parameters of “family farmer” or, in the case of farmers’ organizations, through the DAP Special Legal Entity. The Declaration of Aptitude to Pronaf (DAP) establishes the parameters of “family farmer” or, in the case of farmers' organizations, through the DAP Special Legal Entity.

Certain producers usually obtain DAP from entities linked to social assistance, or from Technical Assistance and Rural Extension or through the unions of the Federations and Confederations of Farmers. For producers that fall into special categories, such as indigenous peoples, quilombola, aquaculture, and settlers, obtain DAP from the respective agencies: National Indian Foundation (FUNAI); Palmares Cultural Foundation; Ministry of Aquaculture

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62 The payment is made directly by the Federal Government or through official financial institutions, the agreement with credit cooperatives and cooperative banks is allowed for the transfer to beneficiaries.

63 It is noteworthy that, in cases where the Receiving Unit is a Food Bank, Resolution No. 81 of the GGPAA provides that, since January 2019, the municipality must adhere to the Brazilian Network of Food Banks to participate in the PAA.


65 “Art. 3º For the purposes of this Law, a family farmer and rural family entrepreneur is considered to be one who practices activities in the rural environment, simultaneously meeting the following requirements: I - does not hold, in any capacity, an area greater than 4 (four) fiscal modules; II - predominantly use family labor in the economic activities of your establishment or enterprise; III - have a minimum percentage of family income from economic activities in your establishment or enterprise, in the manner defined by the Executive Branch; IV - run your establishment or enterprise with your family; § 2º Beneficiaries of this Law are also: I - foresters who simultaneously meet all the requirements referred to in the caput of this article, cultivate native or exotic forests and promote the sustainable management of those environments; II - aquaculture farmers who simultaneously meet all the requirements referred to in the caput of this article and explore water reservoirs with a total surface area of up to 2ha (two hectares) or occupy up to 500m³ (five hundred cubic meters) of water, when the exploitation takes place in network tanks; III - extractivists who simultaneously meet the requirements provided for in items II, III and IV of the caput of this article and carry out this activity by hand in rural areas, excluding garimpeiros and sparklers; IV - fishermen who simultaneously meet the requirements provided for in items I, II, III and IV of the caput of this article and exercise the artisanal fishing activity; V - indigenous peoples who simultaneously meet the requirements provided for in items II, III and IV of the caput of art. 3rd; VI - members of remaining communities of rural quilombos and other traditional peoples and communities that simultaneously comply with items II, III and IV of the caput of art. 3rd”. (BRASIL. “Lei nº 11.326, de 24 de julho de 2006: Estabelece as diretrizes para a formulação da Política Nacional da Agricultura Familiar e Empreendimentos Familiares Rurais”. Available at: <http://www.planalto.gov.br/ccivil_03/_ato2004-2006/2006/Lei/L11326.htm>.
and Fisheries or Federation of Fishermen; and National Institute of Colonization and Agrarian Reform (INCRA).

2.1.2. POSITIVE IMPACTS OF FOOD ACQUISITION PROGRAM ON STRENGTHENING SMALL FARMING AND PROMOTING FOOD SECURITY

Many empirical studies indicate that the PAA has positive effects for boosting the local economy, accessing new markets, increasing and diversifying income, and guaranteeing sales, among other aspects. A set of extensive studies indicates that PAA serves as an important tool for strengthening family farming and promoting food and nutritional security.

A note from the Institute of Applied Economic Research (IPEA), Sambuichi et al. compared the average percentage of GDP growth in municipalities with a GDP growth value equal to or greater than 0.005%, in the year following access to the PAA, to the percentage of growth of the municipalities that did not access it. They used a propensity score matching (PSM), considering the following control variables: population size, municipal GDP, GDP per capita, percentage of the urban area belonging to the metropolitan region and MHDI. The research took place in the years 2011 and 2012 and observed a higher percentage of GDP growth in the municipalities that accessed the program compared to those that did not. In 2012, for a municipality in the median of the distribution, access to the policy potentially resulted in an increase of 1.88 in the percentage growth of GDP.

Almeida et al., systematically reviewing empirical research on the PAA, categorized dozens of empirical studies that deal with the effects of this policy in the economic sphere (an increase of the GDP, improvement of the quality of the products and conquest of new markets), social sphere (an increase and diversification of income, guaranteed sales, food quality, and health improvement) and environmental sphere (the diversification of production, good agricultural practices, and incentives to short production circuits).

In turn, Sambuichi et al. analyzed 158 studies based on qualitative or quantitative data, primary or secondary, with adequate methodological description, on the PAA. In general, research indicates that public policy achieves good results. Among them, we highlight i) increased commercialization; ii) increased income; iii) boosting the local economy; iv) guarantee of production sale; v) strengthening of local food security networks.

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Carvalho and Pedroso Neto explain that access to a new market provided by PAA constitutes one of the main motivations for family farmers to join the program. Agapto et al. also claims that, by joining the program, small farmers could sell their products at better prices and with more security.

Queiroz et al., analyzing 22 family farmers who joined the PAA in Curvelândia, Mato Grosso, observed a real increase in the farmers' monthly income. Cavalcanti, in a survey in the municipality of Monteiro, Paraíba, also identified an increase in the income levels of farmers after the participation of the PAA.

Dias and Rocha, using 84 municipalities in the Rio Grande do Norte as a sample, performed regression with panel data to analyze the impact of the Food Acquisition Program. They concluded that the increase of 1% of public purchases made by the Federal Government, with cooperatives and associations of family farmers, contributes to the growth of 0.062% of GDP per capita.

Santos, Soares, and Benavides, using primary data obtained through the survey, examined, in the municipality's context of Ibicaraí, Bahia, the average monthly quantity of products sold, the average price of products and the average total revenue of farmers before and after PAA. Between 2009 and 2010, after access to the PAA, total revenue increased by 80.3%, net profit by 74.5%, and profitability by 395.9%. Product prices and quantities sold also increased.

The successful model of the PAA has led other states to replicate it. PAA Africa, for instance, is a cooperation initiative by the Brazilian government, the World Food Program (WFP) and FAO launched in 2012 and implemented in Ethiopia, Malawi, Mozambique, Niger, and Senegal. Santos et al. points out that the experiences of PAA Africa show positive results.

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73 N. Cavalcanti, ‘Diagnóstico socioeconômico do Programa de Aquisição de Alimentos no município de Monteiro-PB’ (Dissertação de Mestrado, Universidade Federal de São Carlos, Araras, 2016), p. 78. Available at: <https://repositorio.ufscar.br/handle/ufscar/7763>.


for farmers, including generating positive externalities in education, such as increasing school attendance, as local schools receive the purchased food.\footnote{R. Santos et al, ‘Effects of Government Programs on Food Acquisition for Family Farming: The Cooperative Seed between Brazil-Africa’. (Global Journal of Management and Business Research: Administration and Management, 2019), p. 29-30.}

Despite these strong empirical results, the resources allocated to the program have fallen expressively in recent years. The amount invested in 2018 (R$ 232,700,000.00) was approximately 20% of the amount invested in 2012 (R$ 1,157,100,000.00).\footnote{R. Sambuichi et al, ‘O Programa de Aquisição de Alimentos (PAA): Instrumento de dinamismo econômico, combate à pobreza e promoção da segurança alimentar e nutricional em tempos de Covid-19’. 2020, p. 14.} Considering that the PAA aligns with international recommendations for maintaining food security and strengthening family farming in times of the COVID-19 pandemic, institutions must reassess the trend of budgetary constraints the program has experienced through recent years.

### 2.1.3. THE FOOD ACQUISITION PROGRAM IN THE COVID-19 PANDEMIC

During the quarantine, which began in March 2020, the Brazilian Houses of Congress edited numerous bills to propose emergency measures to combat the COVID-19 pandemic. The Brazilian Chamber of Deputies recently proposed a package of emergency measures to support family farming. Several bills were appended to Bill n. 735/2020.\footnote{BRASIL. Câmara dos Deputados, ‘Projeto de Lei nº 735/2020: Fica criado o abono destinado a feirantes e agricultores familiares que se encontram em isolamento ou quarentena em razão da pandemia do COVID-19, consolante a Lei 13.979, de 6 de fevereiro de 2020, e que apresentam-se impossibilitados de comercializar sua produção também por medidas determinadas pelos executivos municipais’. (BRASIL, 2020). Available at: <https://www.camara.leg.br/proposicoesWeb/prop_mostrarIntegra?codteor=1867396>.}

Bill n. 886/2020 stands out, which provides for the creation of the Emergency Food Acquisition Program (PAA-E) and provides other solutions to relieve producers' indebtedness. Art. 2, item II of this project contains the following text:

Art. 2. Aside from other measures autonomously adopted by the government, the actions foreseen in the caput are part of:

[...]

II – the acquisition, by the PAA Food Acquisition Program, where there are no similar measures by state and municipal governments, of the portion of the production of family farmers and artisanal fishermen, sold directly, frustrated as a result of the spontaneous or compulsory suspension of the operation of fairs and other direct marketing equipment due to the measures to combat the pandemic of COVID-19.\footnote{BRASIL. Câmara dos Deputados, ‘Projeto de Lei nº 886/2020: Dispõe sobre medidas emergenciais de amparo aos agricultores familiares do Brasil para mitigar os impactos socioeconômicos da pandemia do COVID-19, durante o período de vigor do estado de calamidade pública no país, e dá outras providências’. (BRASIL, 2020). Available at: <https://www.camara.leg.br/proposicoesWeb/prop_mostrarIntegra?codteor=1870072>.}

In order to contribute to PAA's budgetary reinforcement and other measures, the bill suggests that the corresponding amount plus 15% of the appropriations related to individual parliamentary amendments to the Annual Budget Law (LOA) 2020 serve these purposes.
In this scenario, the Brazilian Federal Government issued Provisional Measure 957, on April 24, 2020, which allocated R$ 500 million for the purchase of products from family agriculture, through the Food Acquisition Program (PAA). Of this amount, R$ 220 million will be allocated for the National Supply Company (Conab), R$ 150 million for state and municipal governments, both in Purchase with Simultaneous Donation modality, and $ 130 million will be allocated to the PAA Milk modality.

On June 23, 2020, Law No. 14,016 (Bill 1,194 /2020) published, which aims to combat food waste and facilitate the donation of surplus food for human consumption. The text deals with the conditions through which agents should order food, and about donor responsibilities:

Art. 1 Establishments for the production and supply of food, including fresh food, processed products and ready-to-eat meals, are authorized to donate surplus not marketed and still suitable for human consumption, which meets the following criteria:

I - are within the validity period and under the conditions of conservation specified by the manufacturer, when applicable;

II - their integrity and health security are not compromised, even if there is damage to their packaging;

III - their nutritional properties and health security have been maintained, even if they have suffered partial damage or have a commercially undesirable aspect.

§ 1 The provision in the caput of this article covers companies, hospitals, supermarkets, cooperatives, restaurants, cafeterias and all other establishments that provide prepared food ready for consumption by workers, employees, collaborators, partners, patients and customers generally.

Paragraph 2. The donation referred to in the caput of this article may be made directly, in collaboration with the public authorities, or through food banks, other social assistance charities certified under the law or religious entities.

§ 3 The donation referred to in the caput of this article will be made free of charge, without incurring any charge that makes it onerous.

Strengthening the PAA may prove an important tool to ensure food and nutritional security in times of a pandemic, as well as minimizing outbreaks on the food supply chain. Therefore, this Brazilian public policy serves as an example of a good practice that other countries in similar contexts can replicate and in turn generate excellent results.

2.2. FOOD POLICIES FOR FAMILY FARMING IN MERCOSUR

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Mercosur already possesses a good framework for trade development of small and medium sized farmers, including a specific meeting specialized in family agriculture called the Specialized Meeting on Family Agriculture (Reunião Especializada de Agricultura Familiar) - Reaf. The Reaf is an auxiliary and advisory body of the Common Market Group\textsuperscript{84} (GMC) and functions to promote dialogue between representatives of states and social organizations within Mercosur\textsuperscript{85}. For an effective and efficient action in times of crisis, states should encourage the participation of trade associations, especially those linked to logistics companies. Reaf deliberations consist of proposals and recommendations that the Common Market Group (GMC) or Common Market Council (CMC) could approve. Once approved they become part of the normative instruments and guide the state parties and associates. One of the main functions of the forum has been the dissemination of public policies aimed at family agriculture.

Reaf’s construction of the consensual definition of the target audience and its policies, i.e. family farmers, shines as one of the groups most effective products\textsuperscript{86}. The parameters institutionalized by GMC Resolution 25/2007 require the predominance of family labor in productive activities, limiting the hiring of new employees. It also requires family responsibility for management and labor in production and the use of resources compatible with work capacity, activity developed, and technology used. The Declaration of Aptitude to Pronaf (DAP, a Brazilian entity) and the Law of Family Agriculture (Law n. 11.326) lay some groundwork for this definition, although these laws do not comply perfectly with the agreed upon terms of the adequacy of technology in use, because Brazil has fewer limitations on the use of new technologies by family farmers\textsuperscript{87}. Based on these guidelines, the countries created databases with records of their family farmers. These databases generate a vital source of addressing these public policies and an instrument for tracking possible needs.

Public purchases of food appeared in Reaf in 2010 under the Commercial Facilitation WG, when Brazil advocated for the formation of an “institutional market”\textsuperscript{88} for family agriculture based on the experiences with the PAA and the National School Feeding Program (PNAE). Apart from Brazil, other countries display examples of public purchases of food from

\textsuperscript{84} The Mercosur (Southern Common Market) was founded in 1991 by the Treaty of Asunción and was given legal personality and administrative structure by the protocol of Ouro Preto (1994). The institutional structure of the bloc includes: the Council of the Common Market (CMC): decision-making, ministerial level; it issues decisions or recommendations; the Common Market Group (GMC): executive function, with legislative initiative, launches proposals that will be considered by the CMC; issues resolutions; the MERCOSUR Trade Commission (CCM): technical character; based on its conclusions, the GMC can draft proposals for the CMC; issues directives; and the Joint Parliamentary Commission: no longer exists, it was extinguished with the entry into force of Parlasul (2007); Economic and Social Consultative Forum (FCES): body representing civil society, to discuss economic and social issues; it only expresses itself if consulted; Secretariat, Permanent Review Court (TPR, created by the Olivos protocol), Administrative-Labor Court and MERCOSUR Center for the Promotion of the Rule of Law (CMPED).

\textsuperscript{85} Available at: https://www.mercosur.int/quiénes-somos/organigrama-mercusor/


\textsuperscript{88} “These are purchases with government resources for programs such as school meals, popular restaurants, hospitals, army, purchase and donation of seeds among others.” Available at: <https://www.ufrb.edu.br/proext/images/conceitosmercado.pdf>.

family agriculture, including Argentina, Paraguay and Uruguay. All of these countries have particularities that they developed in the process of translating public policies, but can serve as an institutional basis for a program at the regional level. In addition, with a commitment to mutual recognition of the internal definition of family agriculture, at least in periods of crisis, the possibility emerges to create a single instrument for access to these government procurements within border municipalities and other stakeholders. This falls in line with the recommendation n. 02/14 of CMC, which discusses the creation of one unified label for family agriculture products in order to facilitate its differential trade.

Reaf also created another instrument through the Decision n. 45/08 of Common Market Council called the Family Agriculture Fund - FAF. The Fund serves to finance projects and programs for family agriculture inside Mercosur and allows the associating states and other organizations to participate in the initiatives when approved by “GMC”. Four countries contribute the necessary resources to the fund: Brazil (70%), Argentina (27%), Uruguay (2%) and Paraguay (1%). The fund collaborates extensively with international organizations such as FAO and IFAD, which already facilitate coordinated actions and transfers of experience.

2.3. E-COMMERCE MEASURES IN BRAZIL AND MERCOSUR DURING PANDEMIC TIMES

The commercialization through digital platforms has proved one of the key elements to deal with the restrictive sanitary measures imposed to contain the spread of virus. Due to these restrictions, numerous consumers have changed their behavior and began using digital platforms. Digital sells in the food sector increased compared to the same period last year. As the International Trade Center addressed, digital platforms have the potential not only to maintain the flow of trade in the context of pandemic, but also to improve the efficiency of the firms, especially small farmers, improving their management methods, logistics and payments channels. Other positive usages of digital technologies consist of the promotion of transparency between producers and consumers, the share of information among firms through the chain of production and collection of sensitive data to face moments of crises.

The Agreement for mutual recognition of digital signatures of Mercosur serves as one important initiative in improving digital commerce within the region. This agreement was

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93 MERCOSUR, Acuerdo de reconocimiento mutuo de certificados de firma digital del Mercosur. (Mercosur, 2019). Available at: <https://www.mre.gov.py/tratados/public_web/DetallesTratado.aspx?id=01dPue2l7MGQuGoqA%2fCm%3d%3d&em=lc4aLHYB0dF+rK壮观%96BojLlz0mcrZruYPcn8%3d>
signed by all members of the bloc, but did not take effect because two of the four members did not internalize the accord. Upon taking effect, the agreement will facilitate trade, allowing less bureaucracy in the recognition of signatures between two parties in different countries. Therefore, the states should speed up the process of ratification.

In line with the recommendations and studies presented, a digital platform emerged in Brazil that allows for a closer relationship between producers, consumers and logistic companies. This service, called the “Comércio eletrônico”94, primarily functions to promote a channel through which entities may drain perishable food during the period of the pandemic. The platform launched on April 15 of 2020 and already expanded its function to other products. The platform is an initiative of the CNR/SENAR system95 in partnership with the Family Agriculture Secretary of the Brazilian Ministry of Agriculture and many wholesale and retail salespeople. A similar local initiative started in Rio de Janeiro, called Jaeé, which works similarly, but does not have direct channels with logistic companies. Jaeé also contains one additional function: to purchase family agriculture products for donation96.

On the other hand, crucial problems arise with solutions based on digital platforms, as a part of the population lacks access to the required technology, especially in developing countries such as Brazil. These areas exhibit various severe infrastructure problems, where at least 20% of households lack broadband internet connection and many households lack a constant supply of energy97. Strategic technology to promote universalization, 5G, finds itself amidst an intense geopolitical dispute, delaying government procurement indefinitely98. This does not insinuate that counties need to abandon digital technologies solutions, especially considering the more universal nature of mobile phones and mobile internet compared to broadband, but measures must be taken to mitigate the problem, especially considering that this part of the Brazilian population constitutes an important target of the policy.

2.4. COMPETITION LAW MEASURES

2.4.1. RETHINKING COMPETITION LAW IN TIMES OF CRISIS: COOPERATION AGREEMENTS AMONG COMPETITORS

As highlighted, the pandemic has brought difficulties to the production and distribution of essential products, which has led to shortages in chains of several markets. For this reason, many suggestions have emerged to mitigate these effects on the economy and, among these proposals, the admissibility of temporary collaboration between competitors to ensure the flow of essential products and services. This measure brings benefits to consumers and other

94 To know the platform, see: <https://mercadocna.com.br/>.
95 To know more about the CNR system, see: <https://www.cnabrasil.org.br/cna/>.
96 To know the platform, see: <https://jaemkt.com.br/>.
economic agents involved in these obstructed chains. In this sense, some collaboration between competitors could serve the immediate public interest.\(^9\)

To address the issues brought by COVID-19, competition authorities around the world are approving special protocols to provide legal security for some agreements. During normal times, horizontal practices (ex. cartels) may: “i) reduce actual or potential competition; ii) reduce firms’ ability and incentives to compete and thus increase the likelihood of collusive outcomes; and iii) put the parties’ actual or potential competitors at a disadvantage leading to market foreclosure”.\(^10\) This framework remains valid throughout the pandemic, as many authorities declared that they will not tolerate the exchange of sensitive information concerning future prices, wages and production costs.\(^11\)

Notwithstanding, in the current economic context, cooperation between competitors can help to remedy shortages of essential products, supply disruptions, and barriers within logistical chains. Agreements could form an excellent alternative, since waiting for markets to self-correct in the long run can take time and result in a negative balance for the economy and its social externalities.\(^12\) The main potential efficiencies the agreements generate follow: i) maintenance and/or improvement of production processes; ii) distribution and supply of goods; iii) reduction of variable and fixed costs; iv) optimization of resources such as labor, inventory, and storage capacities.

To assist competition authorities at this time, the OECD has launched a paper entitled "Co-operation between Competitors in the Time of Covid-19"\(^13\) that examines some situations in which cooperation among competitors proves interesting and even pro-competitive for markets. However, authorities will need to pursue clear objectives and criteria, accounting for the “balance between being permissive enough to allow private initiatives to address market disruptions and avoid distortions of competition”\(^14\) in the future, such as price-fixing cartels. In this way, the main point of the discussion on cooperation agreements between competitors focuses on examining the possible efficiencies of these collaboration mechanisms.

First of all, we note that the analysis of cooperation between competitors requires an assessment of the individual scope of the agreement, which includes the geographical scope and the need for collaboration as an essential element to overcome market disruptions generated by the crisis, limiting the time frame of the collaboration to the duration of the pandemic. Therefore, we can summarize the major criteria adopted in:


i) Indispensability of the agreement in dealing with this specific market disturbance due to the COVID-19 crisis;\textsuperscript{105}

ii) Maintenance or stimulus for manufacturing, supply, distribution of a product, or preservation of the functioning of supply and distribution chains as a goal;\textsuperscript{106}

iii) Consumer welfare as the ultimate goal;\textsuperscript{107}

iv) Time limitation of the collaboration\textsuperscript{108}

v) Prohibition of exchange sensitive information\textsuperscript{109}

The OECD’s document has classified cooperation agreements into two types\textsuperscript{110}:

i) **Cooperation as a response**: the collaboration will focus on maintaining or reviving in the short run the manufacturing, supply, and distribution of a product or preserving the functioning of supply and distribution chains, typically in the form of a formal cooperation agreement;

ii) **Innovation cooperation**: will focus on creating a new product or providing an innovative response to the crisis, in which case it may take the form of an R&D agreement or of a Co-operative joint venture. (Ex: pooling of resources and common efforts to look for an innovative and urgent solution especially valuable for the health industry).

The OECD remarks also in its document some difficulties that the competition authorities must confront in the evaluation of cooperation agreements, among them: i) the need to ensure a quick orientation for companies in order to guarantee the legal security of their actions; ii) analysis of the need for the agreement; iii) determination of the correct and adequate duration of the agreement between the competitor\textsuperscript{111}.

### 2.4.2. EXAMPLES OF COLLABORATIONS AMONG COMPETITORS

Furthermore, in its document, the OECD highlighted the existence of previous examples of cooperation between competitors, presented as a measure of response to crises in the past, especially in events of natural disasters. As mentioned above, the organization points out how this mechanism served in situations when supply was interrupted or significantly reduced due to an emergency. In these cases, the agreements focused on maintaining the production of critical inputs through coordination among competitors\textsuperscript{112}.

In the aftermath of the **Fukushima 2011 earthquake**, for instance, the JFTC published guidance on acceptable forms of cooperation, in a document entitled ‘Examples of Antimonopoly Act Applications during the Earthquake Disaster and


other Emergencies’ (March 2012). The examples are particularly interesting in the context of the COVID-19 crisis because they mainly concern situations where supply is interrupted or significantly reduced due to a natural disaster and they focus on how to maintain in place production of critical inputs by way of coordination\textsuperscript{113}.

The authority appointed on others historical examples of collaboration agreement between competitors, such as:

i) After a natural disaster, a manufacturer who had its production interrupted asked competitors to supply a specific product to their customers instead. The exchange of necessary information between competitors (such as customer list, quantities, and specifications) was exceptionally allowed. However, new suppliers and customers needed to establish the price independently\textsuperscript{114};

ii) A competent authority has requested an industry association to collect data of production, capacity, and stock of specific products manufactured by its members, publishing all the information on its website to ensure the availability of that product to customers\textsuperscript{115};

iii) Recently, in the aftermath of the emergencies provoked by Hurricanes Katrina and Rita (2015), and Harvey and Irma (2017), the US DoJ issued similar guidelines to allow companies to combine their distribution networks, improving the offer of needed products or services to their customers\textsuperscript{116}.

2.4.3. COLLABORATION AGREEMENTS AMONG COMPETITORS IN PANDEMIC TIMES

In the current crisis, competition authorities have signed some cooperation agreements, especially in developed countries. The OECD's document appointed on the following examples\textsuperscript{117}:

i) Collaborative buying groups or share supply chain resources such as distribution facilities to ensure access to the necessities of life for all Canadians\textsuperscript{118};


ii) **Groceries chain suppliers to co-ordinate on limiting purchases by consumers of particular groceries**, co-ordinate on the range of groceries to be supplied, share information on the day to day stock position and shortages of groceries, share information on services provided by logistics service providers, share labour or facilities, co-ordinate on temporary closure or opening hours of stores, co-ordinate on maintaining supply to consumers living in areas vulnerable to shortages, co-ordinate on providing assistance to vulnerable consumers and workers during the disruption period119;

iii) **Logistics services providers to share information on labour availability, share labour or facilities**, share information on storage and warehouse capacity, share information on storage and warehouse services, share information on delivery vehicle capacity, size and destination during the groceries supply disruption period120;

iv) **Members of the Australian Securitisation Forum (ASF) to work together** to assist smaller lenders to maintain liquidity and issue loans to consumers and small businesses during the economic disruption caused by the COVID-19 pandemic121.

These collaborative agreements demonstrate how this modality has helped developed countries to lead with the maintenance of their food distribution and supply chains.

### 2.4.5. THE DELAY AND CHALLENGES IN LATIN AMERICA IMPLEMENTATION: INVESTIGATING THE EFFICIENCIES OF COLLABORATION

In Latin America, these initiatives took additional time to start operating. At first, the competition authorities in Colombia, Peru, Mexico, and Brazil declared strict enforcement and increased vigilance to deal with horizontal practices that undermine consumer welfare and other competitors122. Subsequently, many authorities reconsider the measure and assumed some flexibility to guarantee the execution of agreements among competitors that have a pro-consumer nature, following the international standard123.

These regulating authorities felt concerned enough to point out the distinction between cartels and cooperation agreements, warning that they will monitor markets affected by the agreements to verify the existence of illicit activities such as price manipulation, restrictions on

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122 Centro Competencia, ‘Reacciones Comparadas de Agencias de Competencia a raíz de la Crisis Del Coronavirus’. (Centro Competencia, 2020). Available at: <https://centrocompetencia.com/reacciones-comparadas-de-agencias-de-competencia-a-raiz-de-la-crisis-del-coronavirus>.

the supply of goods and/or services, market segmentation and abstentions from bidding processes.\textsuperscript{124}

\begin{itemize}
  \item[i)] \textbf{Mexico:} In March, after strengthening surveillance for anticompetitive conduct, the Federal Commission for Economic Competence (COFECE) stated that it will not investigate collaboration agreements between companies that need to maintain or increase supply, satisfy demand, protect supply chains, prevent shortages or accumulation of goods in the current context, as long as these do not aim to harm competitors. The authority also indicated that it will speed up analysis of mergers (in the summary rite) to generate greater synergies and increase production capacities, to meet the needs arising from the COVID-19 crisis in a timely and sufficient behavior\textsuperscript{125};
  
  \item[ii)] \textbf{Chile:} The first competition authority to decide on the legality of cooperation agreements before COVID-19 was Fiscalía Nacional Económica (FNE), in April. In the statement, the FNE clarified that Chilean competition law (DL 211) does not include any exception to its application, even without exceptional situations, such as the current one. However, the agency indicated that, unlike cartels, collaboration agreements may be legal depending on the results of the exercise of balancing and weighing their effects, efficiencies, and risks. A few days later, the Tribunal de Defensa de la Libre Competencia (TDLC) established that given the state of calamity legally protected by Supreme Decree No. 104 of March 18, 2010, the Court will be able to analyze the facts, acts and conventions incorporated into the collaboration agreements submitted for consultation. The agreement will serve as an instrument to examine whether the efficiencies generated outweigh the competitive risks and whether those agreements relate to indispensable goods or services for the current context\textsuperscript{126};
  
  \item[iii)] \textbf{Brazil:} The Administrative Council for Economic Defense (Cade) recently decided to authorize the collaboration among a group of competing companies as a measure to minimize the effects of the crisis installed due to the novel coronavirus (Covid-19). The companies involved consist of Ambev, BRF, Coca-Cola, Mondelez, Nestlé and Pepsico, which will undertake a project (named “MovimentoNós”) to recover the activity of small retailers in the sector.
\end{itemize}

The companies alleged to Cade that, with the pandemic outbreak, many establishments, particularly those related to the commerce and services sector, temporarily suspended their activities as a measure to prevent contamination. The measures would have severe economic impacts for small and medium-sized retailers – which in Brazil comprise a significant portion of the distribution channels for consumer goods, such as beverages, food, personal and domestic care products,


among others – thus, jeopardizing the survival of many of these companies. [...] In this context, in the face of the protracted crisis, isolated actions would not have the capacity to produce effective results and on the scale necessary to assist commercial establishments to resume their activities. Therefore, the companies decided to collaborate with each other to promote the necessary support through the MovimentoNós.[...]. In order to authorize the collaboration among companies, Cade relied on international recommendations from the most respectful institutions worldwide, such as the Organization for Economic Co-operation and Development (OECD) and the International Competition Network (ICN). Therefore, the decision aligns with the international experience as set forth in recent months, in order to make compatible the preservation of competitively healthy economic environments and specific guidelines to take effect during the current circumstances of crisis. On the agreement analysis, Cade concluded the exceptional nature of the current scenario, the emergency to adopt measures, causal relationship between the crisis and the intended cooperation, limited time for coordination, in addition to the efficiencies generated and its transfer to the consumer.127

The Cade concluded that a plausible economic justification for the agreement exists, that the parties have adopted antitrust risk prevention protocols, that no evidence exists of attempted anti-competitive practice, and that companies exhibit concern in restoring the competitiveness and normality of the sector. Moreover, with a limited term of effect, the agreement does not involve coordination of commercial actions, which the companies will define individually and without any interaction between the participants of the initiative. The activities carried out also do not involve the exchange of commercial sensitive information between the parties, for example, customer databases between companies.

Speculation arises on the market concerning several agreements between competitors under examination that await approval by the authorities. In this regard, the Latin American authorities currently prepare to expedite these examinations, despite the sensitive nature of risks and analysis. Something that authorities previously received with suspicion, today they analyze with haste as they consider the potential advantages brought by the agreements in this critical moment.

2.4.6. COUNTERPOINT: MORE REGULATION AND PRICE GOUGING

Concerning cooperation among competitors, the concession should take place with constant and accurate regulation. As mentioned, horizontal agreements have undeniable potential power in the market, which competitors could employ to fix prices and/or quantities, allocate markets tendentially, and engage in abuse of dominant position. Some specialists believe that this type of agreement could likely negatively affect markets, substantially influencing prices and resulting in price gouging, for example.

In return for allowing collaboration agreements, some theorists suggest anti-price gouging measures to avoid the price-fixing and speculations. The debate over anti-price gouging turns deeply complex, especially due to price controls and similar restrictions, like price ceilings, that receive criticism as a guarantee of free-market principles and its self-regulated system. Usually, market players regard this kind of state interventionism over the

economy as unwanted and detrimental. Nonetheless, several countries have adopted this measure as a response to the collapse of the regular function of the market.

Latin America has faced some difficulties implementing public policies against price gouging, especially because some agencies of Competition Law and Consumer Rights have conflicts of jurisdiction, as price control policies can affect both enormous companies and final consumers. Nevertheless, many measures have already emerged:

i) **Argentina**: The country has utilized the AFIP (tax agency), Ministry of Labor, and the National Commission of Competition Defense to punish those who improperly increase prices. The President, Alberto Fernández, warned speculators who hike the prices of food and essential products in a bid to cash in on the coronavirus pandemic. The President said his government would not tolerate price gouging and will tackle those seeking to take advantage of a public health crisis128;

ii) **Brazil**: Based on complaints of price gouging in products used to combat coronavirus (e.g. hand sanitizer and face masks), the National Consumer Secretariat (Senacon) issued guidelines on how to assess potential excess in pricing caused by the pandemic. Although the authority recognizes the possibility of changes in the value of products and services as an expression of free initiative and as a result of a change in supply and demand, Senacon notes that the Consumer Protection Code (Código de Defesa do Consumidor - CDC) prohibits the excessive increase in products prices without just cause. With an infraction of the CDC, which requires case-by-case analysis, the company could receive administrative fines129;

iii) **Uruguay**: The government announced new actions amid the coronavirus pandemic, among them a freeze in the prices of the “canasta basica” (basic basket) that covers many essential products. The Ministry of Economy and Finance reached an agreement with the main business chambers to freeze the value of over 80 product types for a period of three months130;

iv) **Venezuela**: The Maduro government instituted price controls for 27 food products through October, an effort to combat price speculation. The measure comes in response to increased protests and looting of stores as health, food, and gasoline shortage crises converge. This will affect Empresas Polar, the country’s largest food producer and one of the last grand private companies in the country131.

In this sense, many challenges arise concerning the function of the market and the best form of state interventionism in the face of the pandemic. Public policies will need to unfold to ensure the continuity of the flow over production chains and the purchasing power of consumers in the mass unemployment context. For this reason, public policy will need to develop to fulfill

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the following functions: i) creating trade facilitation mechanisms (e.g., collaborative agreements between competitors) to solve logistical problems arising from the pandemic; ii) maintaining vigilance over prices, especially in the most disruptive markets and with essential products; iii) protecting consumers' rights by guaranteeing purchasing power. In the face of so many challenges, new institutional engineering will need to emerge.

3. PUBLIC POLICY PROPOSALS

This section intends to draft recommendations, using the measures and targeting problems described above, to improve food security, keeping the food chains functioning in South America and other regions of the global south. The first section comprises three subsections: the first describes how PAA matches the main recommendations of FAO; the second indicates how to replicate it in other countries; and the third proposes to apply it at the international level using Mercosur framework and digital platforms. Second, to optimize the use of these technologies, including blockchain applications, we propose the creation of the Mercosur Digital System to improve the infrastructure of the bloc by Mercosur Structural Convergence Fund (FOCEM, in portuguese). The last section consists of three subsections: i) how competition law can mitigate the negative effects of COVID-19; ii) the possibility of adopting a crisis protocol to coordinate antitrust actions between states; iii) finally, precautions public authorities should take to avoid market failures until allowing agreements between competitors.

3.1. THE FOOD ACQUISITION PROGRAM: POSSIBILITIES OF EXPANSION, REPLICATION AND INTERNATIONALIZATION

3.1.1. PAA AS A RECOMMENDED PUBLIC POLICY

In this subsection, we analyze the reasons why the PAA meets international recommendations to mitigate the effects of the pandemic on food supply chains.

FAO draws attention to the need for States to develop contingency plans, including procedures, distribution of agents and legal competences and resources to respond to emergencies. These plans must develop according to impact analyzes in the specific context of the institutional capabilities and resources that each State has at its disposal. However, the Agricultural Council of the South, with support from FAO, found that not all member countries maintain updated satisfactory contingency plans.\(^{132}\)

FAO recommends some measures to respond to the different impacts that a crisis can have on the food sector. At first, we highlight five points:

i) “Food delivery as an immediate response”: the delivery of basic food baskets is important in situations of lack of supply or purchasing power. FAO explicitly suggests that public purchases can generate income for the most vulnerable farmers;

ii) “Prevention of food loss and waste”: systems must avoid the loss of perishable products of which demand has fallen due to social isolation measures;

iii) “Maintain and strengthen protection policies in family farming and Micro, small and medium enterprises (MSMEs)”: strengthening small producers reinforces social protection networks and has positive effects on the economy and employment, in addition to reducing the chance of food insecurity;

iv) “Increase liquidity”: financial support must expand for consumers and producers who may have their subsistence affected;

v) “Stimulate public purchases of food”: the States need to guarantee that the sale of food, especially in the case of producers with difficulties in selling. This food can target vulnerable groups, the social assistance network, schools, hospitals and prisons, among others.

These recommendations respond to the problems in the food supply chains explained in Section 1, both on the supply side and on the demand side. The PAA policy implements the five measures listed above.

In the PAA, the government distributes purchased food to the populations suffering from food and nutritional insecurity or social vulnerability, as well as supplying public spaces, which in turn reduces food insecurity (measure i). The creation of this marketing channel tends to avoid waste (measure ii) and increase the quantity sold. In addition, the PAA strengthens small farmers (measure iii), who constitute the beneficiaries of the program, and contributes to securing their incomes (measure iv). Finally, the operationalization of the program occurs precisely through public purchases destined for priority groups and establishments (measure v).

Brazil, which already has a legal and institutional arrangement established for implementing the PAA, should strengthen this policy, expanding its coverage and allocating more resources. This also applies to other states that already have some experience with policies similar to the PAA. Based on the empirical studies that measured its effects in Brazil and also on the best international recommendations, the PAA comes highly recommended as an effective instrument, especially in times of crisis.

3.1.2. PAA AS A REPLICABLE PUBLIC POLICY

PAA's success has led other countries to replicate the policy. Takagi, Sanches, and Silva characterize the program as “an ambassador of Brazil against hunger”. We argue that great

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advantages exist in expanding cooperation mechanisms between countries that implement the PAA and in other countries that intend to replicate it.

In May 2010, the Brazil-Africa Dialogue on Food Security, Fighting Hunger and Social Development took place, from which Brazil established cooperative relations with African countries, focusing especially on the replicability of the PAA. Ethiopia, Malawi, Mozambique, Niger and Senegal have implemented similar projects, with the support of Brazil, called “Purchase from Africans for Africa”\textsuperscript{135}.

This cooperative effort aimed to implement pilot experiences, with the support of WFP and FAO resources, and promoted the institutional autonomy of the country intending to develop a policy along the lines of the PAA. The success of these efforts depends on technical qualification, local management capacity, permanent monitoring systems for acquisitions, and harnessing knowledge from previous experiences. Also, implementing an effective PAA involves overcoming legal bottlenecks, such as the Brazilian Bidding Act, a policy that Brazil needed to exempt for PAA public purchases to occur\textsuperscript{136}.

Santos et al. points out that the experiences of PAA Africa obtained good results for farmers, including generating positive externalities in education, such as increasing school attendance, as local schools receive the purchased food\textsuperscript{137}.

Thus, countries that wish to replicate public procurement policies in the PAA model can enjoy establishing cooperation mechanisms with countries that already implement it, for instance, Brazil, which can occur through technical assistance. This measure may prove important in preventing future food crises.

The Reaf, as already mentioned in the above sections, served as an important instrument in promoting the dissemination of this public policy under Mercosur. All the bloc members have a similar program which they adopted within the dialogues of this debate forum\textsuperscript{138}, which proves the possibility of expanding the program to other members of Latin America, considering their particularities. In moments of crisis, it is possible to use this forum as a channel to discuss improvements of the policy at a regional level.

3.1.3. PAA AS AN INTERNATIONAL PUBLIC POLICY


Both in Latin America and in other regions, countries have different characteristics concerning the import and export of food.

FAO summarizes that, in the context of Latin America and the Caribbean, the following countries constitute net exporters of agriculture food products: Argentina, Belize, Bolivia (Plurinational State of), Brazil, Chile, Colombia, Costa Rica, Ecuador, Guatemala, Guyana, Honduras, Mexico, Nicaragua, Paraguay, Peru and Uruguay. On the other hand, Antigua and Barbuda, Bahamas, Barbados, Cuba, Dominica, El Salvador, Grenada, Haiti, Jamaica, Panama, Dominican Republic, Saint Kitts and the Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname, Trinidad and Tobago, and Venezuela (Bolivarian Republic of) constitute net importers of agrifood products\textsuperscript{139}.

In the case of African countries, according to the FAO, exports mainly consist of cash crops, while imports correspond to staple foods. Most food imports come from Europe, Asia and Latin America, while intra-regional trade accounts for only 17\%\textsuperscript{140}.

Crises that hinder international and regional trade create risks to the availability of the necessary food in a country and affect producers who have difficulties in exporting their production. In this situation, depending on each specific case, countries could also adopt joint public procurement initiatives along the lines of the PAA at the international level and internally allocate food purchased to vulnerable and food insecure groups.

Undoubtedly, implementing this policy involves challenging institutional innovation, as it means associating commercial and social policies in a single agreement, thus allowing for reciprocal public purchases from foreign producers. However, especially in times of crisis, some positive effects of the domestic PAA may also occur within an “international PAA”.

In addition, this initiative proves compatible with several FAO recommendations in its contingency plan proposal, besides those already mentioned in Subsection 3.1.1. Below we list four of them:

i) “\textit{Regional support network}”: regional groups of countries should come together to analyze the availability of resources, exchange successful experiences and ideas for innovation, and, if necessary, sign preferential trade agreements, minimizing logistical problems;

ii) “\textit{Start negotiations with exporting countries}”: food-importing countries must maintain close commercial relations with suppliers, signing agreements and reducing speculative risks during crises;

iii) “\textit{Strengthen intraregional trade}”: to strengthen food security and reduce the risk of waste, countries in regional blocs must integrate, exchanging information and establishing commercial partnerships;

iv) "\textit{Massive food delivery}": in cases of severe crisis, in which the population has lost purchasing power or lacks food, states must purchase food, internally or from other countries, and distribute it\textsuperscript{141}.


To implement one PAA at a regional or international level, policies must consider the existing mechanisms and structures inside Mercosur, such as the Reaf and the Familiar Agricultural Fund, administered by FAO. This forum serves as the appropriate place to discuss a means to overcome the crises using the potential of familiar agriculture and to discuss the creation of a permanent committee of crises in Mercosur, which could permanently study public policy to apply in moments of crisis and could take place when similar situations to the COVID-19 pandemic emerge. The instruments already produced inside this meeting could promote public policies of food purchases in Mercosur and associated parties states, such as the definition of familiar agriculture.

First, the Familiar Agriculture Fund (FAF) should act as an instrument to allocate funds of all the states that participate in the international PAA initiative, already possible under the fund statute. Secondly, a single integrated digital platform should serve to congregate producers, consumers, and providers of logistic services in line with the national initiatives mentioned in the sections above. These digital platforms also help to improve transparency, regulatory communication between national authorities and data collection to better inform states of their actions. Finally, blockchain applications could help to facilitate decision making through traceability of familiar agricultural products.

Challenges occur while administering a PAA at the regional level in considering where to apply the resources and who will hold the responsibility of implementing the PAA. The FAF proves ideal for the task because this structure already exists in Mercosur with the purpose of financing initiatives to strengthen family farmers. Another advantage of using the fund stems from the fact that FAO already administers it through resolution n. 58/25 of GMC, thus solving the problem of who will administer the resources. This occurs through an impartial third party that states have already chosen. The statute also allows other states, outside the bloc, to apply resources to take part in the initiatives.

One state may also simply create programs akin to PAA, but buy the products produced in other states. This framework does not imply a top level of international coordination, proves politically easier to achieve, and makes negotiations more bilateral. The two projects could benefit from the application of digital systems.

The biggest problem of this kind of international project arises from the amount of necessary information to process in order to better coordinate the agents. In this case, we must take into consideration the states providing resources to the purchasers, the community affected by food insecurity and other consumers, family farmers that provide the products, and companies in the logistic sector. The e-commerce platform of CNR/SENAR, previously mentioned in subsection 2.3, stands out as the model most ready to deal with these issues. Through the platform, farmers offer various products that consumers can purchase directly and at the same time the system allows for users to directly contact the logistics companies. CNR/SENAR platform allows for supply and demand to connect, mitigating informational problems between these two sides.

CMC Resolution 25/2007 and the data provided to Reaf of the national registers of the farmers under the CMC decision n. 20/14 serve as the criteria to access the platform at an international level. In this way, the platform adequately provides information on the products with the highest supply and demand and problems that all the participants face concerning the national administrations and/or FAF. With this data, the administration can quickly purchase these products and aid in the allocation of resources, ensuring food safety and security. Considering that many vulnerable communities lack the resources to purchase these products,
the application of PAA serves as an important source of donations, especially in buying perishable products that the market could not perfectly absorb within the platform.

We will further explore the aspects of blockchains in the following section. Blockchains could function as a tool to track products and verify their compliance with the requirements of the bloc. The platform should communicate with national authorities directly involved in the authorization of food products upon entry into the country in order to speed up the process, such as the customs, sanitary and phytosanitary authorities.

3.2. THE CREATION OF MERCOSUR DIGITAL SYSTEM

Greater economic integration in the bloc, especially concerning the free movement of perishable food in circumstances of health crises, requires the digitalization of the supply chain, through the creation of a blockchain network to the Digital Mercosur System\textsuperscript{142}.

Such networks would have the participation of public and private agents in updating and monitoring the entire supply chain (production, transportation, storage and distribution) in intra-bloc export and import operations. Through individual registration, the information that each user enters provides the formation of historical data on all actions\textsuperscript{143}, generating predictability of practices and demands, and assisting efficient decision-making, especially in scenarios of health crises.

Within the horticultural sector, besides the standardization of customs and regulatory conditions in periods of health crises, the pre-contractual elements required for intra-bloc commercial transactions would need to facilitate private agents in entering into smarts contracts\textsuperscript{144} via the blockchain network.

To make smarts contracts and other electronic documents feasible, the Mercosur Digital System could incorporate the achievements of the Mercosur Digital Project into its digital infrastructure: a regulatory framework for data protection, electronic invoice, and digital certificates\textsuperscript{145}. Member states of the bloc have already created an agreement on mutual recognition of digital signatures\textsuperscript{146}. Such achievements confer security, efficiency, speed, and legal validity to actions in international trade.


\textsuperscript{143} The blockchain network guarantees data immutability, product traceability and information transparency.

\textsuperscript{144} Under such conditions contracts can be concluded automatically.


\textsuperscript{146} Mercosur, ‘Acordo de reconhecimento mútuo de assinaturas digitais no Mercosul’. (Mercosur, 2019). Available at: <https://www.mercosur.int/pt-br/acordo-de-reconhecimento-mutuo-de-assinaturas-digitais-mercado-mercado> And also in G. Baseotto, ‘Acordo de reconhecimento da Certificação Digital no Mercosul’. (Serasa, 2020). Available at: <https://serasa.certificadodigital.com.br/blog/acordo-de-reconhecimento-da-certificacao-digital-no-mercado>. For the full effectiveness of the agreement on the recognition of digital certification in Mercosur, it is still pending its approval at the internal level of the member states.
In order to more accurately identify the demands of the food sector, government authorities of the member states would need to fill out the Mercosur Digital System with information from their respective national public food safety systems. Accordingly, at the interregional level they would provide the exchange of electronic data from the intersectoral management of the levels of government (federal, state, and municipal) and civil society in public food security and safety policies.

In addition to the state acting to create demand, as in the PAA model, the Mercosur Digital System could implement an online platform similar to the e-commerce platform of CNR/SENAR, in which rural producers, especially those of small and medium-size, could disseminate their food offerings from the fruit and vegetable sector to the intra-bloc community. The Mercosur Digital System also forms an essential part of operating the digital platform of international PAA, providing the necessary regional infrastructure.

The restriction of air transport in scenarios of health crises, such as COVID-19, leads to an interest in the exploration of the use of land transport in intra-bloc trade. Among the functions of the Mercosur Digital System would include the disclosure of road conditions and special corridors that allow for the safe, fast, and efficient movement of goods. In the same way, technology could facilitate the reallocation of shipments and improve the situation of supply and distribution stations.

Thus, the Mercosur Digital System could favor and optimize the free trade of perishable food, guaranteeing food security and income for producers through the digital integration of data from the agricultural and livestock trade, facilitation of commercial transactions and agility in communication between public and private agents.

Given the integral nature of the information and communication technology sectors to member states fundamental to the operation of the Mercosur Digital System, these sectors’ full development must make use of the FOCEM (Mercosur Structural Convergence Fund), which directly serves to finance structural development projects of the bloc. The result of such investments contributes to improve trade through the universalization of data access and digital integration in transactions. The fund also should be used to strengthen initiatives to improve telecommunications infrastructure considering that it is one of the main problems to apply this kind of solution.

### 3.3. COMPETITION LAW RECOMMENDATIONS

#### 3.3.1. HOW COMPETITION LAW CAN MITIGATE THE COVID-19 CRISIS?

The implications and effects of COVID-19 reach deep, affecting economic aspects profoundly. All supply chains of food and the prices of goods and services for the ultimate consumer have suffered enormously. Recently, Competition Law has worried about regulating

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business activities to avoid cartels, mergers, monopolies, and oligopolies. Now, it serves as a special ally to mitigate the consequences of COVID-19 effects on economies and consumers' welfare, once steady regulation policy results directly in the lower final price of goods and services to consumers and the sustainability of all supply chain frameworks.

In addition, antitrust public policies have emerged to save and mitigate the economic and financial damage caused by COVID-19. Some public policies considered anti-competitive conduct in the past, condemned and punished in Competition Law, now find careful use to reduce the consequences of the pandemic around the world. Competitors maintained the admissibility of temporary collaboration to guarantee the outflow of essential products and services, bringing a series of benefits to consumers and other economic agents involved in the supply chains.

Competition authorities could already take responses to previous global or regional crises as examples where authorities allowed for legal cooperation between competitors. These examples find themselves particularly important in the context of the COVID-19 crisis, as they dealt with situations in which a natural disaster interrupted or significantly reduced supply, focusing on how to maintain the production of critical inputs through coordination between competitors.

Nonetheless, the collaborative cooperation among the competitors should follow clear rules and effective surveillance by the authorities. The UNCTAD, United Nations Conference on Trade and Development, urged competition authorities to use its tools to combat the adverse consequences of the coronavirus, specifically recommending that Governments¹⁴⁸:

i) Ensure a level playing field between companies so that a level playing field remains relevant even in a period of crisis;

ii) Temporarily allow the necessary cooperation agreements to guarantee the supply and distribution of products accessible to all consumers, in order to avoid the scarcity of essential products;

iii) Monitor the markets for essential products, such as disinfectants, masks and gels, closely to ensure their availability, if necessary, by temporarily limiting prices to protect the health of consumers during the pandemic;

iv) Robust application of competition law against companies that take advantage of the crisis by creating cartels or abusing their market power;

v) Adaptation of competition procedures and deadlines to the extraordinary circumstances created by the pandemic.

Along these lines cooperative agreements form important and useful tools, especially to mitigate the effects of economic crises on small family producers. The sector already deals with their own economic weakness and vulnerability, a situation that worsens in the pandemic as small producers depend heavily on specific inputs, required investments, and a dependency on market demand and supply chain. In this sense, agreements among competitors can reduce transport, distribution, storage, and even digital marketing costs. Cost reduction helps small producers survive in times of crisis, and coordination allows market access to continue, allowing products to meet end consumers.

Exceptional measures must address the responsibility, commitment, and strategic plans of governments in order to reduce the impacts of crises. When states lack truly organized plans, terms, and goals, circumstances may worsen significantly due to the sensitive nature of the food sector system.\textsuperscript{149}

Carelessly executed measures can result in well-known and difficult problems in Latin America, such as food price inflation, economic instability, and capital flights.\textsuperscript{150} Moreover, surveillance’s failures on collaborative competitors’ systems could result in price-fixing, eliminating the competition and bringing detrimental consequences to the final consumers.

Collaboration among competitors and anti-price gouging measures shift the paradigm and pose a stark challenge. At the same time, when well-administered, collaboration provides palatable solutions in Latin America, especially to family farmers and small producers in the most need.

Therefore, we highly recommend international strategies for confronting state emergency situations within international agreements and international cooperation among antitrust authorities.

3.3.2. THE ADOPTION OF A CONFRONTING CRISIS PROTOCOL ON INTERNATIONAL AGREEMENT: SUPPORT FOR FURTHER EMERGENCIES.

Notably, countries that previously passed through a disease outbreak demonstrated greater success in containing epidemics within their countries. Asiatic countries\textsuperscript{151} that dealt with SARS-CoV and MERS in the recent past have controlled the COVID-19 spread more successfully than several western countries. Their previous experience led these countries to create effective health protocols for confronting the novel coronavirus and, as a result, these countries and economic blocks suffer fewer economic hardships.

Also, the international community may note that the elaboration of emergency protocols on international agreements proves fundamental and mandatory in obtaining a better how-to guide and in discovering alternatives to confronting economic problems during a pandemic or state of emergency. This can consequently reduce the damage that the international sanitary crisis causes.

Brazil demonstrated a great example of a strategy that confronts economic problems during the pandemic when the CADE elaborated guidance\textsuperscript{152} on procedures concerning collaboration among competitors to face Covid-19. This kind of guidance could serve as a model reference to other countries in creating specific protocols for crises within international


\textsuperscript{150} E. A. Jackson and M. Jabbie, ‘Understanding Market Failure in the Developing country context’. (Munich Personal RePEc Archive, 2019). Available at: <https://mpra.ub.uni-muenchen.de/94577/1/MPRA_paper_94577.pdf>.

\textsuperscript{151} Financial Times, ‘Containing Coronavirus: lessons from Asia’. (Financial Times, 2020). Available at: <https://www.ft.com/content/e015e096-6532-11ea-a6cd-df28cc3e6a68>.

policies and international agreements. This initiative takes root in three fundamentals aspects: awareness; prevention and specific repression at the competitors' agreements.

This important update concerning legal cooperation between competitors occurred on July 8th, 2020, when the CADE released information with new procedures and rules. Formally made and based on the European Temporary Framework for assessing antitrust issues related to business cooperation in response to the current COVID-19 outbreak and best standards of International Competition Law, CADE created three basic procedures and steps to take concerning the Collaborative Cooperative Competitors acts during pandemic times:

i) **Communication Channel:** The Communication Channel with the General Superintendence of CADE (“SG / CADE”) opened for the specific purpose of addressing doubts and questions from market players about their strategies for facing the crisis and to provide greater predictability and security to players through preliminary pronouncement. The channel also does not bind authority to the intended collaboration. Communications to this channel should take place mainly through the email address: superintendencia@cade.gov.br;

ii) **Petition:** players may exercise the right of petition to obtain written and non-binding pronouncement by SG / CADE and the CADE Court on the existence of anti-competitive evidence in the context of strategies that involve collaboration between companies, in specific and concrete situations to cope with the crisis caused by the COVID-19 pandemic. The pronouncements of SG / CADE and the CADE Court will occur independently and limited to the manifestation of the existence or absence of evidence of a infraction of the economic order;

iii) **Inquiry:** inquiry procedure serves as the route through which players may obtain a binding pronouncement to the CADE Court and the parties regarding the application of competition law, ensuring greater legal certainty implementing initiatives that involve collaboration between companies to cope with the effects of the crisis caused by the COVID-19 pandemic.

According to CADE, these procedures have priority of resolution, especially due to the state of emergency and the high necessity of involved enterprises and economic groups focused on the agreements and activities concerning cooperative collaboration.

Agents must elaborate international economic protocols for confronting emergencies and calamities and must respond as fast as possible. While the normal legislative process of each country and the ratification of international treaties can take time, pandemics can demolish entire economies in a short period, especially in developing countries.

In addition to clear administrative procedures, competition authorities will need to establish strong jurisprudence and stipulate criteria for the approval of any collaboration among competitors. We recall, one more time, the most relevant aspects that authorities must consider in their analyses, according to the OECD: (i) indispensability of the agreement in dealing with this specific market disturbance due to the COVID-19 crisis; (ii) maintenance or stimulus for manufacturing, supply, distribution of a product, or preservation of the functioning of supply

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and distribution chains as a goal\textsuperscript{154}, (iii) consumer welfare as the ultimate goal\textsuperscript{155}, (iv) time limitation of the collaboration\textsuperscript{156}, (v) prohibition of exchange sensitive information\textsuperscript{157}.

3.3.3. COOPERATION AMONG AGENCIES TO TRACE AFFECTED MARKETS: AVOIDING MARKETS FAILURES

The competence of solving problems proved one of the most difficult issues of the pandemic, especially concerning economics. What legal institutions or agencies should assume responsibility for solving issues in a brief period with large global consequences? Many countries faced the problem of a conflict of competences, of which institutions must solve their problems concerning consumer guarantees and competition legislation regarding essential goods and services.

The Competition and Markets Authority (CMA) in the UK has assumed the difficult task of enforcing consumer rights and antitrust measures caused by the pandemic. The Task Force assumes the duty of advising the government on where to allocate additional enforcement tools in order to enable the CMA to take effective remedial action to protect consumers during the emergency. “The problem is that the UK regulator has very limited powers to enforce consumer protection legislation, while competition law only applies in specific situations”\textsuperscript{158}.

In this way, UNCTAD’s learning\textsuperscript{159} greatly affect initiatives on international cooperation. The crisis has underlined the importance of international cooperation. During times of the COVID-19 crisis, and also the post-crisis, a great need arises for competition authorities to reinforce advocacy and the law. This requires a closer relationship between other authorities, more exchanges of experience, and information sharing.

We highlighted the key role of soft law, advocacy, and international cooperation through the exchange of experiences and harmonizing best practices among authorities, in order to assess responses do crisis and analyze consequences at both national and global levels.

The same happens in the internal cooperation among agencies. In Brazil, CADE protects competition and SENACON protects consumers’ rights. For this reason CADE frequently refrains from discussing price control and abusive prices.

All these discussions seem very restricted and unnecessary during a pandemic because both Competition Law and Consumer Protection law enable the final welfare of consumers. Better integration and synergy between agencies or legal institutions must exist in order to promote these issues of both Competition Law and Consumers Rights and Guarantees.

\textsuperscript{156}OCDE, ‘Co-operation between competitors in the time of COVID-19’. (OCDE, 2020), 7.
\textsuperscript{158}O. Clarke, ‘CMA seeks emergency powers to fight coronavirus’ price gouging’. Available at:<https://www.osborneclarke.com/insights/cma-seeks-emergency-powers-fight-coronavirus-price-gouging/>.
For the aforementioned examples of collaboration among competitors and the measure against price gouging, both institutions must work together, facilitating their end goals and the enforcement of the law in times of crises. Even within countries where there is unified agency, uniform treatment must exist to deal with these issues.

4. CONCLUSION

We note that the COVID-19 pandemic has created several challenges in maintaining food supply chains. We summarize these challenges in seven subsections:

viii) **Disconnection among supply and demand** - We show how the pandemic generates supply and demand shocks. The loss of purchasing power of the most vulnerable populations jeopardizes food security, labor shortages and difficulties in accessing markets affect small farmers, and logistical problems lead to supply chain disruptions.

ix) **Sector-specific characteristics** - seasonality, perishable food, storage and price volatility – We highlighted the main challenges to the food sector. Before the pandemic, small rural farmers already confronted challenges such as climate change, commodity price volatility and difficulties in accessing seeds, inputs, insecticides and fertilizers. The arrival of the pandemic brings new challenges, such as risks and uncertainties in the sale of perishable and fresh produce and low storage capacity and losses in production. Furthermore, the sector succumbs to other specific circumstances, such as seasonality that greatly affects food production. In this sense, the pandemic harms both producers and workers since this type of labor cannot easily move to telework, unlike other activities.

x) **Family farming, food security and COVID-19** – This paper emphasized the importance of family farming as a measure for eradicating poverty, food security strategy, rural activity development, and traditional community preservation. The COVID-19 pandemic puts small farmers' health at risk due to their specific vulnerabilities, such as difficulties in preventing contagion, access to treatment and their age group that generally possess comorbidities. The illness' risk for these workers implies a possible decrease in food production, affecting market availability and commercial prices. In addition, supply chain disruptions undermine consumer access to these products, which has encouraged the demand for less healthy and more industrialized items. Moreover, small rural producers will suffer from the intensification of safety and hygiene controls on food products, as they may not have recourse to maintain the required quality, especially in the international market. Several developing countries, such as in Latin America and the Caribbean, will suffer as their economies depend on food exports.

xi) **Low liquidity and financing challenges** – When small farmers face liquidity problems, with low cash flow and difficulty in obtaining credit, they struggle to acquire the necessary inputs for production.

xii) **International market dependence and possible threats** - fuel prices and exchange rate fluctuations – The dynamics of the international market in times of a pandemic ultimately hinder food imports, which
especially damages those countries dependent on imports for the availability of basic foods. Latin American countries heavily depend on exports of energy sources and the sharp drop in fuel prices deteriorates the terms of trade for these net energy exporting countries, in turn reducing their revenues. In addition, fluctuations in exchange rates can further damage imports.

xiii) **Tariffs and trade in Mercosur** – Although tariffs have stayed at a historically low level internationally, new tariffs have emerged due to trade wars between certain international actors. Countries traditionally set tariffs high at the Mercosur level for the import of essential agriculture inputs from developing countries and developed countries imposed several tariff barriers on agricultural products, including fresh foods. Due to the pandemic and considering the institutional and international context institutions must promote mechanisms that lower tariffs to enable low cost inputs for family farmers and guarantee access to international markets.

xiv) **Non-tariff (sanitary and phytosanitary) measures** – Mercosur does not contain a convergence of sanitary and phytosanitary measures, which proves an issue of dispute between Argentina and Brazil. During the pandemic, however, the countries raised no new restrictive sanitary and phytosanitary policies, instead opting to take facilitating measures. Countries in the region impose restrictive measures for export products, such as red beans and pesticides, claiming security issues.

We present a few successful policies and practices to address some of these challenges, explaining these policies in four subsections:

v) **The Food Acquisition Program in Brazil** – The Food Acquisition Program (PAA) constitutes a Brazilian policy that consists of the public purchase of food produced by family farming and the distribution of a large portion of this food to the population in a situation of food and nutritional insecurity or social vulnerability. Strong empirical evidence demonstrates that PAA strengthens family farming and contributes to combating food insecurity. Although the program has suffered budget cuts since 2012, Brazil has recently taken some initiatives to expand the PAA budget, on an emergency basis, to tackle the effects of the pandemic.

vi) **Food policies for familiar agriculture in Mercosur** – In this section, we present the Reaf, an instrument used inside Mercosur to discuss and implement policies for small farmers, especially those considered family farmers. The meeting contributed through the development of one unified definition of the meaning of family agriculture for the members of the bloc. The institution also helps in propagating good public policies, such as PAA, through technical assistance and creates one Fund to finance projects, called the Fund of Familiar Agriculture.

vii) **E-commerce measures in Brazil and Mercosur during pandemic times** – Throughout the section we demonstrate the growth of e-commerce during the pandemic and its ability to improve efficiency. The SNR/CENAR system proves one of the best models, because it allows farmers, consumers and logistic companies to better coordinate actions to increase the market mechanisms of supply and demand. The
viii) **Competition law measures: co-operation among competitor examples and anti-price gouging** – Throughout the section, this paper explored the possibility of cooperation among competitors through approved agreements, for the duration of the pandemic crisis, through the relaxation of certain horizontal practices. The measure seeks efficiencies that help several sectors, including the food sector, such as a) maintenance and/or improvement of production processes; b) distribution and supply of goods; c) reduction of variable and fixed costs; d) optimization of resources such as labor, inventory, and storage capacities; e) cooperation to ensure the flow of production for exportation and importation. We have highlighted some historical examples of collaboration agreements used to mitigate the effects of natural disasters and the main recent agreements approved in developed countries facing the pandemic. We also listed some measures regulated in Latin America and some difficulties competition authorities will face in approving these agreements, such as the risk of price gouging, which may require sophisticated institutional articulation and regulation in some sectors.

Upon analyzing the set of challenges and examining the selected set of good practices, we suggest the adoption of some public policies, explained in four subsections:

iv) **The Food Acquisition Program: possibilities of expansion, replication and internationalization** - The PAA meets FAO recommendations to mitigate the impacts of the pandemic on the food supply chain, both the side of supply and the side of demand. Brazil, which already has a legal and institutional arrangement established for implementing the PAA, should strengthen this policy, expanding its coverage and allocating more resources. We also show that this policy has the potential for replication by other states. Finally, we suggest that states may implement a similar model at the regional or international level, considering the existing mechanisms and structures inside Mercosur, such as the Reaf and the Familiar Agricultural Fund and benefiting from digital innovation.

v) **The creation of Mercosur Digital System** – We argue that the creation of Mercosur Digital System could favor and optimize the free trade of perishable food, guaranteeing food security and income for producers through the digital integration of data from the agricultural and livestock trade, facilitation of commercial transactions, and agility in communication between public and private agents involved.

vi) **Competition Law recommendations: crisis protocol for exceptional approval of cooperation agreements and alignment with consumer protection** - As a measure for adoption in a possible crisis protocol in an international agreement, we recommend the creation of special administrative procedures aimed at speeding up agreements among competitors in a pandemic context. To this end, we recommend the following basic guidelines for competition authorities to observe, such as the standards that the OECD sets forth: (i) indispensability of the
agreement in dealing with this specific market disturbance due to the COVID-19 crisis; (ii) maintenance or stimulus for manufacturing, supply, distribution of a product, or preservation of the functioning of supply and distribution chains as a goal; (iii) consumer welfare as the ultimate goal; (iv) time limitation of the collaboration; (v) prohibition of exchange sensitive information. We also recommend a model for the Latin American context, the procedures of the Administrative Council for Economic Defense (Brazilian competition authority), adapting it to each specific jurisdiction, ensuring legal security, standardization and speed responding to health emergencies. This allows production chains to function even in a global pandemic. Finally, as an accessory measure, we recommend the increase of institutional cooperation and synergy among agencies responsible for competition defense and consumer law, to instruct market players against price gouging practices and other conducts harmful to competitors and consumers, an essential element in a context of emergency crisis.

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