ENHANCING BRAZIL'S AGRICULTURE SUPPORT:

POLICIES FOR A COMPETITIVE, GREEN, AND INCLUSIVE AGRIFOOD SECTOR

Marie Paviot, Hector Peña, Mauro del Grossi, Elena Mora López,
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ACRONYMS

AAGR
Annual Average Growth Rate

ABC
Low Carbon Emission Agriculture Plan – *Plano Agricultura de Baixa Emissão de Carbono*

AgGDP
Agricultural Gross Domestic Product

APP
Area of Permanent Preservation - *Area de Preservação Permanente*

BNDES
Brazilian National Development Bank – *Banco Nacional de Desenvolvimento Economico e Social*

CAR
Rural Environmental Cadaster – Cadastro Ambiental Rural

CNPA
National Agricultural Policy Council – Conselho Nacional de Política Agrícola

CONAB
National Food Supply Company - Companhia Nacional de Abastecimento

CSA
Climate-smart Agriculture

CSE
Consumer Support Estimate

EMBRAPA
Brazilian Agricultural Research Corporation - Empresa Brasileira de Pesquisa Agropecuaria

GDP
Gross Domestic Product

GHG
Greenhouse Gas

GRID
Green, Resilient and Inclusive Development

GSSE
General Services Support Estimate

IBGE
Brazilian Institute of Geography and Statistics - Instituto Brasileiro de Geografia e Estatística

LAC
Latin America and Caribbean

LCA
Agricultural Credit Notes – *Letras de Crédito do Agronegocio*

LPI
Logistics Performance Index

MAPA
Ministry of Agriculture and Livestock – *Ministerio de Agricultura e Pecuaria*

MDAAF
Ministry of Agrarian Development and Family Farming – *Ministério do Desenvolvimento Agrário e Agricultura Familiar*

MPS
Market Price Support

NDC
Nationally Determined Contribution

NPC
Nominal Protection Coefficient

OECD
Organization for Economic Cooperation and Development

PCG
Partial Credit Guarantee

PGPM
Minimum Price Guarantee Policy

PNCPD
National Program for Conversion of Degraded Pastures to Sustainable Agrifood Productive Systems - *Programa Nacional de Conversão de Pastagens Degradadas em Sistemas de Produção Agropecuários e Florestais Sustentáveis*

PNMC
National Policy on Climate Change - *Política Nacional sobre Mudança do Clima*

PPCDAm
Plan for the Prevention and Control of Deforestation in the Legal Amazon

PPP
Purchasing Power Parity

PROAGRO
Agricultural Activity Guarantee Program

PROALBA
Cotton Culture Incentive Program of Bahia - *Programa de Incentivo à Cultura do Algodão da Bahia*

PRODEAGRO
Program for Agricultural Development - *Programa para o Desenvolvimento da Agropecuária*

PRONAF
National Program to Strengthen Family Farming – *Programa Nacional de Fortalecimento da Agricultura Familiar*

PSA
Payment for Environmental Services - *Pagamento por Serviços Ambientais*

PSE
Producer Support Estimate

PSR
Premium Subsidy Program - *Programa de Subvenção ao Prêmio do Seguro Rural*

R&D
Research and Development

Renovagro
Sustainable Agricultural Production Systems Financing Program - *Programa de Financiamento a Sistemas de Produção Agropecuária Sustentáveis*

RL
Legal Reserve - *Reserva Legal*

SCT
Single Commodity Transfer

SICAR
National Electronic System for Rural Environmental Cadaster – *Sistema Nacional de Cadastro Ambiental Rural*

SNCR
National Rural Credit System – *Sistema Nacional de Crédito Rural*

TFP
Total Factor Productivity

TSE
Total Support Estimate

ZARC
Agricultural Climate Risk Zoning - *Zoneamento Agrícola de Risco Climático*

EXECUTIVE SUMMARY

The agrifood sector[1] in Brazil contributes significantly to the country's economy. The agriculture sector accounts for about 8.4 percent of the country's GDP; 16.2 percent of total employment; and 40 percent of total exports. Considering all the aggregated activities related to the agrifood sector in the country (farming, agroindustry, and services), the contribution reaches approximately 22 percent of Brazil's GDP[2]. In 2023, agrifood production drove 30 percent of the country's 3 percent GDP growth[3], fueled by high demand from domestic and international markets and productivity gains exceeding global averages. This sector is crucial in consolidating Brazil's position as a leading global market player, particularly through crop exports, making Brazil the largest net food exporter in the world[4].

Despite its crucial role in the Brazilian economy, the agrifood sector faces significant challenges. Structural socioeconomic issues in Brazil's rural areas include extreme poverty, with around 3 million families affected[5], and severe food insecurity impacting 18.[6] percent of family farmers[6]. These challenges are exacerbated by unequal access to public policies and rural extension services, as well as disparities in income, productivity, and technology access, especially regarding family farmers. Additionally, socioeconomic, geographic, and climatic disparities across Brazil's five regions[7] contribute to structural inequalities, affecting production, land availability, organization of family farmers, and their access to markets and public policies. Agrifood is a significant contributor to greenhouse gas emissions for Brazil (26 percent of the total[8]) and is highly

1 Agrifood sector in this context encompasses all operations within the agrifood and food supply chain, from production, processing, retail, inputs and services providers.

2 Cepea & Esalq/USP, 2025.

3 FGV/Ibre, 2024.

4 FAOSTAT: Trade: crops and livestock products, 2024.

5 CadÚnico/MDS, 2025.

6 Brazilian Research Network on Food and Nutrition Sovereignty and Security (Penssan), 2022.

7 The five regions refer to the North, Northeast, Central-West, South, and Southeast regions, as created in the 1970s by the Brazilian Institute of Geography and Statistics (IBGE).

8 Analysis Report on Greenhouse Gas Emissions and their Implications for Brazil's Climate Goals. 2023. Climate Observatory.

vulnerable to climate change impacts. Brazil loses annually on average, 1% of the value of agriculture production due to extreme weather events, such as excess rains and severe droughts[9]. These extreme events negatively impact productivity, income generation, and foreign exchange from agro-exports, exacerbating food insecurity and poverty levels.

This report analyzes agrifood public support policies in Brazil, considering the sector's potential and the challenges that need to be addressed to make it more inclusive, sustainable, resilient, and competitive. The report examines the impact of agrifood public support on food prices, long-term productivity, climate change adaptation and mitigation, infrastructure, and rural development in Brazil.

The OECD Producer Support Estimate (PSE) methodology is employed to measure and analyze the structure of agrifood public support policies in Brazil at national and subnational levels. Established in the mid-1980s, the PSE methodology calculates the annual monetary value of gross transfers from consumers and taxpayers to agrifood producers due to policy measures. This methodology and its related indicators provide a common basis for policy dialogue, evaluating agrifood policies in 54 countries. The report analyzes agrifood public support policies to producers, consumers, and public goods and services, using a standard set of indicators for cross-country comparison and policy evaluation[10].

Brazil has been significantly reducing its level of public support to agrifood producers. Total support to the entire agrifood sector decreased from 0.7 percent of GDP in 2000-2002 to 0.5 percent in 2020-2022, which is below the OECD average. Over the past decade, Brazil's producer support has been below 5 percent of gross farm receipts, compared to the OECD average of 10 percent. This reduction was largely driven by the increase in domestic prices for certain agrifood commodities. The country has a relatively low overall level of support and protection for its agrifood sector[11]. Policy measures creating a gap between domestic and international prices (referred to as Market Price Support - MPS), have experienced

9 World Bank, 2015

10 The definitions of the indicators used in this report—Total Support Estimate (TSE), Producer Support Estimate (PSE), General Services Support Estimate (GSSE), and Consumer Support Estimate (CSE)—are further explained in Annex 1.

11 Agricultural Policy Monitoring and Evaluation 2021: Brazil. OECD

a significant decrease since 2002 going from an average of 53.7 percent of the Producer Support Estimate (PSE) between 2002 and 2012 to an average of 24.9 percent between 2012 and 2022. Yet, during and since the COVID-19 pandemic (2020 – 2022) there has been an increase in the direct support to producers (PSE), in particular in the market price support policies, increasing from 36 percent of PSE in 2020 to 56 percent of PSE in 2022.[12]

This report also analyses agrifood public support policies at the subnational level for three Brazilian States, Bahia, Santa Catarina and São Paulo, to capture diverse productive and socioeconomic contexts. These states, representing three important regions in Brazil, contribute to nearly 40 percent of Brazil's GDP and exhibit varied agrifood systems. The report aims to provide insights into state public policies and programs for green, resilient, and inclusive development (GRID) outcomes. Between 2017 and 2021, Bahia's total support to its agrifood sector was on average of USD 33.1 million (0.06 percent of the State's GDP), most of it (68 percent) being invested in agrifood public goods and services. Santa Catarina's level of total support during that same period was USD 30.6 million (0.05 percent of its GDP), half of which going to agrifood public goods and services. Between 2020 and 2021 there was a noticeable increase of the State's direct support to producers (mainly through support programs based on inputs) and investments in agrifood public goods and services. São Paulo's total level of support during that period was USD 175 million (0.05 percent of its GDP), with an increase in resources dedicated to input support programs (such as subsidized rural credit) observed in 2021. Overall, the 3 States have a low level of public support to the agrifood sector (0.91 percent of Bahia's Agricultural GDP, 0.95 percent of Santa Catarina Agricultural GDP, 2.9 percent of São Paulo Agricultural GDP), showcasing a strong alignment with international markets. An important share of the total public support of each of the States is directed at agrifood public goods and services which brings the most return on investment. Yet, when brought back as a share of the Agricultural GDP the 3 States support to agrifood public goods and services is quite low (0.57 percent of Bahia's Agricultural GDP, 0.7 percent of Santa Catarina Agricultural GDP, 1.21 percent of São Paulo Agricultural GDP) compared to the OECD average (5.3 percent of Agricultural GDP). Most of the direct support provided to producers in these

12 Agricultural Policy Monitoring and Evaluation 2024: Brazil. OECD.

states was based on input support programs, with low levels of decoupled support to producers[13].

Subsidized credit is the main agrifood support policy instrument in Brazil. However, it is highly concentrated among medium to large farmers (regressive) and in the South and Southeast regions. Subsidized credit to farmers in Brazil began in 1965 to support financing, investment, and commercialization. The National Plan for Family Farming (Pronaf), that provides the resources for subsidized credit for family farmers, was introduced in 1995. Despite the role of Pronaf in enhancing public support to family farmers, the overall public support continues to be regressive. The latest Harvest Plan (2024-2025) allocated R$ 400.59 billion (US$ 61.6 billion) in subsidized credit for industrial agriculture and R$ 76 billion (US$ 11.7 billion) for family farming through Pronaf[14]. Family farming is a crucial segment for fostering inclusion of vulnerable groups, such as women and traditional communities, climate-resilient practices, and crop diversity, however it only receives 15 percent of total credit support[15]. Moreover, research indicates that credit allocation to the sector is highly concentrated in large properties, particularly in the south and southeastern regions, and in the grain production chain (soybeans, corn, and wheat). The report calls for agrifood support policies in Brazil to prioritize: (i) more progressive support policies and programs; (ii) diversification of the agrifood support policies and programs away from subsidized credit; (iii) increase the relative importance of investing in public goods and services, rather than private goods (subsidies); and (iv) increasing the environmental impact of existing support policies and programs, in particular to family farmers.

13 Decoupled direct support to producers refers to financial assistance provided to agrifood producers that is not linked to the current production levels or prices of specific crops or livestock. This type of support is designed to provide income stability to farmers without influencing their production decisions.

14 MAPA. 2024.

15 Family Farming in Brazil: Inequalities in Credit Access. Climate Policy Initiative. 2023.

Key messages

1. **Improving the inclusion of agrifood support policies:** This report recommends redirecting producer support by prioritizing the inclusion of family farmers and the promotion of climate smart agriculture (CSA) practices. It proposes expanding federal rural credit with environmental criteria and increasing credit lines and technical assistance to enhance the adoption of sustainable practices. States such as São Paulo and Santa Catarina have already started conditioning producer support to complying with specific environmental criteria, A practice that could be expanded nationwide. Additionally, Bahia should integrate climate-smart agriculture into its support programs, by promoting an integrated landscape management and monitoring practices. The report also calls for re-evaluating subsidized rural credit programs to improve access for family farmers and vulnerable groups, ensuring equitable support distribution.

2. **Agrifood finance is a key lever for the reduction of GHG emissions and for mitigating and adapting to the impacts of climate change in Brazil**. In recent years, the Brazilian Government has increased its efforts to strengthen the access to financing for farmers to adopt climate-smart agriculture technologies and practices. The ABC+ Plan (2020-2030), an instrumental part of the National Policy on Climate Change (PNMC), and in particular, its financing program, the Sustainable Agricultural Production Systems Financing Program (RenovAgro), increases farmers' access to financing for CSA practices such as organic farming, recovery of degraded areas and pastures, crop-livestock-forest integration systems, and conservation practices for natural resource management. Beyond the case of RenovAgro, which had a disbursement rate of 68 percent in 2023[16], further enhancing access to financing for the adoption of CSA practices and reaching more farmers is essential foster transition towards a more sustainable agrifood sector. Brazil has committed to improving the monitoring and evaluation of the implementation of these CSA practices, which will be key to ensure the transition to a greener and more resilient sector.

16 Data from Brazil's Central Bank.

3. **Diversification of agrifood direct support policy instruments**: Diversifying the producer support toolkit at both federal and state levels by incorporating a broader range of tools, such as matching grants, partial credit guarantees (PCGs), agricultural insurance, price hedging, decoupled payments, and payments for environmental services, besides credit lines in the Plano Safra, is key. To increase the sustainability of the agrifood system, both federal and state levels should increase the share of other policy support instruments, such as the ones described above. This shift could be partly financed from existing farmer support programs (interest rate subsidies). This approach would enable farmers to make production decisions based on market opportunities rather than the level of public support received. Furthermore, there is a need to strengthen the country's agrifood policies to better manage the increasing risks posed by climate change on the agrifood sector. Given that uninsured risk hampers farmers' investment, shifting part of agrifood support policies from focusing on access to credit and towards risks management instruments, including insurance, PCGs, price hedging, etc.), could enhance the sector's ability to cope with climate and market risks.

4. **Improving the support to agrifood public goods and services:** The investment in agrifood public goods and services is vital for enhancing the sector's competitiveness, equity, and resilience to climate shocks. Yet, both at the federal and state level, support to agrifood public goods and services as a percentage of agricultural GDP is still below the average of OECD countries. Additionally, federal support has declined in proportion to the agrifood sector's growth, from 3.5 percent in 2000-02 to 0.8 percent in 2021-23[17]**.** Investing in agrifood public goods and services yields a higher economic and social return than investments in private goods. A shift of 10 percent of agrifood public spending from private to public goods could lead to a 5 percent increase in value added per capita**.** Investments in agrifood public goods and services should focus on innovation, strengthening sanitary and phytosanitary systems, and infrastructure development to address climate change challenges.

5. Finally, the four above key recommendations should be supported by a greater coordination for integrating indicators to evaluate and monitor public policies between the federal government and states. This effort should be led by MDAAF and MAPA at the national levels, with State Governments.

17 Agriculture Policy Monitoring and Evaluation, OECD, 2024.

The summarized recommendations for the Federal Government and States are as follows:

TABLE 1

Summary of Policy Recommendations for Agrifood Support Policies and Programs - National

Focus Area	Recommended Policies	Goals	Timeline
Direct Support to Producers			
Access to finance	**Enhanced scope and targeting** criteria of existing subsidized loans to promote sustainability and inclusion of agrifood public support	Increased financial inclusion of family farmers. Increased adoption of agroecological and climate-smart agriculture practices.	Short-term
Access to finance	**Expand the producer support toolkit** at federal level, for example through matching grants, partial credit guarantees and payments for environmental services.	Reduce financial barriers for producers, particularly family farmers and vulnerable groups. Incentivize conservation efforts, biodiversity protection, and climate-smart agriculture. Attract private sector participation and improve the overall efficiency of agrifood support programs.	Medium-term
Agrifood risk management	**Updating the Agroclimatic Risk Zoning (ZARC)** to incorporate emerging agrifood risks and broaden coverage to include a wider range of production systems.	Strengthening resilience to climate shocks; and improving access to finance	Short-term
Agrifood risk management	Shift part of agrifood public subsidies from rural subsidized credit towards **risk management instruments** and tools e.g. Insurance Premium Subsidy Program (PSR)	Strengthening resilience to climate shocks; reducing financial losses due to production shortfalls.	Medium-term
Public Goods and Services			
Driving sectoral growth	**Increase the proportion of public support allocated to public goods and services** (e.g. R&D, agriculture extension services, etc.), with a particular focus on those that advance climate-smart agriculture.	Increasing agrifood productivity, reducing environmental impact, and enhancing resilience to climate change, fostering technological advancement and knowledge dissemination, and driving long-term sectoral growth and sustainability.	Short-term

TABLE 2

Summary of Policy Recommendations for Agrifood Support Policies and Programs – Bahia, Santa Catarina and São Paulo

Focus Area	State	Recommended Policies	Goals	Timeline
Direct support to producers				
Climate-smart agriculture	Santa Catarina and São Paulo Bahia	Expand the use of producer direct support tools that integrate environmental criteria. Integrating climate-smart agriculture technologies and practices into the farmers' input support incentives	Enhance agrifood resilience and productivity while minimizing environmental impacts.	Medium-term
Public Goods and Services				
Public Support	Bahia, Santa Catarina, São Paulo.	Expand support allocated to agrifood public goods and services.	Increasing agrifood productivity, reducing environmental impact, and enhancing resilience to climate change, fostering technological advancement and knowledge dissemination, and driving long-term sectoral growth and sustainability.	Medium-term
Consumer Support Estimate				
Consumer subsidy programs	Bahia, Santa Catarina, São Paulo.	Promote well-targeted consumer subsidy initiatives, such as school feeding programs, with an emphasis on prioritizing support for vulnerable populations and enhancing nutritional outcomes. Additionally, facilitate the supply of these programs by sourcing from family farmers.	Enhancing food and nutrition security for the most vulnerable. Expanding market access for family farmers.	Medium-term

1. INTRODUCTION

1. **The purpose of this report is to assess agrifood public support policies and programs in Brazil** (at Federal and State levels). This report employs the methodology developed by the OECD to classify and measure the level of public support for the agrifood sector. The OECD methodology—referred to as Producer Support Estimate (PSE)— computes support indicators measuring all transfers to (from) the agrifood sector and enabling comparability over time, between products and across countries. The methodology offers a comprehensive view of agrifood support policies, programs, and monetary transfers associated to them, to domestic food producers and consumers, allowing policymakers to identify areas for improvement, such as enhancing agrifood sector competitiveness, reducing distortions, and promoting equality with international trading partners. The large number of countries[18] covered with this methodology also allows for benchmarking the results across a large set of data.

18 The methodology is currently used by 54 countries, including 38 OECD members and 16 non-OECD countries to monitor agricultural policies.

2. **This report provides insights into the burden that some agrifood support policies place on Brazilian food consumers** (i.e., through market price support policies) **and taxpayers** (i.e. through public expenditures, tax exemptions and other fiscal mechanisms). According to the OECD methodology, total agrifood support is defined as monetary transfers (positive and negative) to producers and food consumers from consumers themselves and taxpayers, arising from agrifood policies and programs. This definition covers common agrifood sector supports, including: (i) budgetary and non-budgetary expenditures such as credit concessions and direct subsidies (electricity, fuel, water, farm inputs); and (ii) implicit support arising from border trade (tariffs, taxes) and domestic market measures (e.g., setting of minimum/maximum prices, production quotas, etc.). Overall, the methodology quantifies total producers or groups of producers (PSE); to consumers (CSE), and to the sector collectively in form of public goods and services (GSSE), with a clear identification of transfer sources and beneficiaries (taxpayers and food consumers). The OECD methodology also allows the calculation of support for each of the most important agrifood products produced in the country. The different levels of support to products are reflected in the Producer Single Commodity Transfers (SCT), a measure of commodity-specific agrifood policies indicating policy flexibility for producers in their choices of product mixes (the OECD methodology is further detailed in Annex 1).

3. **Evidence has shown that the level, but also the composition of public support to the agrifood sector affects its effectiveness on productivity and long-term agrifood development**.[19] The share of public support that is allocated to the provision of public goods and services (e.g. research and development, inspection and extension services, infrastructure, etc., – GSSE under the OECD methodology) is of particular importance in boosting long term productivity, as opposed to public support to private goods (such as inputs subsidies – PSE under the OECD methodology). Research has found that reallocating 10 percent of the total support to agrifood from private to public goods, without altering the overall budget, can result in a 5 percent rise in per capita value added. To achieve the same effect without changing the

19 Anríquez, G., W. Foster, J. Ortega, C. Falconi, and C.P. De Salvo. 2016. Public Expenditure and the Performance of Latin American and Caribbean Agriculture. Working Paper 722. Inter-American Development Bank, Washington, DC.

spending mix, the public support to agrifood would need to increase by 25 percentage points[20]. With regards to support to private goods (PSE), it has been demonstrated that an increase in the most coupled forms of support policies (market price support and payments based on input use) exhibit a significant correlation with higher GHG emissions and nitrogen pollution.[21]

4. **The report covers federal level agrifood support policies and programs based on the OECD estimates for Brazil** (last year reported is 2022 at the date of this Report). However, since support at the State level is not necessarily covered by OECD, this report also presents subnational estimates of three States (Bahia, Santa Catarina and São Paulo) between 2017 and 2021. The report aims to provide insights into the level, composition and effectiveness of public policies for agrifood in Brazil and to contribute to the ongoing dialogue on the role of the States in supporting agrifood development in the country. It also includes agrifood policy recommendations to improve the effectiveness and efficiency of agrifood support to both, food consumers and producers in order to enhance long term sustainable sector's competitiveness, resilience and inclusion.

5. **The selection of these states - Bahia in the Northeast, Santa Catarina in the South, São Paulo in the Southeast region of Brazil – was deliberate as they represent diverse agroecological regions, agrifood production systems and socio-economic contexts**. The authors hope to expand this analysis to other states in the future to get a more comprehensive view of the subnational support to the agri-food sector in Brazil. For each State a detailed report has been produced presenting the agrifood policy support estimates, linking them to national estimates, benchmarking them with other countries and Brazilian

20 Lopez, C.A., L. Salazar, and C.P. De Salvo. 2017. *Public Expenditures, Impact Evaluations and Agricultural Productivity* Technical Note IDB-TN-1242. Inter-American Development Bank, Washington, DC.

21 Henderson, B. and J. Iankoski, 2019, Evaluating the environmental impact of agricultural policies, OECD Food, Agriculture and Fisheries Papers, No 130, OECD publishing, Paris

States, and presenting State-level agrifood policy recommendations to improve the sector competitiveness, resilience and inclusion.[22] [23] [24]

6. **The report is divided into six sections**. Following this introduction, Section 2 describes the country context; Section 3 provides an overview of Brazil's agrifood sector; Section 4 presents a rapid overview of the agrifood public support policies and programs at the Federal level; Section 5 presents the agrifood public support policies and programs at the State level; and Section 6 presents conclusions and policy recommendations.

22 See World Bank. 2025. Enhancing Bahia's Agriculture Support: Policies for a Competitive, Green, and Inclusive Agrifood Sector. Paviot, M., Peña, H., del Grossi, M., Mora López, E., Tejeda, M. F., Traverso, V., Garcia Ferreira, B. M., Leite, L. World Bank: Washington, DC.

23 See World Bank. 2025. Enhancing Santa Catarina's Agriculture Support: Policies for a Competitive, Green, and Inclusive Agrifood Sector. Paviot, M., Peña, H., del Grossi, M., Mora López, E., Tejeda, M. F., Traverso, V., Garcia Ferreira, B. M., Leite, L. World Bank: Washington, DC.

24 See World Bank. 2025. Enhancing São Paulo's Agriculture Support: Policies for a Competitive, Green, and Inclusive Agrifood Sector. Paviot, M., Peña, H., del Grossi, M., Mora López, E., Tejeda, M. F., Traverso, V., Garcia Ferreira, B. M., Leite, L. World Bank: Washington, DC.

2. MACROECONOMIC CONTEXT AND GROWTH CHALLENGES

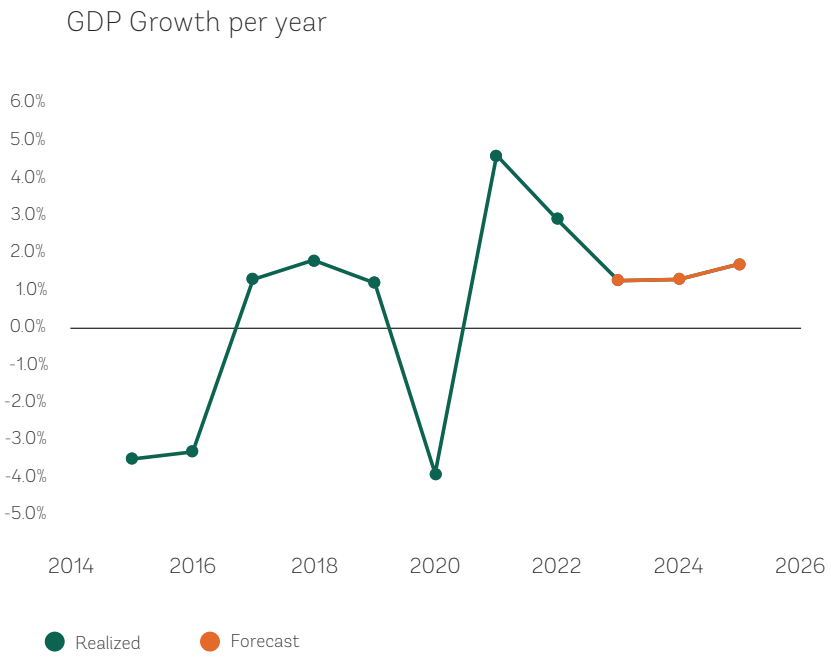
7. **Over the past two decades, Brazil has experienced a high level of economic growth[25] founded on structural reforms, higher commodity prices, expanded social programs and job creation.** Several factors contributed to this higher growth level during that period. Firstly, 1990s structural reforms that included liberalizing the economy, reducing bureaucracy, and attracting foreign investment. Additionally, Brazil benefited from an international commodities price boom during this period; by exporting its main produced commodities (agrifood products, minerals, and oil), the country's increase in revenues contributed to economic growth. Finally, the expansion of social programs and job creation also played a role in boosting growth. The government implemented various social programs to reduce poverty and inequality, which helped to stimulate domestic consumption and increase demand for goods and services.

25 Average annual growth rate of 3.3 percent between 2001 and 2014.

FIGURE 1.

Annual growth of Gross Domestic Product

(Source: World Bank)



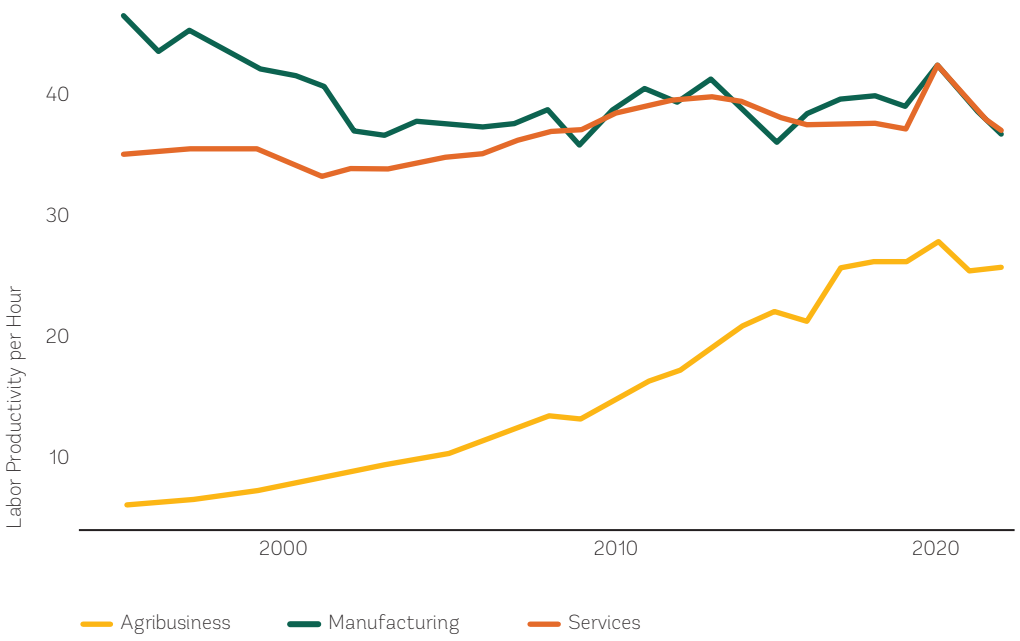
8. **Brazil's economy rebounded quickly from the COVID-19 pandemic, emerging from a prolonged slump that began in 2015**. However, productivity has remained stagnant for more than two decades, specifically in manufacturing and services. One of the factors contributing to the low productivity growth in Brazil is the concentration of the workforce in the industry sector, where productivity has been declining over the years, as well as in the services sector, which is experiencing stagnant levels of productivity. Since 1995, the Brazilian industry has witnessed negative productivity growth, with productivity per hour worked declining by an average of 0.4 percent annually until 2022. Despite this decline, manufactured products continue to benefit from high import barriers, which protect them but also contribute to their inefficiency. On the other hand, the service sector, which accounts for over 70 percent of total working hours, has shown weak performance in terms of productivity, with an average annual growth of only 0.2 percent between 1995 and 2022[26].

26 Fernando Veloso, Silvia Matos, Fernando de Holanda Barbosa Filho and Paulo Peruchetti. FGV/IBRE. 2023, May 22. Após elevação atípica em 2020, PTF apresenta forte queda em 2021.

FIGURE 2.

Brazil's sectoral productivity over time

(Source: FGV/Ibre)



9. **In 2023, real GDP grew by 2.9 percent, driven by a strong harvest, exports, and robust private consumption.**[27] Inflation moderated to 4.6 percent, falling within the Central Bank's target range (1.75 to 4.75 percent) and significantly below the peak of 12.1 percent in April 2022. GDP growth is expected to moderate to 1.7 percent in 2024 as the lagging effect of high-interest rates slows economic activity and as agrifood output normalizes after 2023's bumper harvest.[28] Inflation is expected to gradually converge to about 3.5 percent by 2025, allowing for the gradual easing of monetary policy and contributing to faster growth in 2025. But growth is expected to remain at around 2 percent over the medium term, given persistent structural constraints to productivity growth.[29]

10. **Poverty and disparities remain prominent in the lives of many Brazilians in the absence of more robust investments in human capital among**

27 World Bank. 2024. April. Macro Poverty Outlook.

28 Ibid

29 Ibid.

the less well-off. The poverty rate reached 21.5 percent (US$ 6.85 per day, 2017 PPP) in 2023, a reflection of improved economic conditions and social protection policies. Unemployment fell to 7.4 percent, the lowest since 2014[30]. The *Bolsa Família* Program was responsible for two thirds of the annual poverty reduction due to the expansion of its coverage by 2 million families (reaching 21.3 million), while the average monthly transfer increased from R$395 to R$670 (US$ 68 to US$ 115)[31]. Additionally, the real minimum wage was raised by 2.8 percent, benefiting approximately 1 in 4 households in the bottom 40 percent with at least one formal worker.[32] Nonetheless, Brazil remains one of the most unequal countries in the world, with a Gini coefficient of 0.519 in 2022 and striking inequalities. Female-headed households, Afro-Brazilians, and indigenous populations face enduring wage gaps, lower employment opportunities, and higher poverty incidence. Finally, it is estimated that around 60% of the poorest reside in rural areas.[33]

30 Ibid.

31 1 US$ - 5.8 R$, exchange rate as of February, 2025.

32 World Bank. 2024. April. Macro Poverty Outlook.

33 UNPD. 2016. Perfil da pobreza: Norte e Nordeste rurais.

3. OVERVIEW OF BRAZIL'S AGRIFOOD SECTOR

3.1 Importance of the Agrifood[34] Sector

11. **The agrifood sector plays a significant role in the Brazilian economy**. The agrifood sector account for about 8.4 percent of the country's GDP; 16.2 percent of total employment; and 40 percent of total exports (Brazil is the world's second largest food exporter).[35] Two-thirds of Brazil's total value of agrifood production are crop products, and one-third livestock products. OECD reports that between 2011 and 2020, Brazilian agrifood production increased at an annual rate of 3.1 percent, above the world's average. Increases in production were driven by a growth in Total Factor Productivity (TFP) of 2 percent per year, significantly higher than the global average, was the main driver behind the increase in production. Additionally, the increased use of intermediary inputs was offset by the reduced use of primary factors in agrifood production.[36]

12. **In the context of Brazil's overall low productivity growth, the agrifood sector in Brazil has emerged as a remarkable success story**. Between 2000-2013, agrifood productivity rose by 105.6 percent, compared to only 11.7 percent in the services sector and -5.5 percent in the manufacturing sector. The impact of strong productivity growth in agrifood to overall productivity growth was significant, because

34 In this report, agrifood sector refers to agricultural and livestock production as well as agri-food processing.

35 World Bank Group. 2016. Brazil Systematic Country Diagnostic.

36 OECD. 2023. Agricultural Policy Monitoring and Evaluation 2023.

even though agrifood e accounts for only about 5.5 percent of GDP, the contribution rises to 22.54 percent of GDP when agribusiness is included.[37]

13. **Several factors have contributed to the success of the agrifood sector's productivity growth in Brazil**. Firstly, public research expenditures through the Brazilian Agricultural Research Corporation (EMBRAPA) have played a significant role in enhancing agrifood practices and improving crop yields. Between 2000 and 2019, public spending on agrifood research (EMBRAPA) doubled in real terms, and there was an increase in private investment in agrifood innovations, which contributed for the 60 percent of the sector's growth.[38] The government's promotion of agri-exports and the establishment of open trade policies in agrifood have also been instrumental in driving the sector's growth by facilitating international trade and expanding market access. Access to affordable credit and targeted incentives have enabled farmers and agribusinesses to invest in modern technologies, machinery, and infrastructure, leading to increased productivity. Additionally, favorable economic conditions, including controlled inflation and fiscal discipline, have provided a conducive environment for agrifood growth and investment.[39]

14. **The agrifood sector is playing a crucial role in boosting Brazil's current level of growth**. In the first quarter of 2023, the country's GDP experienced a growth of 1.9 percent.[40] This growth was primarily driven by the agrifood sector, which saw an impressive increase - the highest recorded since 1996- of 21.6 percent during this period. Historically, agrifood has served as a buffer during times of recession and economic slowdown in Brazil, providing a source of resilience for the overall economy. Moreover, the fact that poverty reached 25 percent of the Brazilian population in 2022, of which around 60 percent reside in rural areas[41], reinforces the urgency of reconsidering the support provided to the agrifood sector to boost its sustainable development.

37 World Bank. 2017. Agriculture Growth in Brazil: Recent trends and future prospects.

38 Revista de política Agricola. 2021. September. TFP e impactos de políticas públicas.

39 Ibid

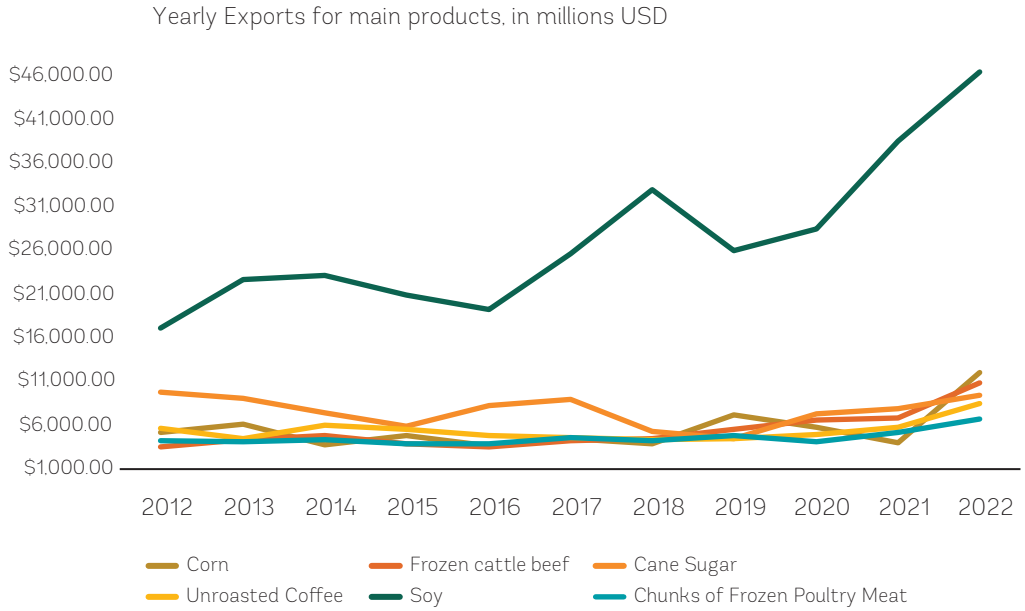
40 IBGE – Brazilian Institute of Geography and Statistics

41 UNPD. 2016. Perfil da pobreza: Norte e Nordeste rurais.

FIGURE 3.

Value of annual exports for main agrifood products

(Source: MDIC)



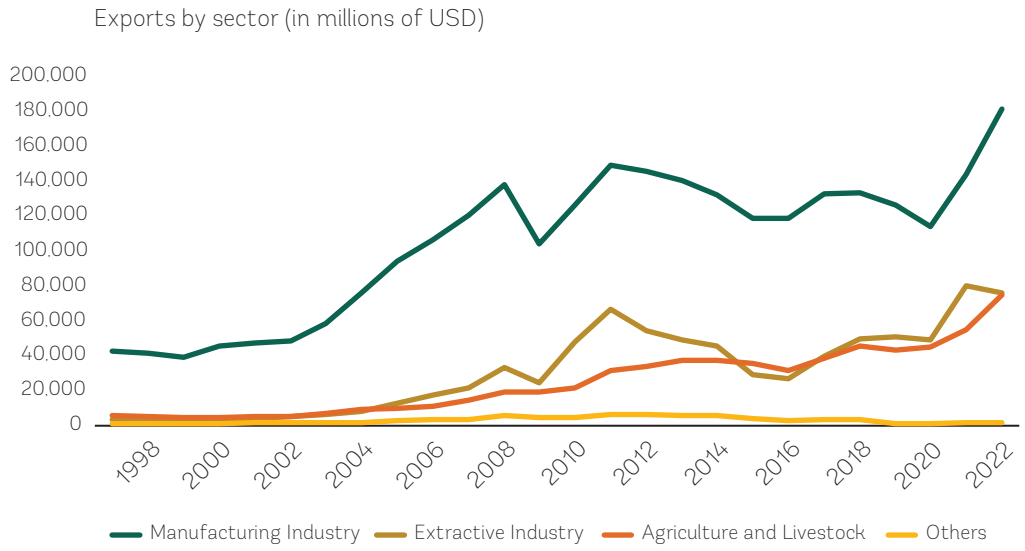
15. In 2021, Brazil consolidated its position as a leading exporter of several key commodities, making it a significant player in the global market. Agrifood exports have grown in importance for Brazil, representing 37 percent of its total exports in 2021. The country excelled in the production and export of soybeans, poultry, beef, cotton, corn, and orange juice. Among these commodities, soybeans stood out as the top export, representing nearly 50 percent of Brazil's agrifood exports, with a total value of US$39 billion. The country also emerged as a major exporter of raw sugar, with a total export value of US$ 10 billion, capturing a significant 35.4 percent share of global exports. Furthermore, Brazil's position as the leading exporter of poultry meat was further solidified by its impressive total export value of US$ 7.6 billion, accounting for a substantial 25 percent share of global exports. Finally, Brazil was the leading exporter of frozen bovine meat, with a total export value of US$ 7.09 billion and a 21.7 percent share of global exports.[42]

42 The Observatory of Economic Complexity (OEC)

FIGURE 4.

Brazil's exports value by sector

(Source: MDIC)



16. **Despite being the third largest agrifood producer in the world, Brazil continues to face significant challenges in ensuring food security for its population.** In 2022, approximately 30.7 percent of Brazil's population experienced moderate or severe food insecurity.[43] This alarming situation can be attributed, in part, to the persistent issue of high food inflation – with a rise of 37.5 percent compared to an overall price index increase of 21.7 percent between 2019 and 2022. While Brazil may not have the highest prevalence of food insecurity in terms of percentage, it does have the highest total number of people affected, with a staggering 70 million individuals experiencing varying degrees of food insecurity.[44] Additionally, it is important to note that food insecurity is 1.2 times more prevalent in rural areas compared to urban areas.[45]

43 The World Bank. 2023. Food Insecurity and Food Inflation in Brazil

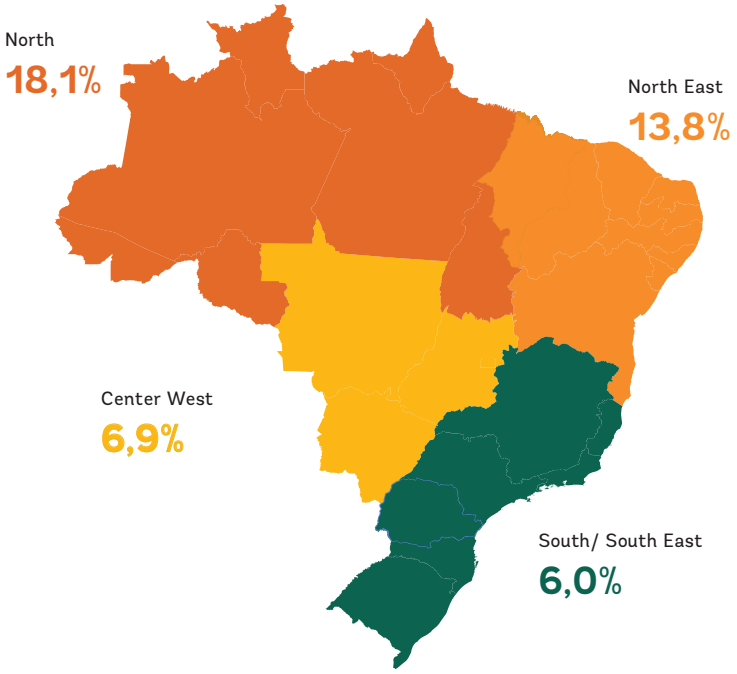
44 FAO. 2023. The State of Food and Nutrition Security

45 PENSSAN. 2022. II National Survey on Food Insecurity and COVID-19 in Brazil

FIGURE 5.

The geographic map of food insecurity in Brazil

(Source: Jornal Ja)



3.2 An unequal success across farmers and regions

17. The Brazilian agrifood sector exemplifies many disparities. Brazilian agrifood sector is dominated by family farming[46], which highlights the significant disparity in productivity, income concentration and opportunities among farmers. Approximately 77 percent of all rural establishments[47] in Brazil, totaling

46 Law 11.326 (2006) defines family farmers as follows: (i) does not have under any tenure regime an area of more than four fiscal modules (fiscal modules are defined by a number of hectares that can vary between municipalities and states); (ii) predominantly relies on its own family labor; (iii) household income predominantly originates in the family farm; and (iv) family members operate the farm. The size of a fiscal modules varies by municipality.

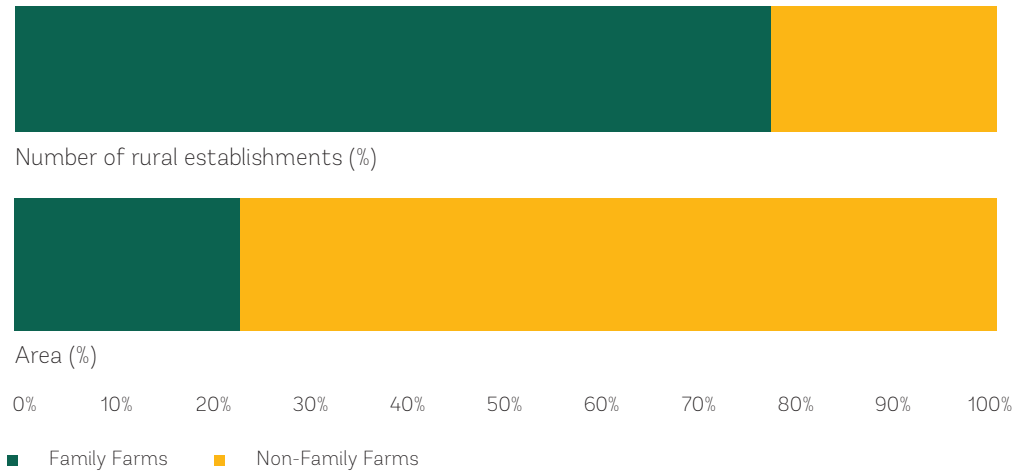
47 This type of establishment covers any production unit or holding wholly or partly engaged in agrifood, forestry, or aquaculture activities. Regardless of its size, legal form, or whether it is located in a rural or urban area, the purpose of any agrifood establishment is to produce, either for sale (marketing production) or subsistence (supporting the producer or his family).

around 3.9 million, are classified as family farms. These family farms employ around 10 million people, accounting for 67 percent of all labor used in agrifood in the country.[48] Despite their substantial contribution, family farming accounts for 23 percent of total production in Brazil, amounting to R$ 107 billion (US$ 18.44 billion[49]). Additionally, family farming occupies 80 million hectares, which is equivalent to 23 percent of the total farming area. Overall, less than 1 percent of rural establishments account for 50 percent of the total production value.[50]

FIGURE 6.

Distribution of rural establishments and farming area between family farms and non-family farms

(Source: IBGE 2017)



48 IBGE. 2017. Agricultural Census.

49 1 US$ - 5.8 R$, exchange rate as of February, 2025.

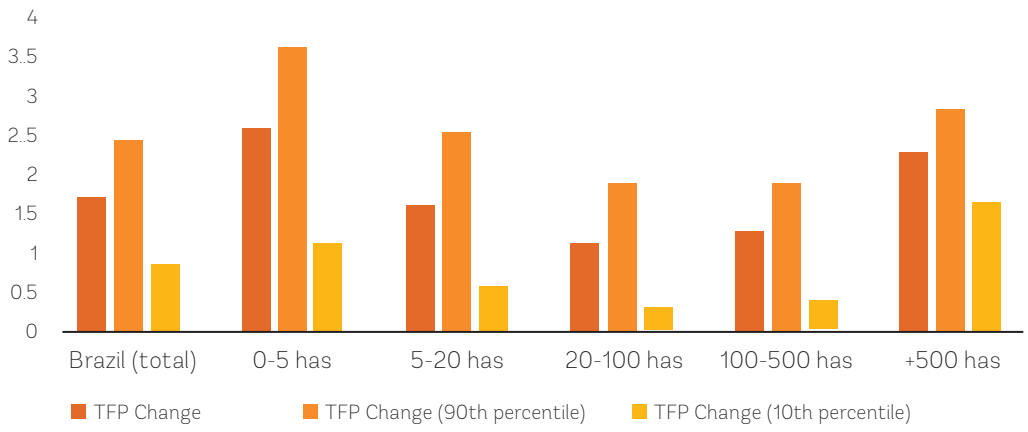
50 EMBRAPA. 2017. A concentração do valor bruto da produção e a pobreza segundo o Censo Agropecuário 2017.

18. The productivity and income growth within the sector have been heavily imbalanced. During the last decades, while TFP growth has picked up pace, due to improvements amongst the most efficient producers, most producers recorded a much slower productivity growth rate. Between 1985 and 2006, the rural establishment that experienced the highest productivity growth were the smallest (0-5 hectares) and the largest (+500 hectares) ones, with the former showing a slight advantage.

FIGURE 7.

Total Factor Productivity Decomposing by Farm Size in Brazil (1985-2006) (% per year)

(Source: WB. 2017. Agriculture Productivity Growth in Brazil)



19. Agrifood productivity gains have been driven by technical change, accounting of 68 percent of agrifood added value in 2006.[51] Nevertheless, access to improved production techniques and practices has been unequal across farms and regions. Prior to the 1970s, the *Cerrado* biome saw limited agrifood activity, partly due to the absence of *Cerrado*-specific agrifood technology, resulting in low productivity. However, through persistent initiatives, Embrapa succeeded in importing agrifood technologies from abroad and customizing them to suit the *Cerrado's* unique environment, leading to a radical overhaul of agrifood in the region.

51 World Bank. 2017. Agriculture Productivity Growth in Brazil

BOX 1.

VULNERABLE GROUPS IN THE BRAZILIAN AGRIFOOD SECTOR

Gender inequality persists in the Brazilian labor market. Female labor force participation barely rose from 54 percent in 1995[52] to 55.1% in 2019, and it is still significantly concentrated in traditionally female roles. In 2021, women's labor participation rate amounted to almost 54 percent, whereas men's amounted to 73 percent. In terms of rural employment, these percentages decrease to almost 5 percent and 13 percent, respectively[53].

According to the last agricultural census, in 2017 there were almost 1 million women managing rural properties in Brazil, which accounts for about 19 percent of the 5.07 million rural establishments in the country. The majority of these women are concentrated in the Northeast region, where 57 percent of the properties managed by women are located. The Southeast region gathers 14 percent of the properties managed by women, while the North, South, and Midwest regions have 12 percent, 11 percent, and 6 percent respectively. Despite managing a significant portion of rural properties, women only administer 30 million hectares or 8.5 percent of the total area occupied by rural establishments. This indicates that women tend to manage smaller-scale properties.

Additionally, only 9.6 percent of women receive technical assistance, compared to 14.3 percent of men. Similarly, women are less likely to participate in associative activities such as cooperatives, with only 5.3 percent of women being members, compared to 12.8 percent of men. Participation in cooperatives is important for scale gains and access to credit, which can contribute to the development and success of agrifood activities.

With regards to indigenous communities, the census found that 1.12 percent of the total producers identified themselves as indigenous.[54] The majority of indigenous producers are concentrated in the North region, with Roraima, Amazonas, Amapá, and Acre having the highest proportion of indigenous producers. Among indigenous establishments, there is a higher participation rate of women, with 25.9 percent of indigenous producers being women, compared to the national average of 19 percent.

Rural establishments managed by indigenous people have distinct characteristics. They are primarily focused on production for self-consumption and family farming. These establishments tend to have more diversified production and make less use of pesticides, with 88 percent of indigenous establishments not using pesticides. However, indigenous producers also face challenges in terms of specialized technical assistance in agrifood – only 8.4 percent of indigenous producers receive this type of assistance – , which can limit their access to knowledge and resources necessary for improving agrifood practices and productivity.

52 World Bank. 2016. A Snapshot of Gender in Brazil today. http://hdl.handle.net/10986/25976

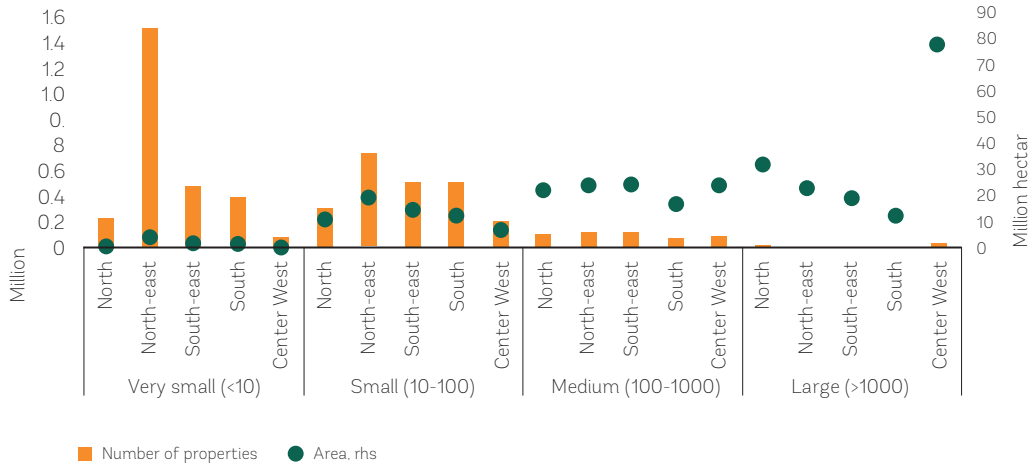
53 World Bank. 2023. *Brazil Gender Landscape*

54 IBGE. 2023, February. Indígenas têm produção agropecuária diversificada, com mais mulheres produtoras e menos agrotóxicos

FIGURE 8.

Number of farms and total farming area by region

(Source: IBGE. Census 2017)

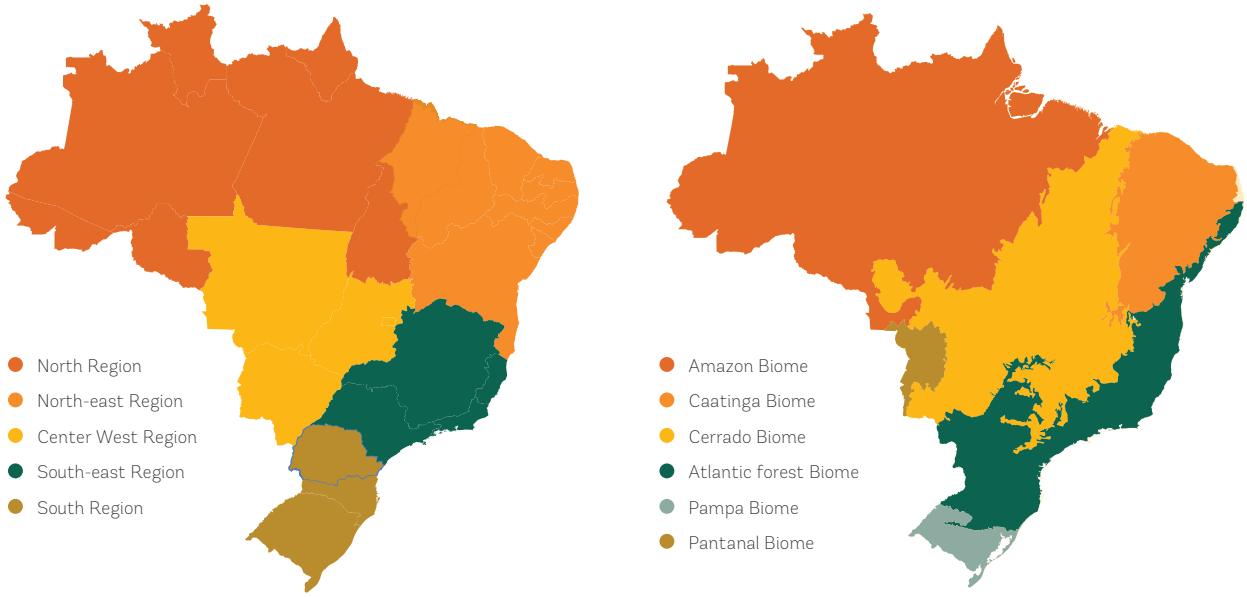


20. Agrifood in Brazil exhibits significant heterogeneity across its five geographic regions. Brazil's five regions exhibit different agrifood production characteristics, influenced by factors such as climate, land availability, access to resources, and level of organization of farmers, as well as differences related to access to public goods and services.

FIGURE 9.

Geographical distribution of Brazil's (a) regions and (b) biomes

(Source: IBGE)



21. **The Northern region of Brazil is well-known for its vast Amazonian biome, which provides the backdrop for thriving fisheries, forestry, and bioeconomy activities**. However, there is a significant obstacle that hinders agrifood development and land ownership in this region, which is the inadequate land titling system. In this region, rural establishment ranging from 5 to 50 hectares in size have shown the highest productivity growth, indicating that farmers with secure land titles who can invest in their farms can increase their productivity and profitability. On the contrary, the lack of secure land titles exacerbates their poverty situation as it restricts their ability to access financial services, government assistance programs, and market opportunities.

22. **The Northeast region of Brazil is home to the largest concentration of family farmers, with over 2.3 million rural establishment, with an average size (30.5 hectares) that is less than half of the national average**. In addition to the agrifood dynamics, the Northeastern region faces social and economic difficulties. It has the highest levels of poverty and illiteracy in Brazil.

Furthermore, there is a lower presence of producer cooperatives[55], which limits the opportunities for collaboration among farmers in the region. This region is more prone to climate-related risks such as droughts, floods, and other extreme weather events, and considering the restricted access to services and technical assistance hindering their climate change adaptation and mitigation ability. However, it is worth noting that the *Cerrado* biome within the Northeast region stands out as a more favorable area for agrifood production. The *Cerrado* biome has better production conditions and is often known as the new agrifood frontier in Brazil. This suggests that farmers in this area have better access to resources, technical assistance, and favorable environmental conditions, which can contribute to higher productivity and improved agrifood outcomes.

23. **The Center-West region of Brazil is characterized by its concentration of large rural properties and well-capitalized producers who have higher resources and investment capacity**. The average farm size in this region is 322 hectares, which is almost five times larger than the national average farm size. This indicates that the agrifood operations in this region are on a much larger scale compared to other parts of the country. Soybeans are a major cash crop in Brazil, and the Center-West region is one of the main contributors to the country's soybean production. Cattle farming is also prominent in this region, with large ranches and extensive grazing areas. In recent years, the Center-West region has been experiencing the impact of uncommon droughts[56] and seen increased degradation of pastures soils fertility. These impacts can result in financial losses for farmers and a decrease in the region's agrifood productivity.

24. **The South and Southeast regions of Brazil are known for their small-scale market-oriented family farmers.** In the South region, productivity trends align with the national pattern, where both small and large rural establishments exhibit higher productivity growth rates. However, medium-sized rural establishments tend to lag behind in terms of productivity. The South and Southeast regions benefit from good infrastructure[57] – including transportation networks and storage facilities, which facilitate the movement and storage of agrifood products – as well as a higher implantation of agrifood

55 World Bank. 2020. Rural Finance Policy Note.

56 World Bank. 2015. Rapid and Integrated Agriculture Risk Management Review for Brazil

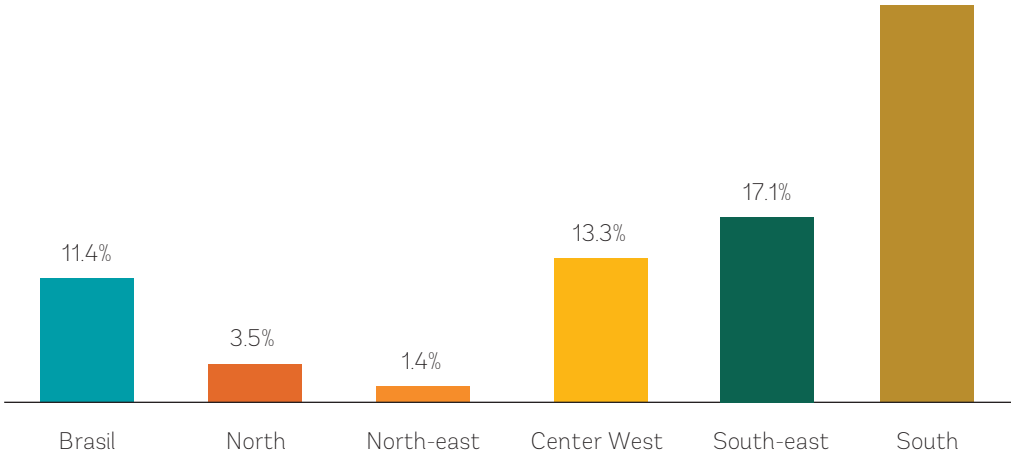
57 Ibid

start-ups and technological hubs (56.9 percent of total Brazilian agrifood start-ups are located in the Southeast and 26 percent in the South[58]). This contrasts with other frontier regions like the North, which may require more investment and support to enhance their agrifood storage capabilities. Family farmers in the South and Southeast regions tend to belong more to associations and cooperatives that allow them to reach economies of scale on both purchase of inputs and commercialization of outputs.

FIGURE 10.

Rural establishments associated with cooperatives (%)

(Source: IBGE, Censo Agropecuário 2017)

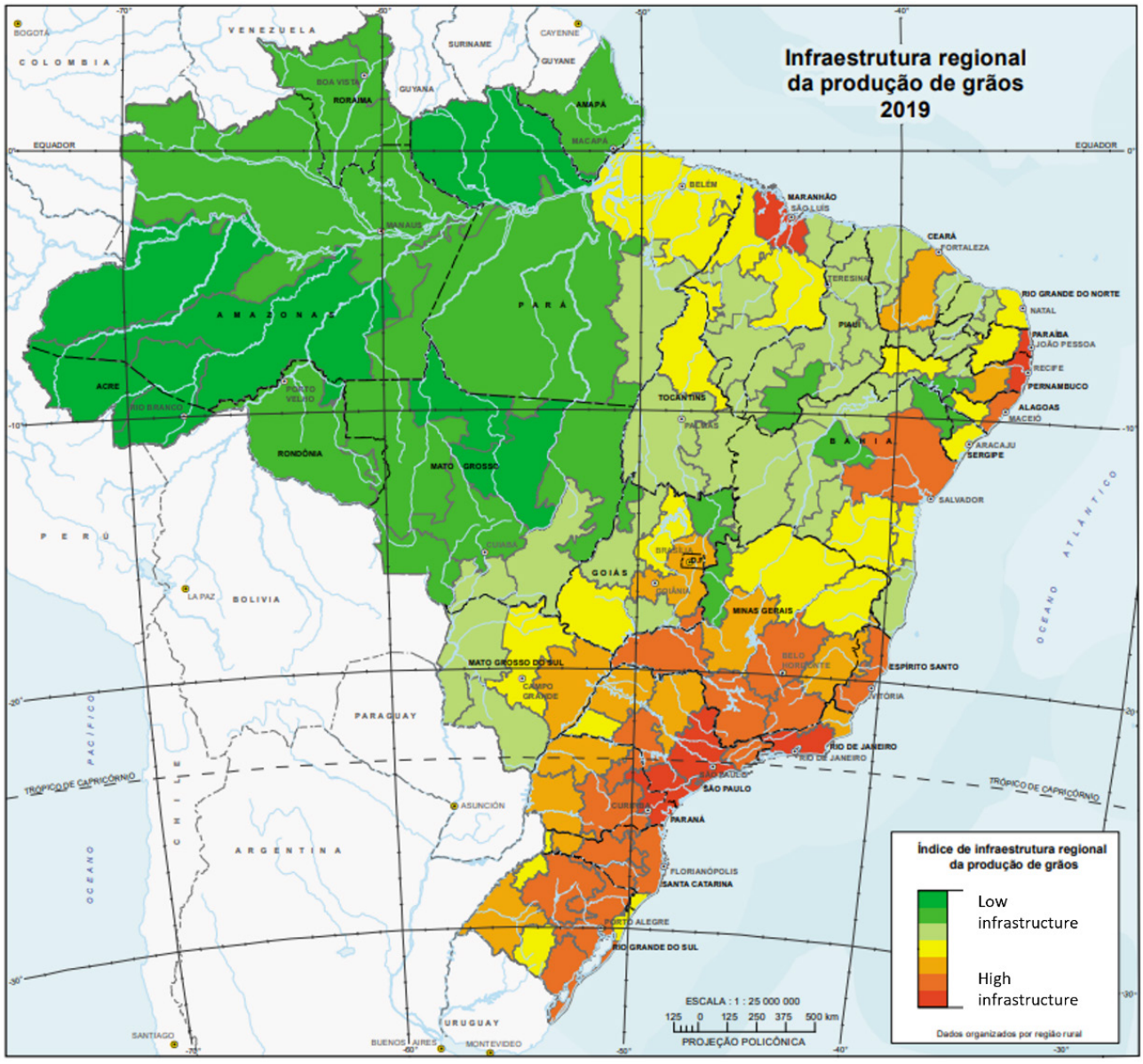


58 Dias, C.N., Jardim, F., Sakuda L.O. 2023. *Radar Agtech Brasil 2023: Mapeamento das Startups do Setor Agro Brasileiro*. Embrapa, SP Ventures e Homo Ludens: Brasilia e São Paulo, 2023.

FIGURE 11.

Brazil's Regional Grain Production Infrastructure disparities[59]

(Source: IBGE: Atlas do Espaço Rural Brasileiro (2020)



59 The map is based on the regional infrastructure index for grain production, showing in orange color the regions with higher regional infrastructure level and with green color regions with lower regional infrastructure. The index takes into account the storage infrastructure, access to ports, and availability of transportation modes (including road, rail, and waterway transport).

3.3 Major contributor and highly vulnerable: the climate change paradox of Brazil's agrifood sector

25. **The expected impacts of climate change on Brazil's Agrifood Sector are significant and varied across regions**. By the end of the century, temperatures in Brazil could rise by 1.7 °C to 5.3 °C, affecting all biomes with regional differences. The Northeast, a poorer region, could become arid, impacting subsistence agrifood, water availability, and health, potentially leading to migration. Freshwater availability is crucial for agrifood and is threatened by climate change, land degradation, and deforestation, which also disrupt rainfall patterns and water cycles. Deforestation in the Amazon and *Cerrado* biomes exacerbates climate risks, including reduced rainfall and increased sediment loads in rivers and dams. A tipping point in the Amazon could lead to irreversible damage and significant economic impacts.

26. **Climate change and weather variability shocks are increasingly affecting agrifood productivity**. The sector faces reduced yields and income due to climate change, with effects differing by crop and region. The central parts of Brazil are expected to see increased temperatures and dry days, reducing pasture and grain productivity by 2050. Livestock productivity, particularly dairy, is also at risk due to heat stress. Only 13 percent of Brazil's cropland is equipped for irrigation yet, water availability for agrifood faces upcoming challenges from declining precipitation, higher evaporation rates, and reduced surface and groundwater availability, leading to water scarcity and competition among sectors.

27. **The direct impact of climate change on income generation exacerbates poverty and food insecurity, particularly in rural areas where food insecurity is 1.2 times higher compared to urban areas.** Brazil loses annually on average, around 1 percent of its agricultural GDP due to extreme climate events.[60] Severe droughts account for around 50 percent of the most catastrophic events ever recorded in the country. During the last fifteen years, the cumulative economic damage caused by four extreme events (2004, 2012 and 2014) amounted to US$ 8.11 billion.[61] Climate change could push another 800,000 to 3 million Brazilians into extreme poverty as soon as 2030.[62] By optimally adapting and reallocating resources to reduce climate change effects and

60 World Bank. 2018. Brazil Country Partnership Framework 2018-2023

61 Strategic Affairs Secretariat of Brazilian Government. 2015. Brazil 2040

62 World Bank. 2023. Brazil's Country Climate and Development Report

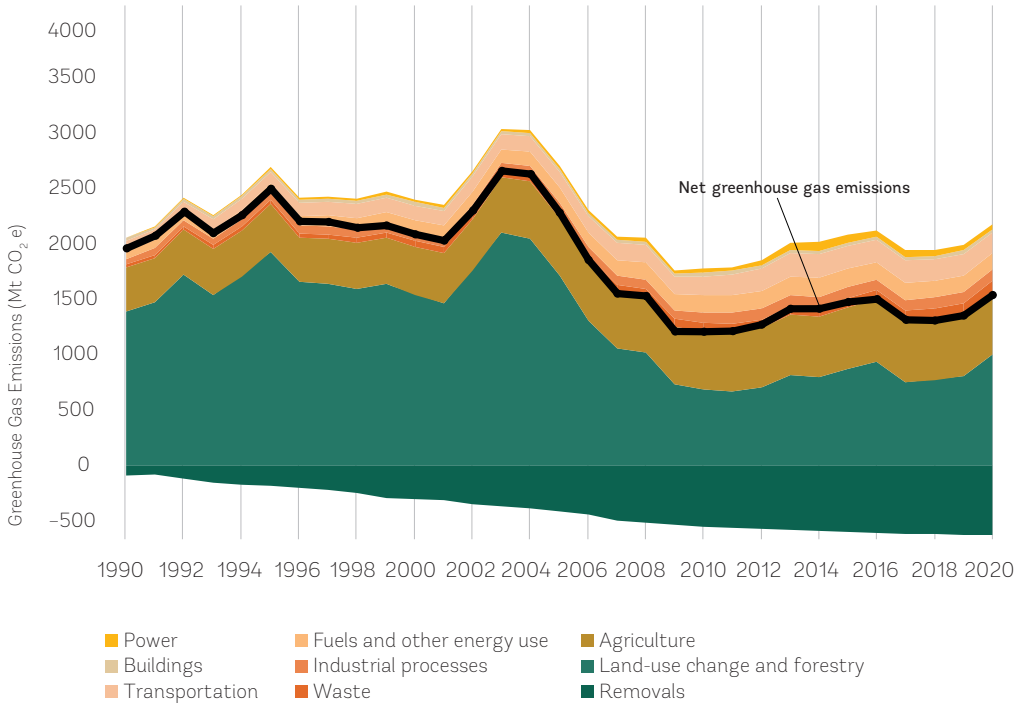
increase risk management in the agrifood sector, models suggest that Brazil would only experience a small loss at the national level, equivalent to 0.15% of GDP by 2042.

28. **Brazil's Greenhouse gas (GHG) emissions are dominated by land use change that represent 52 percent of total emissions**, mostly driven by continued deforestation in the Amazon –mainly located in the north region– and *Cerrado* biomes –mainly in the Center West and part of the southeast. The agrifood sector represents 26 percent of GHG emissions, 65 percent of which stem from enteric fermentation and 29 percent from inputs use.

FIGURE 12.

Sectoral breakdown of GHG emissions in Brazil

(Source: WB. 2023. CCDR)



29. **Although Brazil's agrifood is highly threatened by climate change, the sector also has great potential to contribute to GHG emissions reduction.** The country has achieved notable success in fostering agrifood growth and curbing deforestation in the past decades, although deforestation rates have risen again in recent years. The Government's agrifood policies aimed at promoting low carbon agriculture have helped to decrease emission intensity within the sector, yet more action is needed. Sectoral

emissions have grown at a slower pace than agrifood production. To further limit emissions from agrifood over time, stronger financial incentives are necessary to foster widespread adoption of climate-smart agriculture (CSA) practices. This could include enhancing technology transfer, repurposing the rural credit system to boost green financing and introducing innovative incentives for Payment for Environmental Services. Preserving Brazil's natural resources and curbing deforestation are key to achieving more resilient agrifood and land-use practices. By improving agrifood productivity and simultaneously enforcing forest conservation and management, Brazil can minimize the conversion of native vegetation. This would have a beneficial impact on regional climate patterns and help to mitigate soil degradation and nutrient depletion. Implementing sustainable landscape strategies could also sequester significant amounts of CO2 from the atmosphere.

FIGURE 13.

Potential to reduce emissions: a comparative sample

(Source: World Bank Brazil CCDR, based on Roe et al. 2021.)

4. OVERVIEW OF PUBLIC SUPPORT FOR AGRIFOOD AT THE FEDERAL LEVEL

30. **This chapter presents the analysis of federal-level agrifood support policies and programs in Brazil based on the OECD's annual report on Agricultural Policy Monitoring and Evaluation** (see Annex 1 on Methodology). It worths mentioning that the methodology allows differentiating three types of support, considering the intended recipient of the transfers: producers individually (measured by Producer Support Estimate, PSE), the sector collectively (measured by General Services Support Estimate, GSSE) and food consumers (measured by Consumer Support Estimate, CSE).

4.1 Evolution of agrifood support policies and programs in Brazil

31. In Brazil, support to the agrifood sector can be implemented through various government levels (Federal, State and Municipalities). The contributions of Brazil's agrifood support policies and programs provided at State level remain poorly understood as the OECD annual analysis of Brazil agrifood support is mostly focused on the federal level. Better understanding the support provided by the States thus represents considerable opportunity to leverage State public policies and programs toward green, resilient, and inclusive development (GRID) outcomes. As a first step to understanding better States public support to the agrifood sector, the study has focused on 3 States - Bahia in the Northeast region, Santa Catarina in the South, and São Paulo in the Southeast - representing diverse agrifood production systems and socio-economic contexts. It is expected that similar analysis will be undertaken in other regions and States.[63]

32. Brazil's agrifood support has been decreasing in the last two decades. Brazil's Total Support Estimate (TSE), relatively low when compared to other OECD and LAC countries, declined from 3.4 percent of Gross Domestic Product (GDP) in 2000-02 to 0.7 percent in 2020-22, suggesting little burden on taxpayers.[64] When the reference is Agricultural GDP (AgGDP), these figures show a decline from 7.7 percent in 2017 to 5.5 percent in 2020 an then a recovery for 2021 (Figure 15).

63 For detailed analysis of each State please see World Bank. 2025. Enhancing Bahia's Agriculture Support: Policies for a Competitive, Green, and Inclusive Agrifood Sector. Paviot, M., Peña, H., del Grossi, M., Mora López, E., Tejeda, M. F., Traverso, V., Garcia Ferreira, B. M., Leite, L. World Bank: Washington, DC. See World Bank. 2025. Enhancing Santa Catarina's Agriculture Support: Policies for a Competitive, Green, and Inclusive Agrifood Sector. Paviot, M., Peña, H., del Grossi, M., Mora López, E., Tejeda, M. F., Traverso, V., Garcia Ferreira, B. M., Leite, L. World Bank: Washington, DC. See World Bank. 2025. Enhancing São Paulo's Agriculture Support: Policies for a Competitive, Green, and Inclusive Agrifood Sector. Paviot, M., Peña, H., del Grossi, M., Mora López, E., Tejeda, M. F., Traverso, V., Garcia Ferreira, B. M., Leite, L. World Bank: Washington, DC.

64 OECD. 2023. Agriculture Policy Monitoring and Evaluation

FIGURE 14.

Composition of TSE (2017-2021)

(source: OECD 2023)

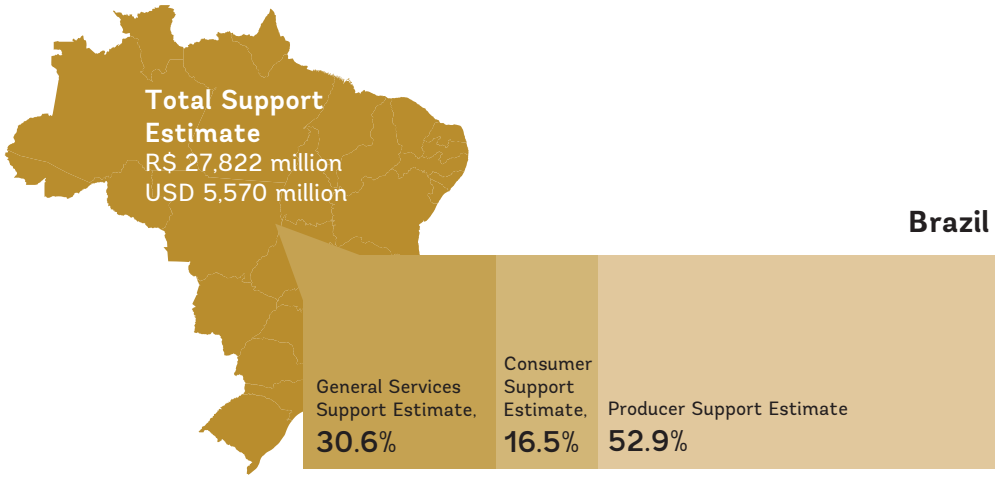
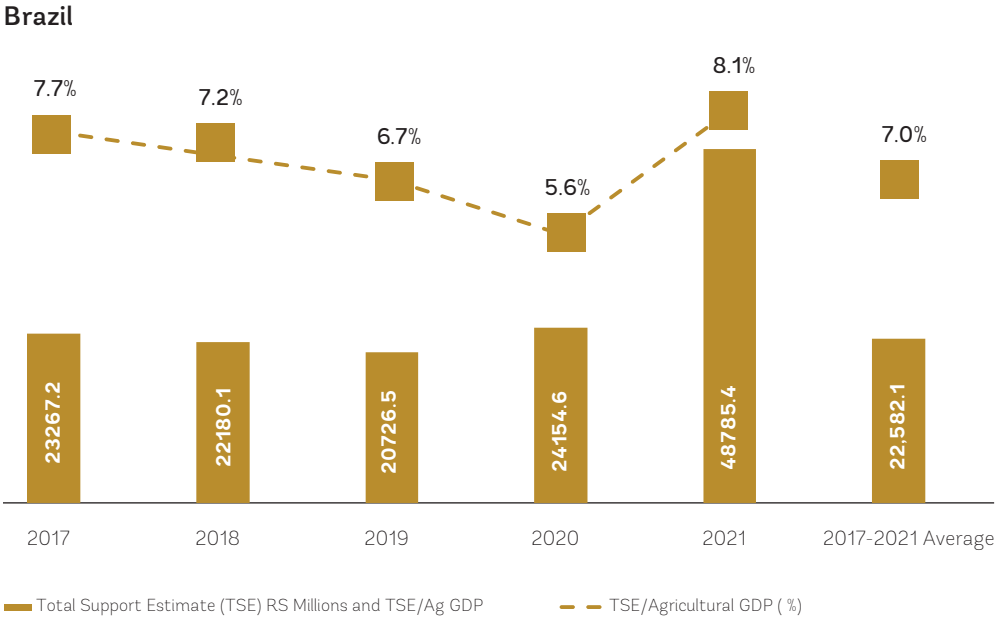


FIGURE 15.

Evolution of Brazil TSE in R$ million and as a share of Ag GDP (2017-2021)

(source: OECD and World Bank, 2023)

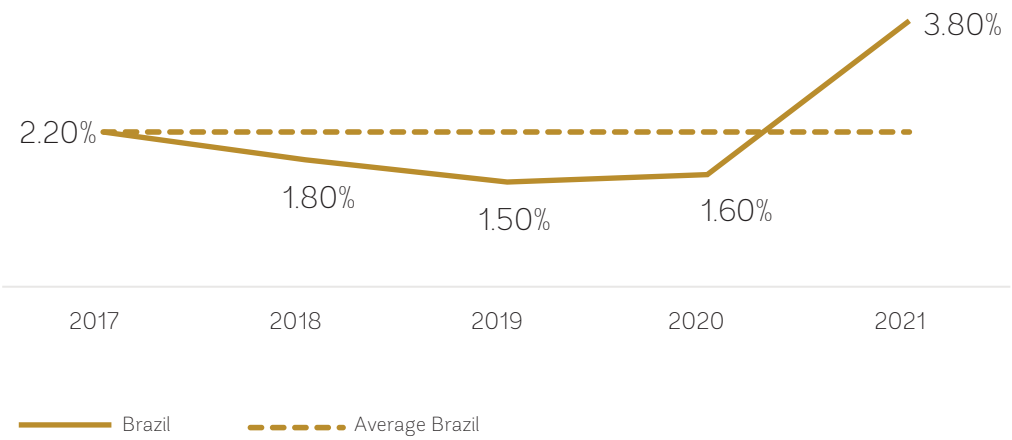


33. The impact of producer support in gross farm receipts (PSE%) from 2012 to 2022 was consistently low, not exceeding 5 percent. In 2020 - 2022, it was just 3.1 percent, considerably below the OECD average of 10 percent for the same period.[65] Over the same period, domestic prices were mostly aligned with international markets, with a ratio of producer to border price (Nominal Protection Coefficient, NPC) of 1.025 percent. This indicates that most of the support to producers came from fiscal resources (public expenditures) and not from consumers. During the COVID-19 pandemic (2020-2021), PSE experienced an uptick mainly due to increased direct farm support (subsidies) and market price support (MPS). Although the MPS had observed a significant increase towards 2020 primarily due to the rise in domestic prices for specific agrifood commodities, this figure slightly declined in 2022 but has not come back to its low level of before the COVID-19 pandemic. However, it still contributed to more than 50% of the Producer Support Estimate (PSE). Notably, cotton, maize, and rice exhibited the highest rates of positive Single Commodity Transfer (SCT) within the agrifood sector.56 Producers' support is also provided through payments based on input, in particular credit at preferential rates and crop insurance. Since the late-2000s, all these payments – mainly insurance and concessional credit for farm marketing, working capital, and fixed capital investment – is conditional on environmental criteria and specific farming practices.

FIGURE 16.

Evolution of PSE as share of gross farm receipts (%PSE) (2017-2021)

(source: OECD 2023)

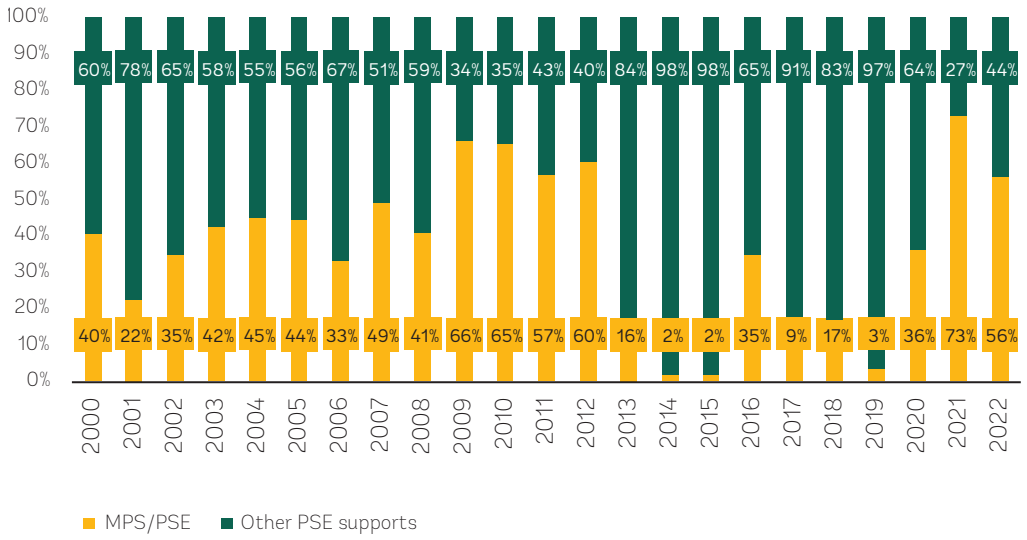


65 Ibid

FIGURE 17.

Share of MPS within PSE in Brazil

(source: OECD)



34. Brazil's General Services Support Estimate (GSSE) relative to the agrifood production value represents 0.7 percent in 2022, 2.7 percentage points lower than in the 2000-02 period. In relative terms, GSSE is small compared with the sector's size and almost the entire total amount (90 percent) is earmarked to agrifood innovation (research and development (R&D), technology transfer, and extension services), with the remaining part financing rural public infrastructure, animal and plant health services, and land administration. In fact, agrifood public goods and services such as extension services and R&D expenditures relative to the value of production is only just above the OECD average.

4.2 Main Agrifood Support Policies and Programs

35. Brazil's agrifood support policies and programs have been stable during the past decade, and mostly based on two policy instruments. Direct support to producers has been focused on rural credit for commercial and family farmers (since the 1960s) and risk management programs including subsidized insurance programs (since 2005). There is also use of MPS measures, particularly during and since the pandemic.

Rural credit

36. Subsidized rural credit is the main instrument used to direct resources to the agrifood sector. Law 4,829 of 1965 introduced the National Rural Credit System (Sistema Nacional de Crédito Rural – SNCR). Sources of funding within the SNCR are constituted mainly from mandatory lending quotas (including compulsory resources – *resources obrigatorios* – and rural savings – *poupança rural* - and are based on percentage of current account deposits and rural savings accounts that must be used for rural lending. In 2017 they represented 59 percent of total funding within SNCR.[66] Other sources of funding are the Brazilian National Development Bank (*Banco Nacional de Desenvolvimento Economico e Social* – BNDES) for special programs, constitutional funds[67], and market-based instruments such as Agricultural Credit Notes (*Letras de Crédito do Agronegocio* – LCA), that are gaining importance.

66 World Bank. 2020. Brazil Rural Finance Policy Note

67 The Constitutional Funds were established to foster the growth of the North, Northeast, and Midwest regions, which are the least developed areas of Brazil. Specifically, the Northern Constitutional Fund (Fundo Constitucional do Norte, FNO), the Northeastern Constitutional Fund (Fundo Constitucional do Nordeste, FNE), and the Midwestern Constitutional Fund (Fundo Constitucional do Centro-Oeste, FCO) function as dedicated reservoirs for regional development. These funds are exclusively managed by public banks. Collectively, these three funds contributed to approximately 7 percent of the total rural credit disbursed in the 2019/20 agricultural year (CPI, 2023).

37. *Plano Safra*, Brazil's annual agrifood plan, is the primary program in Brazil that focuses on providing support for agrifood and rural development and is formulated by National Agricultural Policy Council (Conselho Nacional de Política Agrícola – CNPA). *Plano Safra* governs funding sources, allocation amounts and subsidized interest rates for each credit line, as well as the principal financial conditions for securing loans in the upcoming agricultural year. The plan has evolved over the years to become a comprehensive program that supports diverse challenges of Brazilian agrifood, considering those for family farms to large agribusinesses. Its ongoing evolution reflects the government's commitment to promoting sustainable and inclusive growth in the agrifood sector. *Plano Safra* 2024/25 is the highest in Brazil's history, with an increase of 10 percent over last year's. Support to family farmers has increased (6.2 percent more than last year), but the bulk of the subsidies are still mainly financing medium and large-scale farmers (84 percent of subsidized credit). Most credit financing is aimed at short term and commercialization needs (73 percent of total); long term loans, representing 27 percent, need to increase. Another notable change to the *Plano Safra* in recent years has been the increasing emphasis on fostering the adoption of sustainable agrifood practices.

BOX 2:
PLANO SAFRA 2024/25

The 2024/25 Plano Safra includes an expansion in credit lines and incentives, allocating R$ 400.59 billion (US$74 billion[68]) in rural credit for medium and large farmers under PRONAMP. Of this total, 73.2 percent is designated for short-term and commercialization needs, while 26.8 percent is for investments. The 2024/25 Plano Safra keeps on with further encouraging the adoption of sustainable practices through an increased interest rate reduction equivalent of up to a 1.0 percentage point interest rate reduction for producers with updated Rural Environmental Cadaster (CAR) and sustainable practices. The dedicated credit line to support climate-smart agrifood practices (*RenovAgro*, former ABC program) also continues, promoting climate change adaptation and low carbon emission, with interest rates starting at 7 percent per year and a 12-month repayment period. The program finances sustainable practices such as organic farming, recovery of degraded areas and pastures, crop-livestock-forest integration systems, and conservation practices for natural resource management and protection.

For the *Plano Safra* for Family Farming, family farmers producing food products (rice, beans, corn, vegetables) will benefit from an interest rate between 4 percent and 3 percent a year. An increased interest rate reduction of 1 percentage point will be given to farmers producing those food products sustainably (organic farming, agroecology…). Dedicated credit lines with low interest rates (2.5 percent/year) have been developed to support investment in agrifood machinery, and by family farmers' cooperatives. The dedicated microcredit line for the poorest farmers (PRONAF B) has seen its level of the maximum annual income required to access the line has been increased by 25 percent compared to the previous year. Dedicated lines for women and youth were expanded to *Plano Safra* for Family Farmers and Indigenous People and Traditional Communities were included as beneficiaries of the various lines. This year's Pronaf also consolidated an increase in the sustainable credit lines, such as bioeconomy (53%) and forestry (39%). In addition to the PRONAF, family farmers will be assisted with actions such as public food purchases, technical assistance and rural extension, Minimum Price Guarantee Policy for Sociobiodiversity Products (PGPM-Bio), as well as 2 insurance programs for farmers affected by climate events, Crop Guarantee (*Garantia Safra*) and Proagro Mais resulting in an amount of R$ 85.7 billion (US$ 15.8 billion) for family farming.

68 1 US$ - 5.8 R$, exchange rate as of February 2025.

TABLE 2.1.

Plano Safra 2024/25 in numbers:

	2024/25	Increase from 2023/24
Plano Safra (medium and large farmers)	**R$ 400.59 billion** (~ USD 61.6 billion)	10%
of which, RenovAgro (ex-ABC program)	**R$ 7.68 billion** (~ USD 1.39 billion)	11%
of which, Inovagro (adoption of innovations including CSA)	**R$ 3.5 billion** (~ USD 0.63 billion)	
of which, Moderagro (natural resources management)	**R$ 3 billion** (~ USD 0.54 billion)	
of which, Moderfrota (mechanization)69	**R$ 12.3 billion** (~USD 2,23 billion)	
of which, ProIrriga (irrigation)	**R$ 2,60 billion** (~USD 0,47 billion)	
Plano Safra Family Farming	**R$ 85.7 billion** (~ USD 15.5 billion)	10.5%

69 Considering the inclusion of Moderfrota Pronamp, with the allocation of R$2.8 billion (US$ 482.7 million).

38. **The multitude of rural credit funding sources and programs creates a complex system for producers seeking financial assistance.** Credit for agrifood in Brazil remains highly concentrated. While there has been an increase in support for family farms across all credit lines within the *Plano Safra* 2024/2025 compared to the previous agricultural year, previous studies show that only 15 percent of family farms report having access to credit.[70] Furthermore, rural credit for family farming is concentrated in the Southern regions, larger agricultural establishments[71], and among producers specializing in grains. Large rural establishments received 44 percent of the rural credit volume, although they only accounted for 6 percent of the loans. In contrast, family farmers, which account for three-quarters of the loans, received only 20 percent of the loan volume. In the Southeast, 30 percent of farmers have access to credit. In the North and Northeast, this rate drops to 12 percent - with only 13 percent of bank lending to these regions, showing the lowest density of branches and service points.[72] Finally, the product financed the most with rural credit is cattle, followed by soybeans, accounting for 20 percent and 19 percent of the total rural credit volume, respectively.

39. **The existing channels for distributing rural credit are prominently centered around the public sector at the municipal level, with a predominant involvement of Banco do Brasil, Banco do Nordeste, and Banco da Amazônia**. The framework of funding sources and programs exhibits a bias towards public banks, although public subsidies don't necessarily have to be managed exclusively by public institutions. Credit cooperatives tend to serve riskier clients, however 79 percent of them operate in the South and Southeast regions, whereas their presence is low in the North and Northeast regions.[73] Another source of distortion in access to rural credit is the utilization of fiscal modules as the policy standard for farm size measurements, which has not been updated since its creation in the 1980s. Concentration of credit makes it challenging for smaller family farms to access the financing they need to thrive, especially in the North and Northeast regions.[74]

70 Souza Priscila and Amanda de Albuquerque. 2023. Family Farming in Brazil: Inequalities in Credit Access. Rio de Janeiro: Climate Policy Initiative

71 A significant portion of subsidies goes towards financing large-scale rural establishments, which receive 74% of subsidized credit.

72 While there are around 1.6 bank branches per 10,000 adults in the Southeast and South, the ratio is less than half in the North and Northeast.

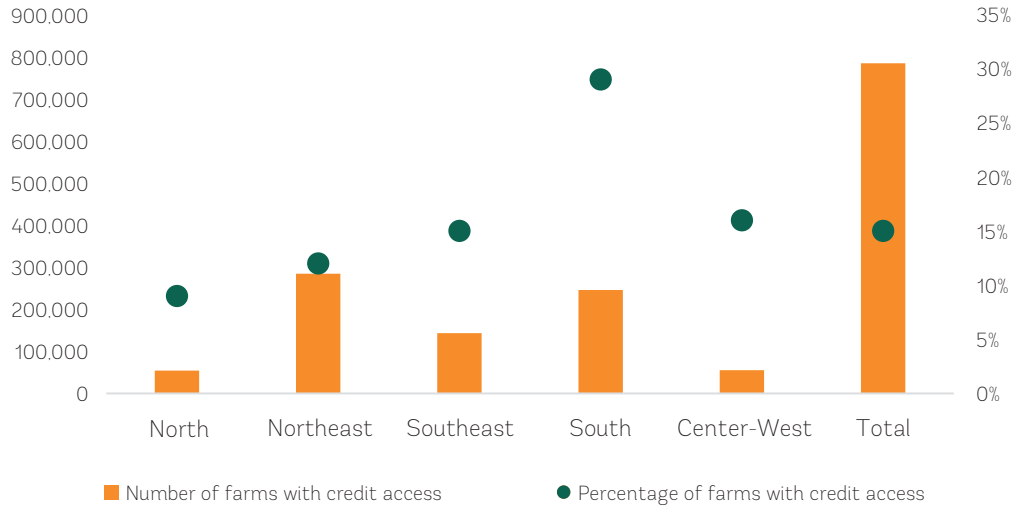
73 World Bank. 2018. Brazil Rural Finance Policy Note

74 Ibid.

FIGURE 18.

Access to credit by Region

(Source: WB. 2018. Brazil Rural Finance Policy Note)



40. Evidence indicates that rural producers who benefit from subsidized rural credit are more likely to seek additional funds through the same subsidized channels, suggesting that the existing public rural credit system does not promote a transition from subsidized to market-based credit.[75] Both private and public financial institutions prefer lending to larger, lower-risk producers with extensive credit histories. Although the justification for subsidizing interest rates is to enhance access to affordable finance for underserved groups, such caps can decrease the finance available to the intended beneficiaries. Global experiences indicate that relaxing interest rate caps typically correlates with an increased credit supply to costlier clients, such as small businesses and farms. While the fiscal implications of Brazil's public rural credit programs seem minimal, they impose a burden on financial intermediaries and on the efficient allocation of resources. Banks often offset the effects of subsidized and earmarked loans on their profits by imposing higher rates on non-earmarked loans. In general, to adapt to compulsory rural credit initiatives that do not always cover the full costs of intermediation, financial intermediaries tend to cater to low-risk clients and increase the average loan size. Subsidizing interest rates is fraught with significant drawbacks, such as: (i) it benefits only those farmers who engage with participating institutions, (ii) it tends to grant larger

75 Ibid.

subsidies to bigger farms, and (iii) it addresses only the borrowing costs and not the other challenges that family farmers encounter in enhancing their productivity and income (lack of technical assistance, most of the subsidized credit focused on short-term loans rather than long-term investment that can foster a change of practices and an increase in productivity).

41. **Brazil should focus the allocation of subsidized loans to large farms to the financing of programs that clearly contribute to public goods (such as low carbon agriculture) and limit their access to other programs.** This shift would allow the reallocation of substantial public resources to family farmers and to enhance support granted to risk management instruments and other direct producer supports.

42. **The Federal Government has been adopting measures to promote sustainable agrifood through its subsidized credit lines.** Since 2008, the obtention of subsidized rural credit are conditioned on environmental criteria, such as registration in the Environmental Rural Registry (CAR) and zoning rules that promote environmental improvements, such as preservation of forest and native vegetation. The 2023/2024 dedicated credit line to support investment in sustainable practices[76] (*RenovAgro*, ex *programa ABC*), though only representing 1.9 percent of the total *Plano Safra* (1.8 percent in 2022/23), has seen its share of the long-term loans increase (from 6.6 percent in 2022/23 to 7.5 percent in 2023/24). It carries the lowest interest rates for large farmers (7 percent).[77] Other lines of credit, such as the Program to Encourage Technological Innovation and the Program for Modernization of Agriculture and Conservation of Natural Resources, the Program for Modernization of Mechanization, and the Program for Irrigation also cover investments in adoption of sustainable technologies, recovery of degraded areas.[78] For the first time, the 2023/2024 *Plano Safra* is also encouraging the adoption of

76 Amongst the supported practices are recovery of degraded areas and pastures, integrated crop-livestock-forestry systems, conservation practices for protection of natural resources, organic agriculture, restauration of permanent preservation areas or legal reserves, production of bio inputs and biofertilizers, systems for generating renewable energy.

77 The other lines of credit benefit from subsidized interest rates varying from 8 to 12.5 percent.

78 A study done by the Ministry of Agriculture with the Climate Bond Initiative (CBI) in 2022 estimated that in 2020/21 13.5% of Plano Safra was fully aligned with CBI's criteria for sustainable agricultural practices. https://www.gov.br/agricultura/pt-br/assuntos/noticias/analise-da-cbi-aponta-que-linhas-de-credito-oferecidas-pelo-plano-auxiliam-no-fomento-da-sustentabilidade-agricola-brasileira

sustainable practices through an increased interest rate reduction equivalent to 0.5 percentage point on the total financing cost of short-term loans to: (i) producers who already have the CAR analyzed[79], and (ii) producers who adopt agrifood practices considered more sustainable, such as organic or agroecological production, bio inputs, and organic fertilizers. With its program on restoration of degraded pastures Brazil hopes to further expand this support to CSA.

BOX 3:
BRAZILIAN FOREST CODE

Under the new Forest Code (Law 12.651 of 2012), producers must preserve or restore native vegetation on part of their land, within the Legal Forest Reserve and the Permanent Preservation Areas). The Forest Code defines the Rural Environmental Cadastre (*Cadastro Ambiental Rural* – CAR) that is a geo-referenced cadaster for identifying rural properties or occupied private landholdings, delimiting Areas of Permanent Preservation (APPs), Legal Reserve (*Reserva Legal* – RL) and any remaining areas of natural vegetation on the landholdings and community territories for control and monitoring purposes. The Brazilian Forest Code requires that rural landholders preserve the natural vegetation of all land on steep slopes, along water courses (up to a certain distance from the margin) or in the vicinity of springs (APPs) and to preserve native vegetation on an area called RL, which size differs according to the biome, from 80 percent in the Amazon biome to 20 percent in other biomes. The CAR is a potentially promising avenue to slow illegal deforestation on private properties as the implementation of environmental regularization of rural landholdings through the CAR enables a more effective monitoring of deforestation and degradation of native vegetation.

Despite progress in SICAR enrollment, which is based on farmers' self-declaration, the following steps are still necessary to achieve the CAR regularization, that lies within the States' responsibility: CAR analyses, resolution of data conflicts and inconsistencies; and support the development and implementation of natural resources restoration plans. As of April 2023, only 26 percent of the CAR registered had some type of analysis and recommendations.

Since 2012, registration in the CAR National Electronic System (*Sistema Nacional de Cadastro Ambiental Rural* – SICAR) is required to obtain an environmental license for rural economic activity on the land, and for accessing subsidized rural credit. The 2023/2024 Plano Safra went a step further by giving an increased interest rate reduction equivalent to 0.5 percentage point on the total financing cost of short-term loans to producers who already have the Rural Environmental Registry (CAR) analyzed.

79 As of April 2023, only 26% of the CAR registered had some type of analysis and recommendations. States are the administrative entities responsible for the analysis of CAR.

Risk management instruments and policies

43. Agrifood producers in Brazil have access to essential risk management tools (including insurance) and programs provided by the government. There are four main insurance programs designed to protect producers from adverse shocks: (i) Premium Subsidy Program (PSR) – which subsidizes the cost of acquisition of agrifood insurance policies to help producers mitigate the risks linked to their agrifood activity and safeguard their financial recovery in the case of adverse climatic events, (ii) Agricultural Activity Guarantee Program (PROAGRO) – an agrifood insurance that protects producers from losses caused by natural events and covers financial obligations related to rural credit for operational costs, (iii) *Garantia-Safra* – a program to support family farming affected by losses cause by droughts and floods, and (iv) Minimum Price Guarantee Policy (PGPM) – a policy to correct price distortion to producers. Insurance programs do not cover the risks associated with price fluctuations and pest/disease outbreaks. However, specific policies and programs are in place to address these risks (through government purchases in the case of price guarantees and by the Animal and plant Health Secretariat of MAPA for sanitary issues).

44. Brazil has a longstanding history of implementing agrifood insurance products and direct income compensation programs to reduce farmers' income volatility. Over the past decade, government policies supporting the agrifood insurance market have been crucial in offering financial protection against risks. Brazil's risk management strategy, developed over several decades, aims to reduce cash flow volatility in the agrifood sector and the vulnerability of family farmers. This risk management strategy has primarily focused on designing policies and programs that finance the implementation of a series of ex-ante (i.e., PSR) and ex-post (i.e. *Garantia Safra*) financing instruments.[80] The adoption of Agricultural Climate Risk Zoning (*Zoneamento Agrícola de Risco Climático* – ZARC) which identifies the climate risks that specific crops face in certain regions, has played a key role in reducing climate-related risks such as water deficits. ZARC is

80 World Bank Policy Note. 2017. Brazil Agricultural Market Insurance Development

a fundamental criterion to access both PSR and PROAGRO and is also used by banks when assessing the profitability of credit applications.

45. Yet in Brazil, agrifood insurance and other tools for agrifood risk management are scarce and difficult to access in many regions. In 2017, only 15 percent of the crop area was insured.[81] Despite their expansion, Brazil's insurance programs receive significantly less funding compared to rural credit programs, and there is a shortage of risk management instruments. It is estimated that the government allocates approximately R$10 billion (US$ 1.7 billion)[82] annually in subsidies for rural credit. During the same period, the government provided R$365 million (US$ 62.9 million) in subsidies for insurance premiums under PSR. The National Treasury disbursed R$162 million (US$ 27.9 million)[83] for PROAGRO and R$47 million (US$ 8.1 million) for PGPM in 2018. Additionally, *Garantia-Safra* authorized benefits totaling R$444 million (US$ 76.5 million) during the same period.[84]

46. Brazil has considerable potential to strengthen risk mitigation strategies for its farmers, a necessity that will only grow more critical as climate change continues to impact agrifood producers. Extensive evidence demonstrates that insufficient management tools and shortcomings in the agrifood insurance market result in reduced investments in agrifood, less efficient production, and negative impacts on land use.[85] Strengthening the agrifood insurance market and expanding risk management options for Brazilian farmers could enable producers to make more efficient decisions, boost agrifood investments, increase productivity and improve land use.

81 SOUZA, Priscila; ASSUNÇÃO, Juliano. 2020. Risk Management in Brazilian Agriculture: Instruments, Public Policy, and Perspectives. Climate Policy Initiative.

82 1 US$ - 5.8 R$, exchange rate as of February 2025.

83 1 US$ - 5.8 R$, exchange rate as of February 2025.

84 Ibid

85 Ibid

BOX 4:

CLIMATE CHANGE IN BRAZIL'S AGRIFOOD SECTOR POLICIES

In its most recent (2022) Nationally Determined Contribution (NDC), Brazil commits to halve its emissions by 20230 (from 2005 levels) and achieve net-zero emissions by 2050. Brazil has also joined the Global Methane Pledge, to reduce global methane emissions by 30 percent by 2030.

In 2021, the Brazilian Ministry of Agriculture, Livestock, and Supply (MAPA) announced its updated Sectoral Plan for Climate Change Adaptation and Low Carbon Emission in Agriculture Seeking Sustainable Development (2020-2030), called ABC+. The Plan builds on the previous low carbon emission plan, the ABC Plan, launched in 2011. The plan promotes approaches such as reforestation, the restoration of degraded pasturelands, and the implementation of integrated farming practices. The ABC+ plan has set the following targets for 2030:

- 30 million hectares of degraded pastures restored;
- 12.5 million hectares under no-till farming;
- 10.1 million hectares under agro-sylvo-pastoral and agroforestry systems;
- 4 million hectares of forests restored;
- 3 million hectares under irrigation;
- 13 million hectares under the use of bioinputs;
- 208.4 million of m^3 of animal waste treated.

In December 2023, the Brazilian government launched its National Program for Conversion of Degraded Pastures to Sustainable Agrifood Productive Systems (*Programa Nacional de Conversão de Pastagens Degradadas em Sistemas de Produção Agropecuários e Florestais Sustentáveis* – PNCPD)[86], aiming at fostering the restoration of degraded pastures into sustainable productive systems and incentivizing financial institutions to support decarbonization of the agrifood sector.

Projections indicate that full implementation of the ABC+ Plan to achieve the sector's NDC goals (ABC+ scenario) provides the opportunity to reduce GHG emissions by 48 percent by 2030, when compared to business-as usual scenario (World Bank. 2023. Country Climate and Development Report for Brazil).

TABLE 4.1.

GHG Emission (in MtCO2e) with and without the ABC+ Plan (WB, 2023)

			2020	2030(BAU)	2030 (ABC+)	Change	
Agriculture, Forestry, and Other Land Use (AFOLU)	Agriculture	Livestock	345	358	327	-32	-10%
		Cultivation Systems	145	159	154	-5	-3%
		Total	**490**	**517**	**481**	**-36**	
	Land Use, Land Use Change and Forestry (LULUCF)	Gross emissions	926	928	680	-248	-36%
		Removals	-497	-551	-700	-150	21%
		Total	**429**	**377**	**-21**	**-398**	
	Net emissions		**918**	**894**	**460**	**-434**	**-94%**

86 Decree n. 11.815 of December 5, 2023

Market Price Support

47. **Market Price Support (MPS) refers to the benefit or loss farmers experience when domestic prices deviate from international prices.** Specifically, MPS is defined as the "annual monetary value of gross transfers from consumers and taxpayers to agrifood producers, arising from policy measures that create a gap between domestic market prices and border prices of a specific agrifood commodity, measured at the farm gate level". According to the methodology, this price gap is calculated when government interventions create price deviations from market levels. These interventions can include various instruments, such as border measures that restrict or encourage imports and exports, or domestic market policies like production quotas, government purchases, and the setting of price floors or ceilings.

48. **During the COVID-19 pandemic and particularly during the 2022 international price crisis, Brazil implemented various measures to mitigate the impact of rising food prices on consumers**. To curb food-price inflation exacerbated by the pandemic and the war in Ukraine, some agrifood import tariffs were reduced, with some even eliminated until 2023 for non-Mercosur imports.

49. **The National Food Supply Company (Companhia Nacional de Abastecimento - CONAB) operates several programs designed to guarantee a minimum price to producers for specific products at the local level.** These programs are implemented through several price support mechanisms on the domestic market, including premiums for commercial buyers who pay fixed minimum prices to producers. In addition, producers are offered reduced-interest marketing loans, which enable them to withhold the sale of a product in anticipation of higher future prices. Other CONAB programs include deficiency payment schemes, where producers receive support to compensate for the difference between the established minimum price and the market price.87 Considering the existence of these programs, producer prices saw a significant increase towards 2021, along with a rise in

87 Rural Equity Prize program called PEPRO, and the Product Reward Prize program known as PEP.

overall MPS. However, the surge in international agrifood prices beginning in 2022 has diminished the effectiveness of these programs for producers.

Taxes and tax exemptions

50. **The primary challenge in the Brazilian tax system affecting the agrifood sector is the excessive variation in tax rates for different products**, leading to high compliance costs and resource allocation distortions. The indirect tax system also does not allow full crediting of tax paid on inputs, disadvantaging longer value chains and favoring vertical integration. The Brazilian tax reform, approved in December 2023 and January 2025, addresses these issues by unifying several taxes into a dual Value-Added Tax (VAT) system with a unified tax base, destination-based collection, and prohibition on new tax benefits. This reform simplifies the tax structure, reduces discrepancies in tax rates, and introduces three tax rate levels: full, reduced, and zero, along with an excise tax on harmful products. Many agrifood products are included in the zero or reduced-rate lists. However, the categorization of products often lacks economic rationale and can be influenced by vested interests. While incentives for certain activities may be justified, a VAT subsidy is rarely the most effective approach, with more targeted strategies being preferable.

5. ANALYSIS OF AGRIFOOD PUBLIC SUPPORT POLICIES AND PROGRAMS AT THE STATE LEVEL

51. **This report employs the methodology developed by the OECD (see Annex 1) to measure the level of public support for the agrifood sector, at the State level**. The OECD methodology—referred to as Producer Support Estimate (PSE)— computes support indicators measuring transfers to the agrifood sector (derived from agrifood policies, regardless of their nature, objectives or impacts) and enabling comparability over time, between products and across countries. PSE indicators provide insights into the burden that agrifood support policies place on consumers (i.e., market price support) and taxpayers (budgetary transfers). This is the most widely and systematically used methodology to monitor support to the agrifood sector in the world. The results, published annually, provide important contributions to the international policy dialogue on agrifood and trade. The analysis undertaken aims at evaluating the marginal impact of State policies on producers.

52. **The OECD has carried out the estimations of agrifood support in Brazil in recent years**. As established by the methodology, the estimation of support for agrifood in Brazil should embrace the implementation of various programs and regulations at the national, state and even municipal levels.

However, during the analysis carried out, various programs and regulations implemented by the states have been found, of which it was not possible to corroborate that they have been considered in the national analysis and that, in fact, have an impact on the measurement of support for state producers.

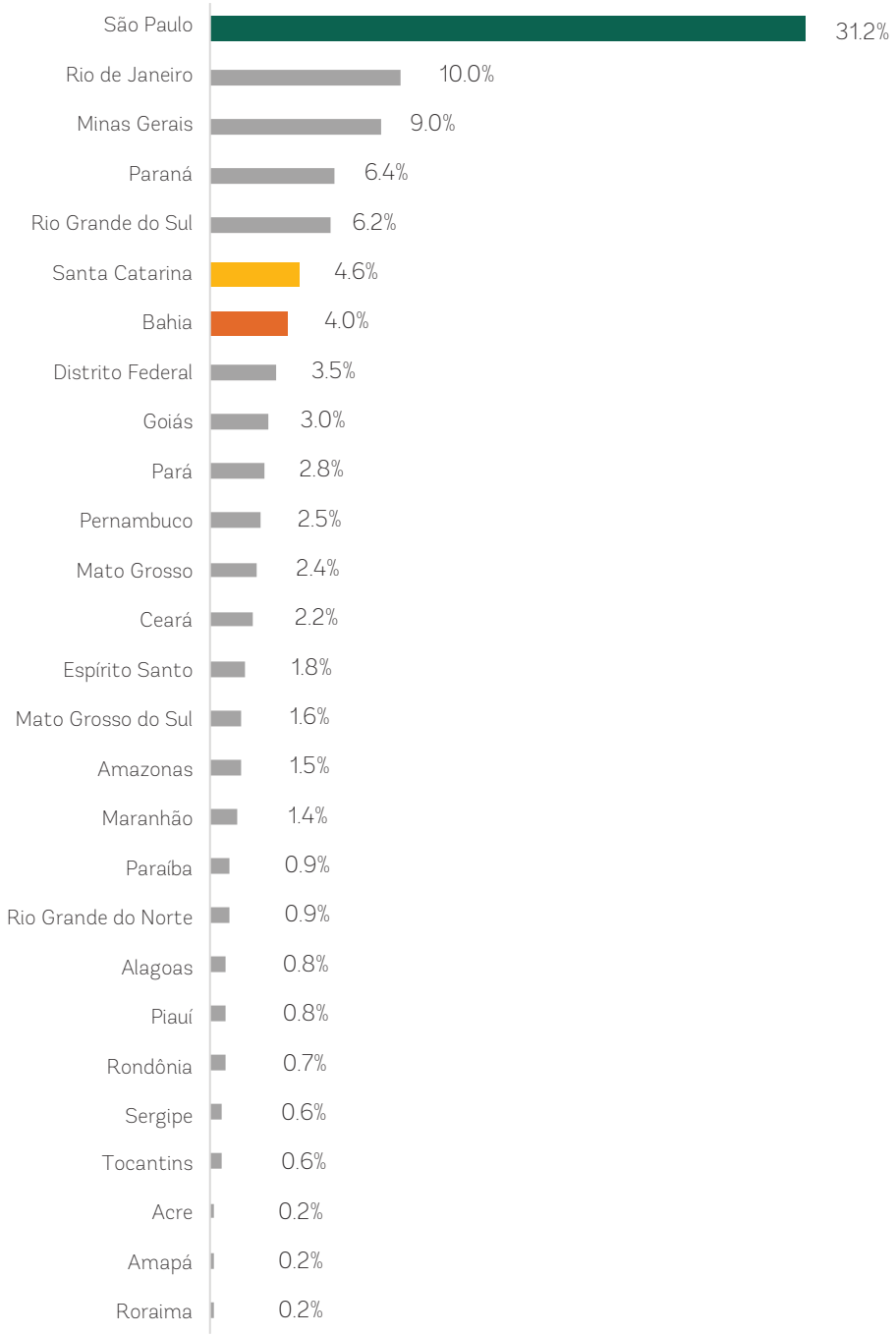
This exercise considered these transfers and the impact they had, at the margin, among producers, consumers or the sector as a whole in each state analyzed. It is important to consider that, although these national and state transfers are complementary, it is not correct that, in order to integrate the total impact on an average producer of both, they should be added in a linear and direct way. To illustrate this, let's exemplify: If in 2021, the national PSE was 3.82 percent and in that same year in Santa Catarina it was 0.11 percent. The correct interpretation is that 3.82 percent of the gross income of the domestic producer came through transfers derived from national policies and the state policies represented, at the margin, 0.11 percent of the gross income of the producer in the analyzed stage. It would not be correct to mention that the national producer received transfers equivalent to 3.93 percent of its income (the sum of both), but that the impact of the national transfers was on average 3.82 percent of the gross income and at the margin, state policies impacted 0.11 percent of the gross income of the state producer.

53. **The states of São Paulo, Santa Catarina and Bahia together contribute close to 40 percent of the national GDP**. In 2020, São Paulo, Santa Catarina and Bahia, accounted for 31.2 percent, 4.0 percent and 4.6 percent of total GDP, respectively.

FIGURE 19.

Contribution of the States to the total GDP in 2020

(Source: Brazilian Institute of Geography and Statistics (IBGE)



5.1 Rapid overview of the share of the agrifood sector in the 3 States' economy

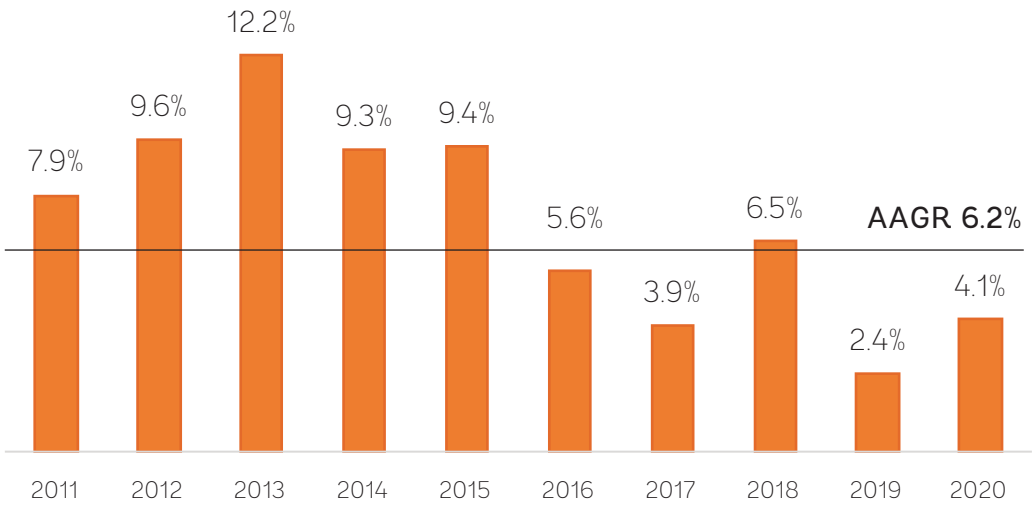
5.1.1 State of Bahia

54. During the analyzed period, the growth rate of the State of Bahia's economy decreased. Specifically, the annual variation of the State's GDP decreased from 7.9 percent in 2011 to 4.1 percent in 2020; however, the Average Annual Growth Rate (AAGR) of GDP for the period under analysis showed an important 6.2 percent.

FIGURE 20.

Bahia: Annual variation of Gross Domestic Product (GDP)

(Source: Author based on data from Brazilian Institute of Geography and Statistics (IBGE).

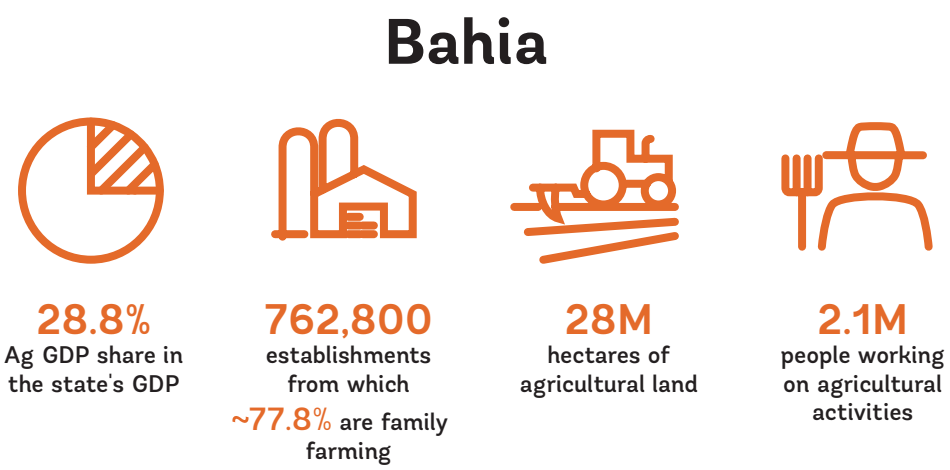


55. The agrifood sector in Bahia has shown the greatest dynamism among sectors in terms of annual growth of Value Added (AAGR). Specifically, from 2011 to 2020, the annual average variation of agricultural Value Added increased from 11.0 percent to 60.1 percent, representing a significant increase of 49.1 percentage points. The AAGR recorded for this period in the sector

was 8.9 percent, which was above the total economy figure. This remarkable growth of the agrifood sector in 2020, a year highlighted by the presence of COVID-19 in Brazil and the rest of the world, was influenced by local, national and international factors. According to data from the Secretariat of Foreign Trade (Brazil), agrifood exports grew in Bahia by 10.1 percent between 2019 and 2020, while the processing industry, which is largely explained by agrifoods, grew by 11.0 percent, a fact that highlights the importance of the sector in the State as an economic engine in the face of various macroeconomic phenomena.

FIGURE 21:

Main characteristics of Bahia's agrifood sector



Source: IBGE and Superintendência de Estudos Econômicos e Sociais da Bahia (SEI).

56. As a consequence of that important growth rate the agrifood sector has increased its share in the economy of Bahia, rising from 6.9 percent in 2011 to 9.2 percent in 2020. In contrast, the services sector experienced a slight decrease in its economic contribution, dropping from 40.3 percent to 40.2 percent during the same period.

57. The State of Bahia is the 10th State when it comes to GHG emissions within the country. The agrifood sector and Land Use Change activities, represent the bulk of the State's GHG emissions with 46 and 12 percent respectively. Within agrifood, it is worth noting that 70 percent of GHG emissions come from enteric fermentation, 26 percent from soils. Emissions coming from the agrifood sector

increased by 19 percent between 2002 and 2022, while emissions from Land Use Change reduces by 78 percent during the same period.

FIGURE 22.

Bahia: Annual variation of value added by economic sector: 2011-2020

(Source: Brazilian Institute of Geography and Statistics (IBGE)

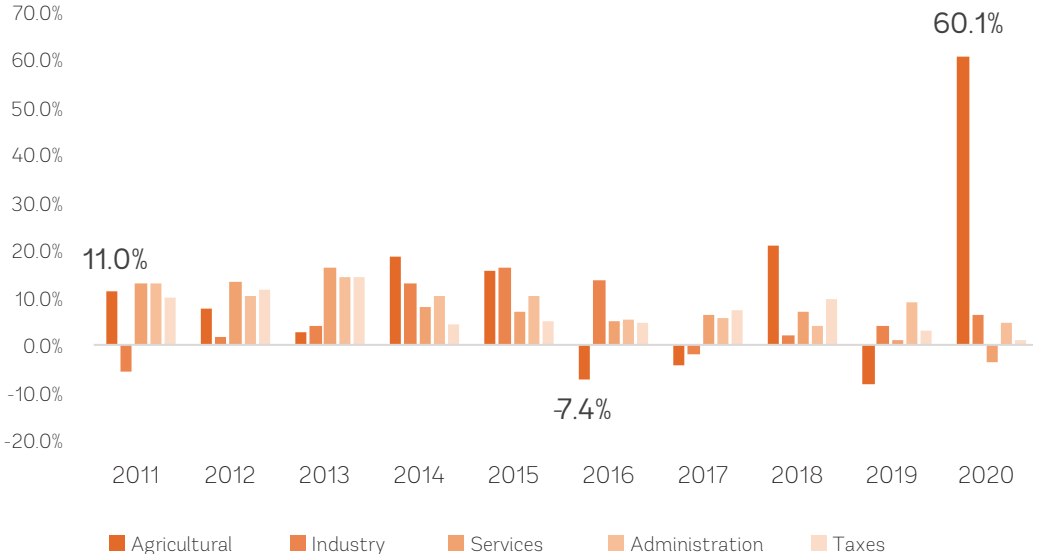
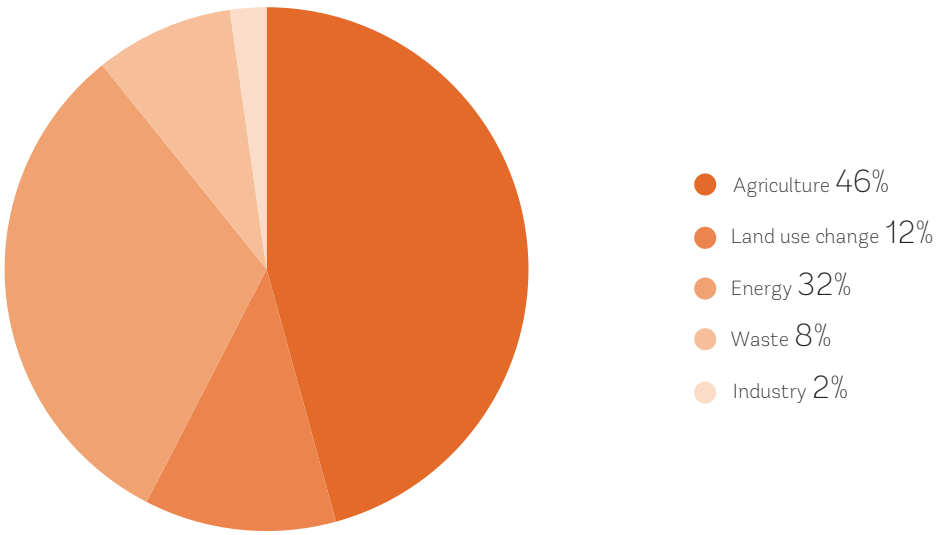


FIGURE 23.

Bahia: Sectoral breakdown of GHG emissions

(Source: SEEG)



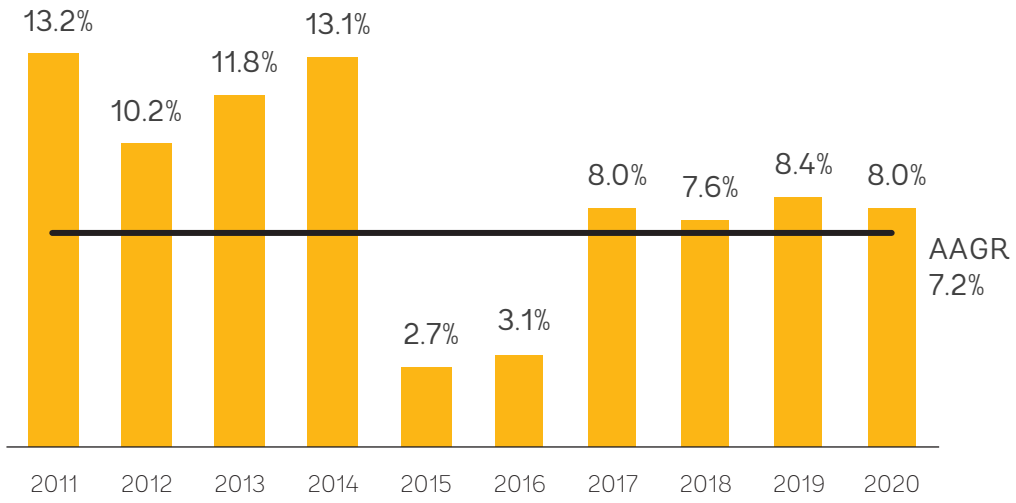
5.1.2 State of Santa Catarina

58. In recent years, the economic growth rate of Santa Catarina has slowed down. Between 2011 and 2020, the annual change in the state's GDP decreased from 13.2 to 8.0 percent, which represents a decline of 5.2 percentage points. The Average Annual Growth Rate (AAGR) recorded for this state during the period was 7.2 percent.

FIGURE 24.

Santa Catarina: Annual change in Gross Domestic Product (GDP)

(Source: Author based on data from Brazilian Institute of Geography and Statistics (IBGE).



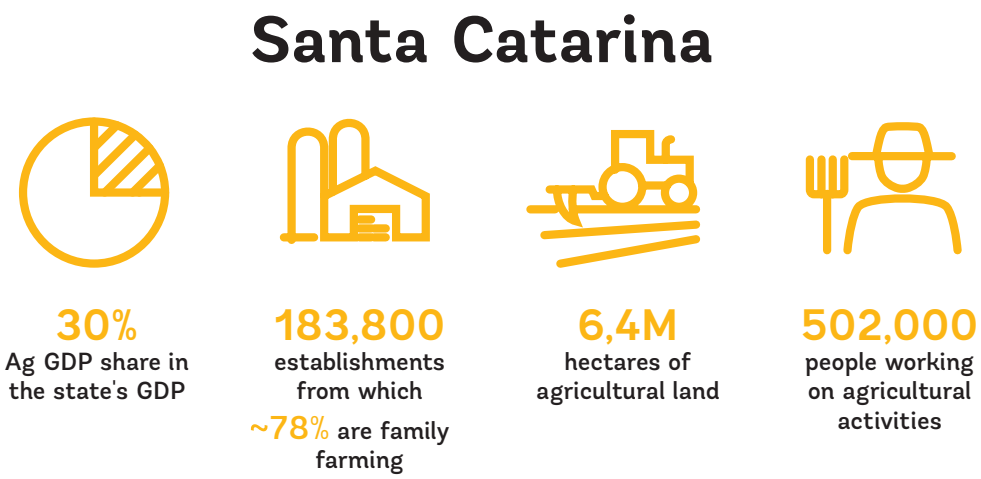
59. Though the contribution of the agrifood sector in the State economy has decreased by 0.2 percentage point from 2011 to 2020[88]**, the agrifood sector has shown the greatest dynamism in terms of annual variation of value-added production in the state, but also an important degree of variability**. Between 2011 and 2022, the annual rate of economic growth in the state increased from 0.0 to 27.6 percent, resulting in a AAGR of 8.1 percent. The remarkable growth of the agrifood sector in 2020, a year highlighted by the presence of COVID-19 in Brazil and the rest of the world, was influenced by local, national and international factors. According

88 Going from 5.8% to 5.6%, respectively

to data from the Secretariat of Foreign Trade (Brazil), agrifood exports decreased in Santa Catarina by 5.9 percent between 2019 and 2020, while the processing industry, which is largely explained by agrifoods, grew by 10.7 percent, a fact that highlights the importance of the sector in the State as an economic engine in the face of various macroeconomic phenomena.

FIGURE 25:

Main characteristics of Santa Catarina's agrifood sector

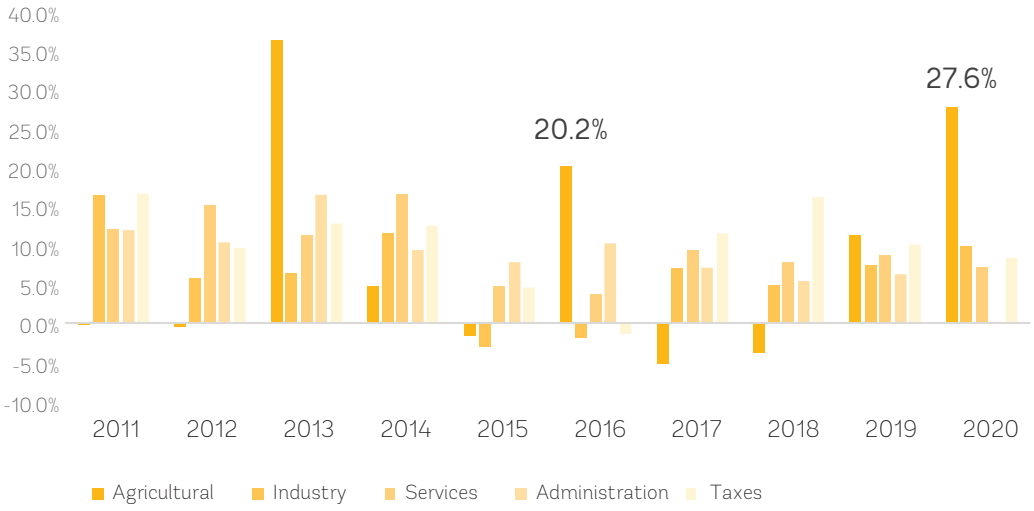


Source: IBGE and Superintendência de Estado da Agricultura, da Pesca e do Desenvolvimento Rural

FIGURE 26.

Santa Catarina: Annual variation of value added by economic sector: 2011-2020

(Source: Brazilian Institute of Geography and Statistics (IBGE)

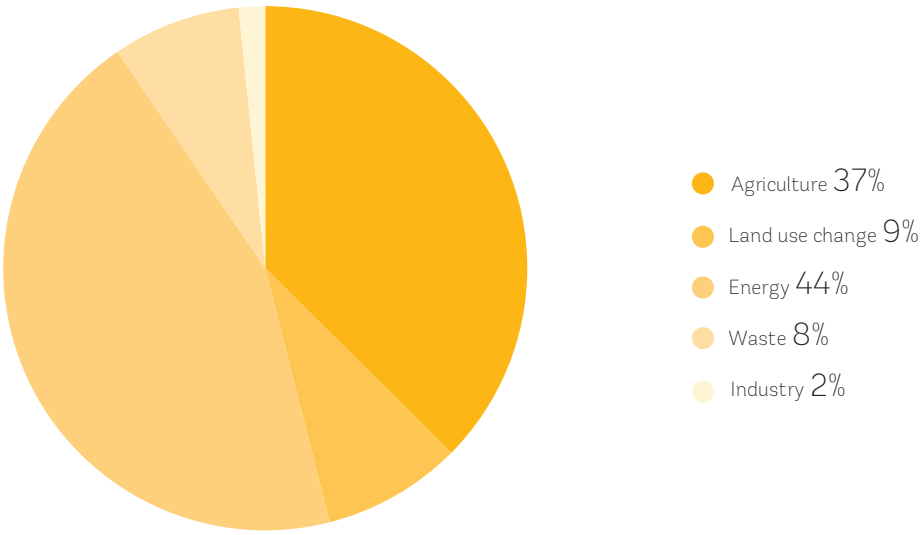


60. The State of Santa Catarina is the 15th State when it comes to GHG emissions within the country. The agrifood sector and Land Use Change activities, represent 37 and 9 percent of the State's GHG emissions respectively. Within agrifood, it is worth noting that 49 percent of GHG emissions come from enteric fermentation, 26 percent from soils and 26 percent from animal waste. Emissions coming from the agrifood sector increased by 53 percent between 2002 and 2022, while emissions from Land Use Change decreased by 78 percent during the same period.

FIGURE 27.

Santa Catarina: Sectoral breakdown of GHG emissions

(Source: SEEG)



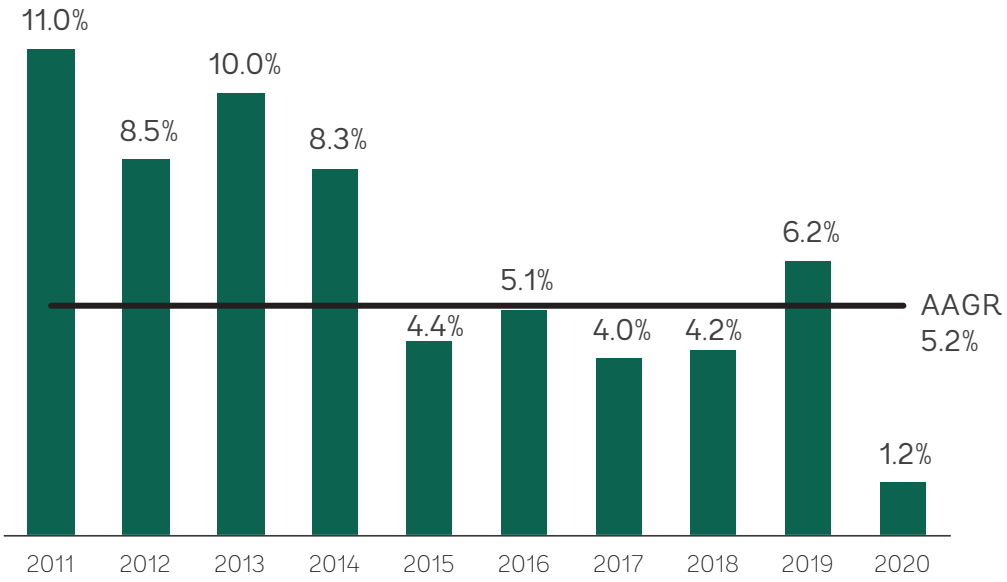
5.1.3 State of São Paulo

61. The rate of growth of the State of Sao Paulo economy has slowed down in recent years. According to data from IBGE, from 2011 to 2020, the annual variation of the State's GDP has decreased from 11.0 to 1.2 percent, which represented a decrease of 9.8 percentage points in that period. In the same period, the Annual Average Growth Rate (AAGR) of the GDP was 5.2 percent.

FIGURE 28.

São Paulo: Annual change in Gross Domestic Product (GDP)

(Source: Author based on data from Brazilian Institute of Geography and Statistics (IBGE).

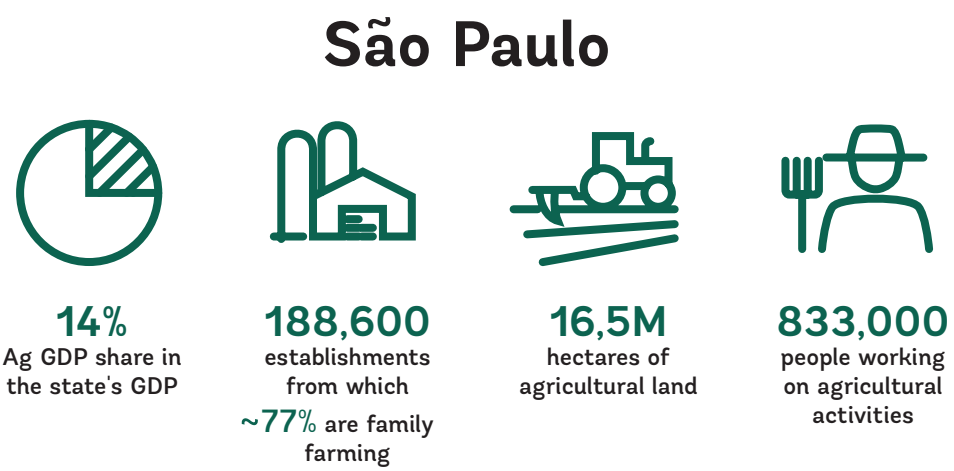


62. Compared to other sectors, the agrifood sector in Sao Paulo has shown the greatest growth. In 2020, the annual variation of Agricultural Value Added was 34.2 percent, which represents a significant increase of 30.9 percentage points compared to 2011. Over the period from 2011 to 2020, the sector had an Annual Average Growth Rate (AAGR) of 6.6 percent, above total economy figure, but also, characterized by an important variability. Although still below the Services Sector and the Administration, Defense, and Education Sector, the agrifood sector has increased its participation in the economy of the state of São Paulo. In 2011, the agrifood sector contributed 1.7 percent of the State's GDP, while in 2020, it contributed 1.9 percent of the state's GDP, representing an increase

of 0.2 percentage points over a decade. This remarkable growth of the agrifood sector in 2020, a year highlighted by the presence of COVID-19 in Brazil and the rest of the world, was influenced by local, national and international factors. According to data from the Secretariat of Foreign Trade (Brazil), agrifood exports increased in São Paulo by 13.3 percent between 2019 and 2020, while the processing industry, which is largely explained by agri-food, also increased by 13.3 percent, a fact that highlights the importance of the sector in the State as an economic engine in the face of various macroeconomic phenomena.

FIGURE 29.

Main characteristics of São Paulo's agrifood sector



Source: IBGE and CEPEA

63. The State of São Paulo is the 4th State when it comes to GHG emissions within the country. The agrifood sector represents 25 percent of the State net emissions, while Land Use Change activities constitute a carbon sink (with 2.9 $MtCO_2$ removed). Within agrifood, it is worth noting that 52 percent of GHG emissions come from enteric fermentation, 43.7 percent from soils and 3.9 percent from animal waste. Emissions coming from the agrifood sector decreased by 6 percent between 2002 and 2022, while emissions from Land Use Change decreased by 100 percent during the same period.

FIGURE 30.

São Paulo: Annual variation of value added by economic sector: 2011-2020

(Source: Brazilian Institute of Geography and Statistics (IBGE)

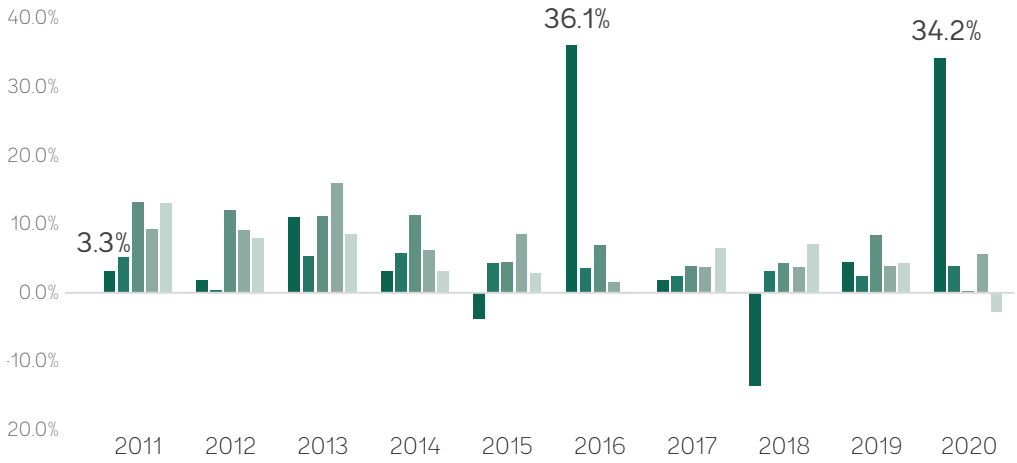
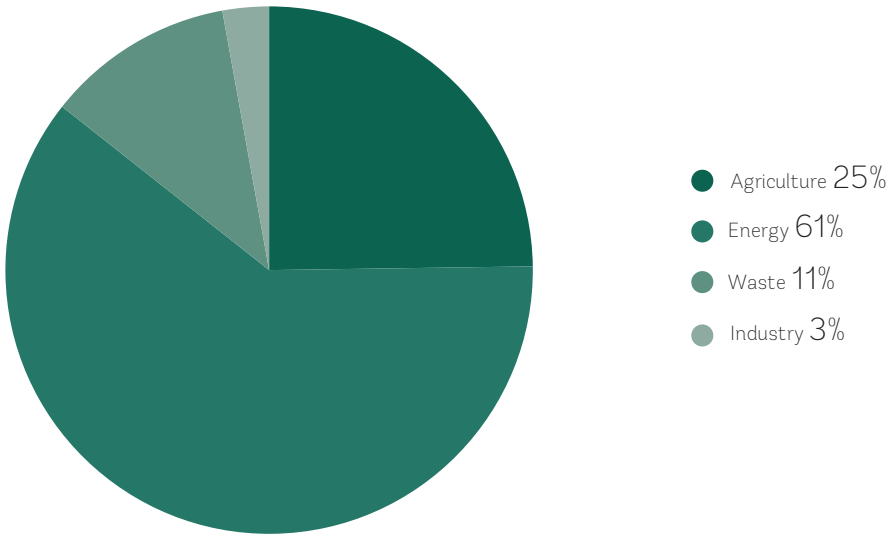


FIGURE 31.

São Paulo: Sectoral breakdown of GHG emissions

(Source: SEEG)



5.2 Analysis of Support Levels and Composition among the 3 States

5.2.1 Total Support Estimates (TSE)

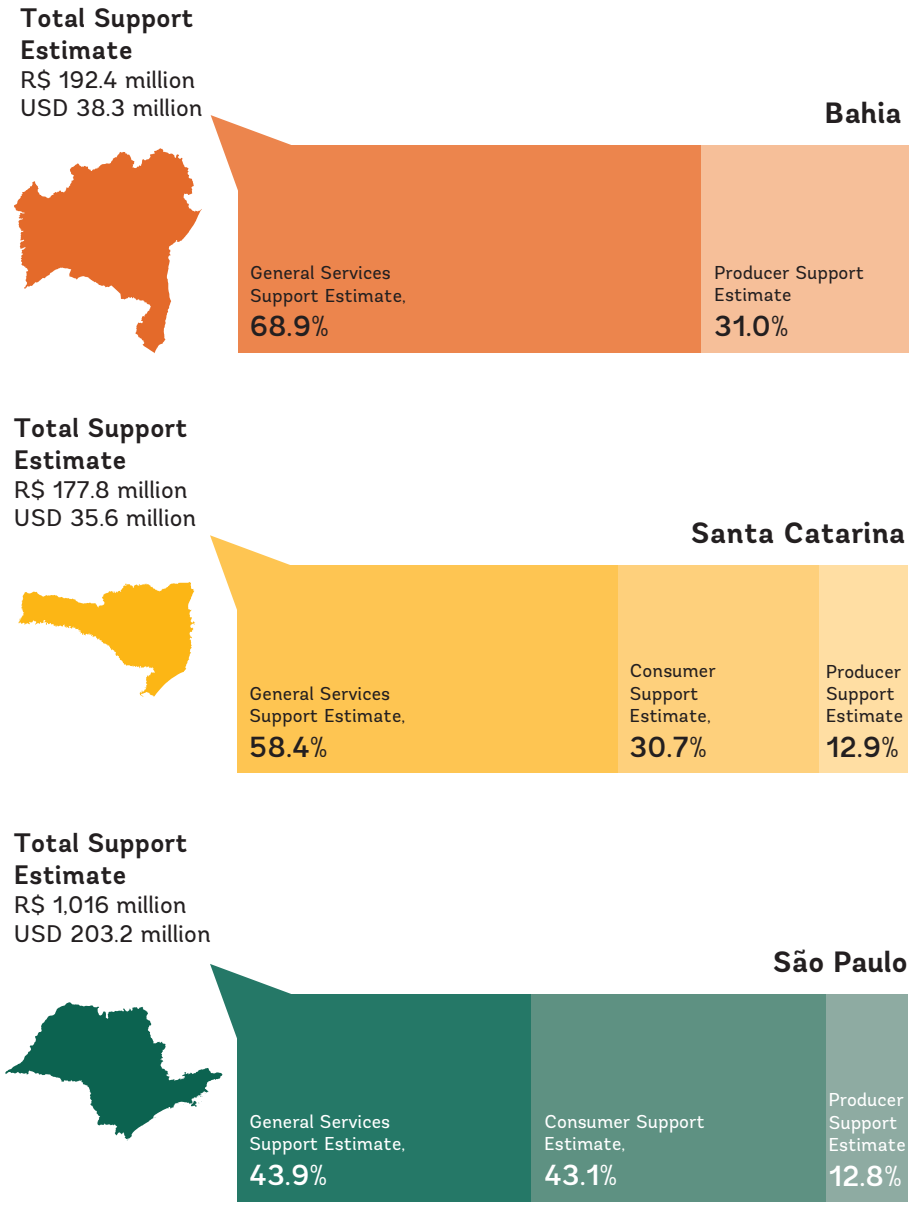
64. The figure 28 below illustrates the composition of TSE in the States of Bahia, Santa Catarina and São Paulo, for the period of 2017-2021. In Bahia, the total support to the sector over that period averaged R$ 192.4 million (US$ 33.1 million[89]), equivalent to 0.06 percent of GDP. GSSE constituted 69 percent, followed by the PSE (31 percent), while there was no budgetary support for consumers registered. In Santa Catarina, the total support to the sector reached an average of R$ 177.8 million (US$ 30.6 million. The GSSE constituted 56.4 percent of that total, followed by the CSE (30.7 percent), and PSE (12.9 percent). In São Paulo, the total support provided to agrifood (TSE) averaged R$ 1,016 billion (US$ 175 million). From this total, GSSE constituted 43.1 percent, PSE 12.8 percent, and fiscal transfers to support consumers were 43.9 percent of total support.

65. When measured as a percentage of the state's GDP (considering all sectors), the level of support in Bahia for 2017-2021 was 0.06 percent, below the national level of 0.40 percent and the OECD of 0.63 percent. The evolution of this indicator during the analyzed period shows a peak in 2018 and a trend of recovery towards 2021. The recovery towards 2021 is mainly explained by the increase in the budget for support to General Services, particularly the program *Implementação de Projetos de Desenvolvimento Rural Sustentável – Bahia Produtiva* (Implementation of Sustainable Rural Development Project - Bahia Produtiva), which finances productive infrastructure. As a percentage of the agricultural GDP, the average TSE was 0.91 percent, relatively low compared to OECD average of 43 percent of Ag GDP

89 1 US$ - 5.8 R$, exchange rate as of February 2025.

FIGURE 32.

Composition of TSE – Average 2017-2021



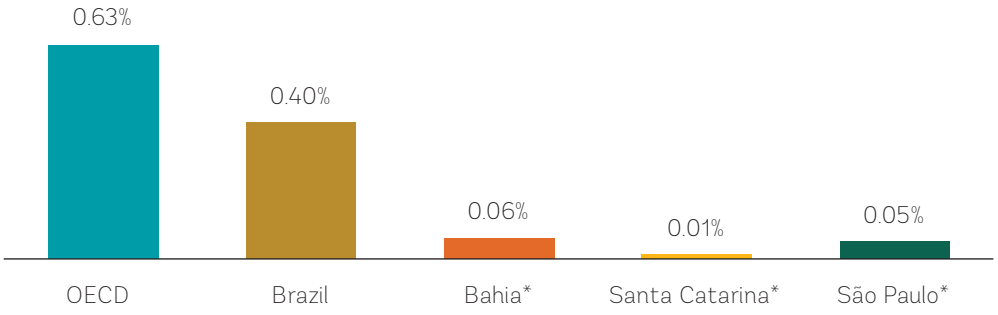
66. Santa Catarina had the same average level of TSE/GDP (0.05percent) than São Paulo. The evolution of this indicator in the analyzed period shows a significant reduction of support in the state towards 2020, but an increase towards 2021. The state support programs for inputs increased significantly between 2020 and 2021, from R$ 13.2 million to R$ 62.9 million (US$ 2.2 million to US$ 12 million)[90]. The state public investment in general services, particularly

90 1 US$ - 5.8 R$, exchange rate as of February, 2025.

spending associated with promotion and marketing almost tripled during that period. Another category that observed a significant increase in Santa Catarina between 2020 and 2021 is the subsidy program for consumers, especially school feeding programs. On average, the level remained at 0.05 percent during that period. Measured as a percentage of Agricultural GDP, the average TSE was 0.95 percent, comparable to Bahia, but relatively low compared to OECD average.

FIGURE 33.

Benchmarking TSE as share of GDP



67. In São Paulo, TSE/GDP average was 0.05 percent on average during that period, below the national level (0.4 percent). The evolution of this indicator shows a significant reduction towards 2019 and 2020, but an increase towards 2021. This increase was mainly due to an increase in resources from input support programs such as Rural Credit for Expansion and Investment *(Crédito Rural para Expansão e Investimento*) and also due to programs of support based on non-commodity criteria such as biofuels (*Biocombustíveis*). As a percentage of the agricultural GDP, the average was 2.9 percent, higher than that of Bahia and Santa Catarina but relatively low compared to the OECD average.

68. The following figure shows the participation of each of the sources of financing for transfers to the sector in the period 2017-2021. In the 3 analyzed states, the total transfers resulting from implementation of agrifood public policies were financed only by taxpayers, not by consumers. At the federal level, 77.7 percent of transfers to the agrifood sector were financed by taxpayers, while 22.3 percent were financed by the consumer. Taxpayers are the source of transfers to the sector for

each of the 3 States. On average in OECD countries, taxpayers are the ones generating most transfers 85 percent compared to consumers.

FIGURE 34.

Benchmarking TSE as share of Ag GDP

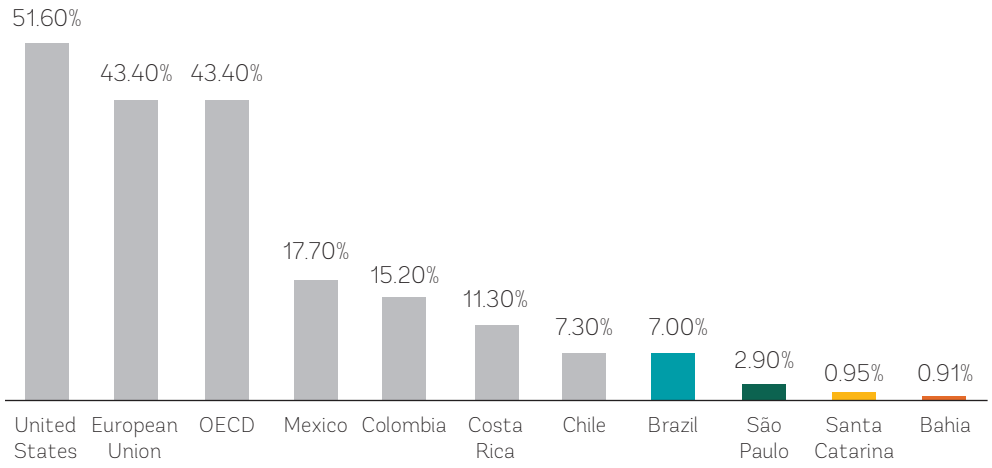


FIGURE 35.

Benchmarking TSE by sources of Transfers

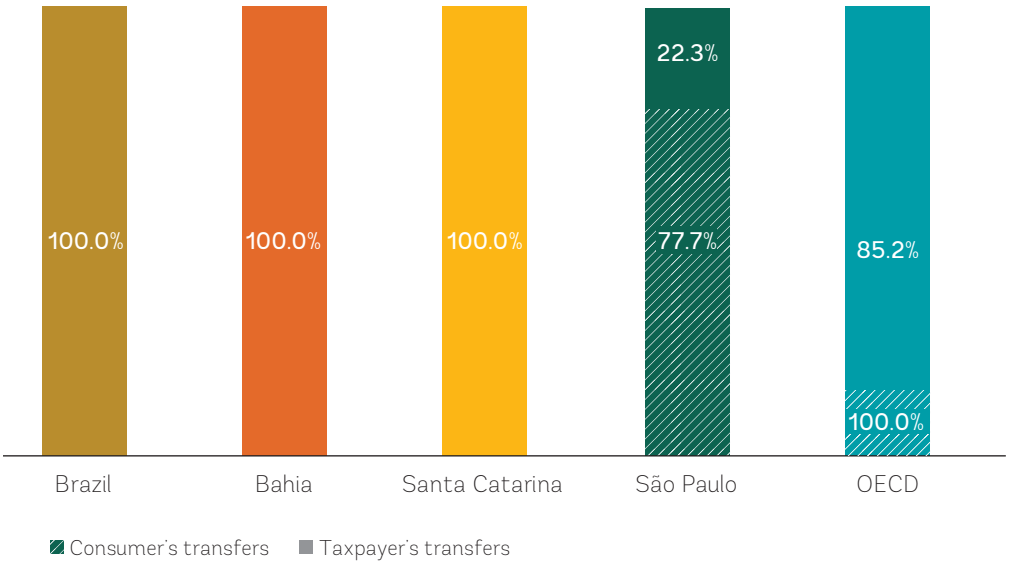
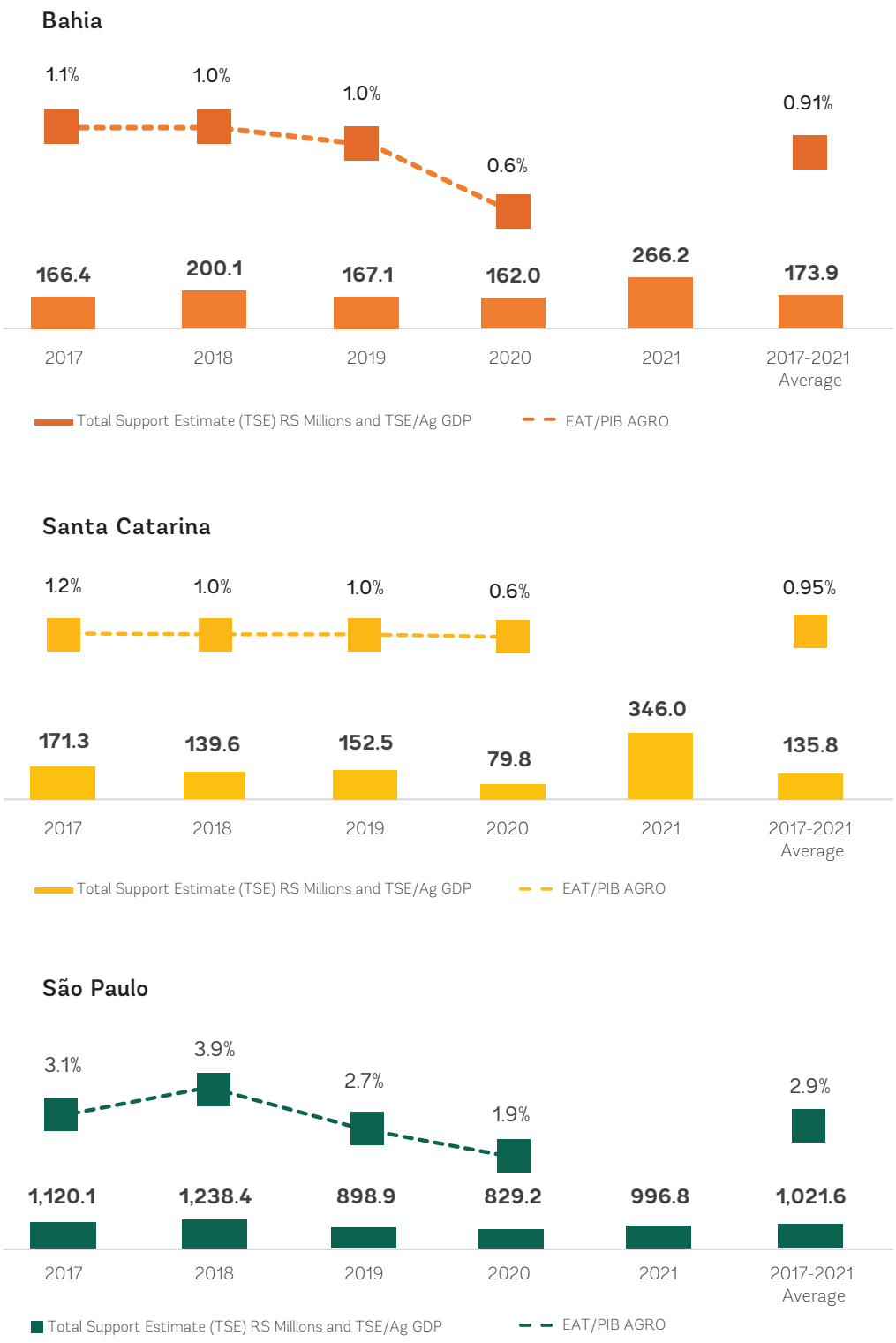


FIGURE 36.

Evolution of TSE (in R$ and as % of Ag GDP)

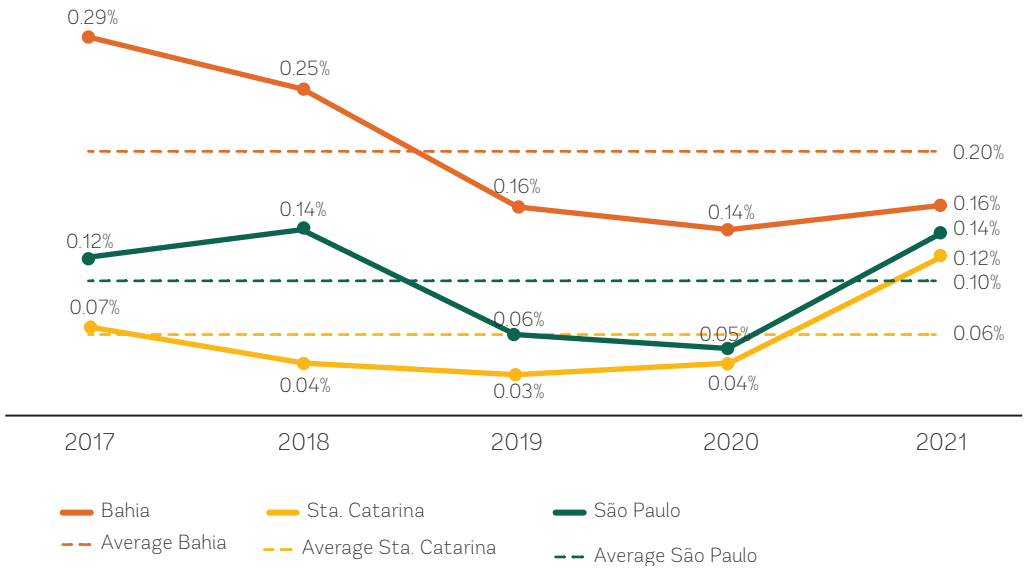


5.2.2 Support to Agrifood Producers (PSE)

69. The graph below shows the Producer Support Estimate as a proportion of gross producers' receipts (%PSE) for the states of Bahia, Santa Catarina and São Paulo, from 2017 to 2021. Although Bahia had the highest %PSE during this period, it shows a systematic decline dropping from 0.29 percent in 2017 to 0.16 percent in 2021. On average, the %PSE for this period was 0.2 percent. Santa Catarina had the relative %PSE, averaging 0.06 percent, but experienced a significant increase from 0.07 percent in 2017 to 0.12 percent in 2021. São Paulo had a relative lower level of %PSE, with 0.12 percent of gross farm receipts generated by support policies in 2017 and 0.14 percent in 2021. The average %PSE for São Paulo throughout the period was 0.1 percent.

FIGURE 37.

Producer Support Estimate as a share of gross farm receipts

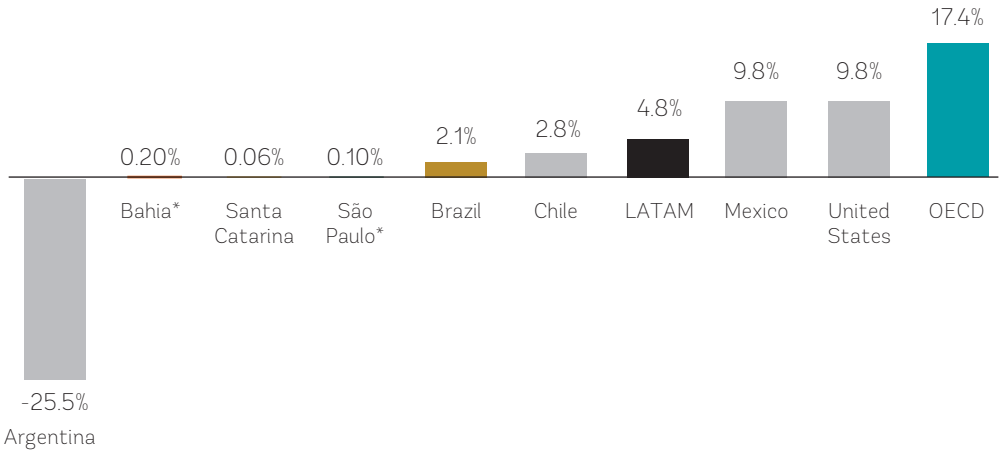


70. The %PSE levels show that agrifood support for the producers have a minor impact on their income. These levels reflect a strong market orientation for the selected analyzed products. Neither one of the States implements market price support, so prices of analyzed products are fundamentally governed by market signals. The %PSE level for the States is significantly lower than the support at OECD level (17.4 percent). They are also significantly

lower than the estimates for other countries in the Latin America region, such as Chile (2.8 percent) and Mexico (9.8 percent). At the federal level, Brazil's overall indicator for the period was 2.08 percent (see Figure 35).

FIGURE 38.

Benchmarking Producer Support as a proportion of Producer Incomes (%PSE), 2017-2021



71. **In the case of Santa Catarina, Bahia and São Paulo, the majority of support for the sector was based on inputs payments** (either fixed or variable). São Paulo had almost of 97 percent of transfers were made through this category. In the State, the government carried out programs such as the insurance premium support program, rural credit financing program, seed subsidy programs, among others. In Santa Catarina, almost 99 percent of the producer support was destined to this category. The Government of Santa Catarina carried out multiple programs that offered credit with preferential rates, such as *Programa de Apoio financeiro a projeto de novos empreendimentos agroindustriais* (Financial support program for new agroindustries projects), *Apoio financeiro a formalização de emprendimentos* informais (Financial support for the formalization of informal enterprises), and *Apoio financeiro a projetos de fortalecimento de cooperativas* (Financial support for cooperatives). Among the states, Bahia allocated the smallest proportion of resources towards support based on input use, with only 64 percent of the total support going towards it. Although this level is lower than in other states, it still represents the largest share of state support for the agrifood sector. The Government

of Bahia implemented programs such as *Distribuição de Insumos para Agricultura Familiar* (Distribution of Inputs for Family Farming), *Distribuição de Equipamentos de Apoio de Inclusão Produtiva* (Distribution of Productive Inclusion Support Equipment), and *Programa de Apoio a Assistência Técnica e Extensão* (Technical Assistance and Extension Support Program). OECD considers this type of support to be highly distortive and to have a higher risk of negative impact on the environment. When the government subsidizes input (such as fertilizers and pesticides) use, they tend to be overused, impacting soil quality, water resources and biodiversity. In the case of São Paulo and Santa Catarina, it is worth noting that part of those payments (access to credit at preferential rates) is conditioned to the compliance of sustainable practices. The enforcement of the practices and net effect are still to be assessed.

72. **Bahia is the only State that provided support to producer through payment based on output, for around 14 percent of PSE**. Most of this support was provided by the state government through the PRODEAGRO which aims to promote agrifood development in Bahia and PROALBA funds, that provide incentives for cotton production. Payments based on output, along with payments based on input use, are considered more distorting by the OECD and are associated with higher environmental risks. In OECD countries, support based on output payments is on a declining trend.[91]

73. **The share of direct support to producers that is decoupled is relatively low in all 3 States**. Bahia has the highest level, with 21.7 percent of PSE implemented through decoupled payments, most of the support going through support to Environmental Regulation of Farms (*Programa de Regularizacão Ambiental de Imóvel Rural*). In São Paulo, around 10 percent of support is destined to programs related to environmental preservation and natural resources. Examples are programs such as *Práticas de Manejo para Mitigação de Emissões de Carbono* (Práticas de Manejo para Mitigação de Emissões de Carbono), *Programa de conservação de água* (Water conservation program) and *Programa de estímulo à produção orgânica* (Organic Agriculture Support Program). Santa Catarina had only 1 percent of total producer support based on non-commodity criteria, with environmental programs

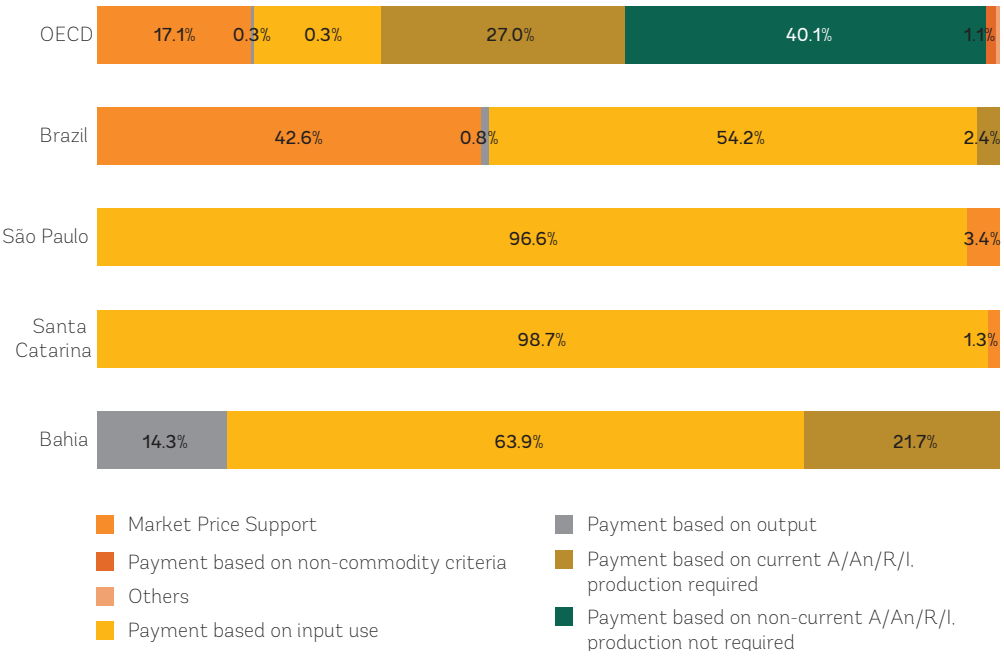
91 OECD. 2023. Agricultural Policy Monitoring and Evaluation.

such as *Programa de Adequação Ambiental* (Environmental Regulation Program) e *Corredores Ecológicos* (Ecological Corridors). Payments based on non-commodity criteria or not linked to current production are considered less distorting by OCDE's standards. They are also considered to have less negative environmental impact.

74. In none of the 3 States, there was use of Market Price Support (MPS), which is consistent with an agrifood sector highly guided by market signals. This is a difference with what is done at the federal level, where MPS represents 42.6 percent of PSE, and in OECD countries, where MPS reaches 17.1 percent of PSE. When benchmarking PSE with support within OECD countries it is also worth noting that most of PSE (40 percent) is carried out through decoupled payments that are less distorting and considered to be less harmful to the environment.

FIGURE 39.

Benchmarking the composition of PSE (Average 2017 -2022)



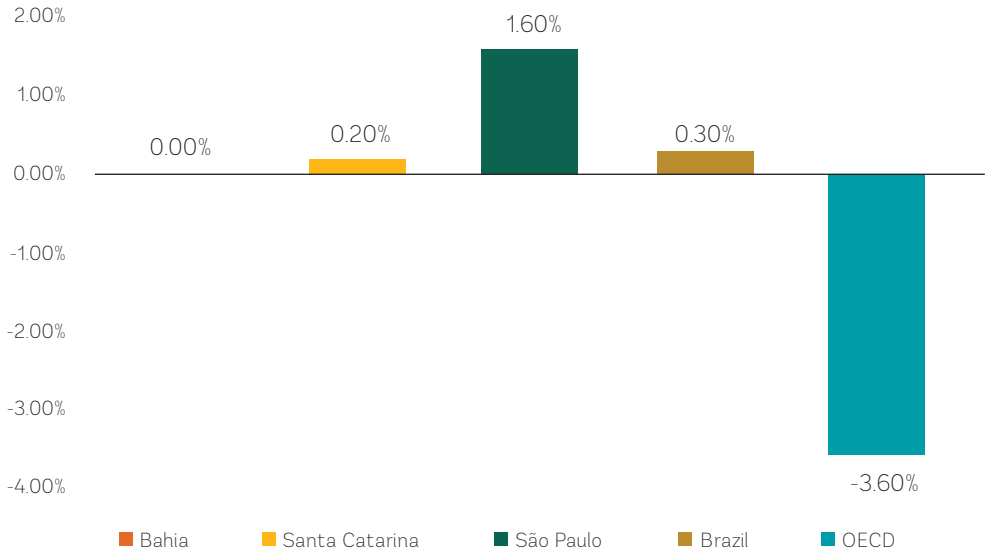
5.2.3 Consumer Support Estimate (CSE)

75. In both Santa Catarina and São Paulo, consumers benefitted from State level policies beyond the benefits received from federal ones. The Consumer Support Estimate (CSE) measures the cost (or benefit) to consumers arising from transfers

generated by agrifood policies. Similar to PSE, CSE can be expressed in relative terms as a share of consumption value (%CSE). As neither State took measures to support the sector that would result in higher prices received by the producer, consumers were not affected. Furthermore, both in Santa Catarina and São Paulo, the States implemented food support programs that contributed to lowering the cost of the food basket for consumers (School feeding program in Santa Catarina, and School- feeding program and *Bom Prato* program that offers subsidized meals for highly vulnerable people in the State of São Paulo). On average over the 2017-2021 period the %CSE was of 0.2 percent in Santa Catarina and of 1.6 percent for São Paulo. In Bahia the %CSE over the analyzed period was 0 percent, as there was no support to the sector by the State that could have resulted in higher prices for the producer and no information was obtained on possible State programs to support consumption.

FIGURE 40.

Benchmarking %CSE, 2017-2021 (average)



5.2.4 General Services Support Estimates (GSSE)

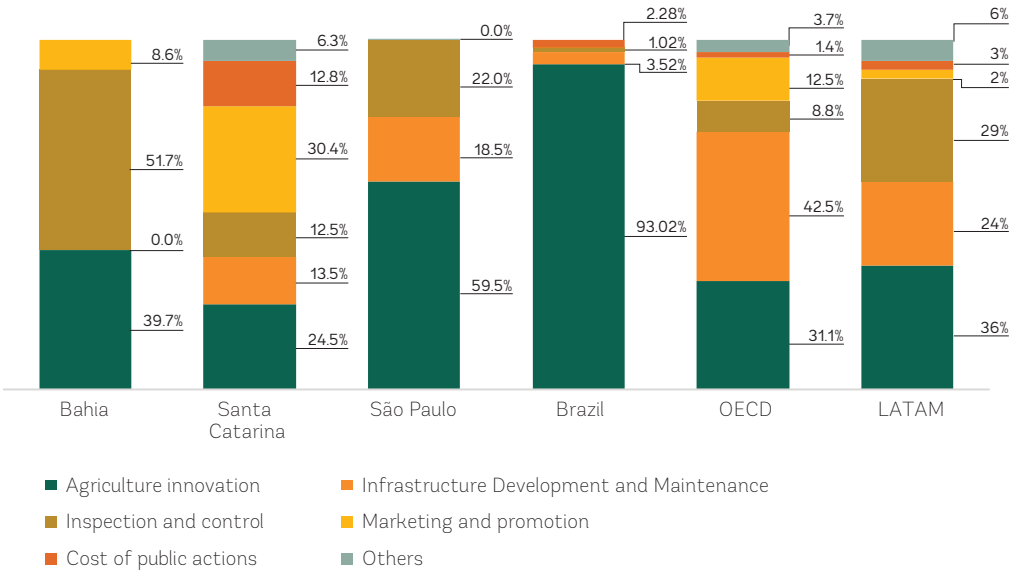
76. Financed by taxpayers, GSSE represents public investment to support activities providing benefits for the agrifood sector in its whole, such as agrifood innovation (R&D and education), animal/plant health services, marketing and promotion, rural infrastructure and public

stockholding. Evidence shows that GSSE is positively correlated with country income-level, agrifood growth and competitiveness. For the 3 States, GSSE represents a significant portion of TSE: 68.9 percent of TSE for Bahia, 56.4 percent of TSE for Santa Catarina and 43.1 percent of TSE for São Paulo, showing similar level than that of Brazil and higher than OECD countries.

77. **Bahia and São Paulo have a significant concentration of such investment in areas such as agrifood innovation, inspection and infrastructure**. In Santa Catarina, GSSE shows a more diverse distribution of its investment in other categories, similar to the OECD (see graph 38). The GSSE for Bahia averaged R$ 132.6 million (US$ 22.8 million)[92] annually from 2017 to 2021. Over half of these transfers (52 percent) were allocated to financing and maintaining infrastructure, and 40 percent went towards agrifood innovation (research and development, extension). The remaining funds were used for marketing and promotion. In Santa Catarina, GSSE averaged R$ 100.3 million (US$ 17.2 million) annually from 2017 to 2021. Amongst the main categories of support, around 30 percent of the total GSSE disbursements were allocated to promotion and marketing, 24 percent to agrifood innovation, 14 percent to infrastructure and 13 percent to inspection and control (including sanitary defense, input oversight, and health monitoring). In São Paulo, between 2017-2021, the GSSE had an average of R$ 438 million (US$ 75.5 million). Approximately 60 percent were allocated to financing agrifood innovation, 22 percent to Infrastructure, and 18.5 percent to Inspection and Control.

FIGURE 41.

Benchmarking the composition of the GSSE



92 1 US$ - 5.8 R$, exchange rate as of February 2025.

78. It is worth mentioning that although GSSE has represented for the 3 States an important part of total support, as a proportion of the States' agricultural GDP, it is lower than the level observed in OECD countries (5.3 percent) (see Figures 38 and 39). In Bahia and Santa Catarina GSSE has shown an increase in absolute terms between 2020 and 2021, while in São Paulo GSSE has decreased between 2017 and 2021 (see Figure 40)

FIGURE 42.

Benchmarking GSSE as a proportion of Agricultural GDP

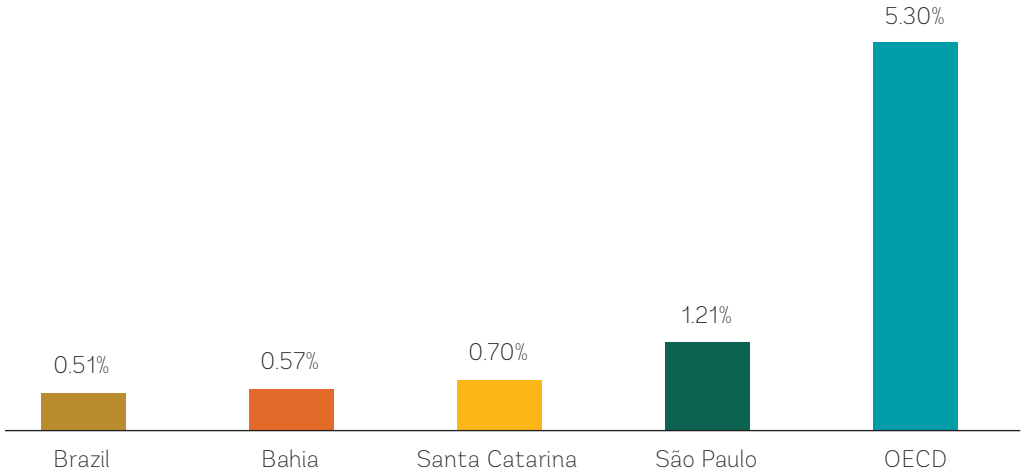
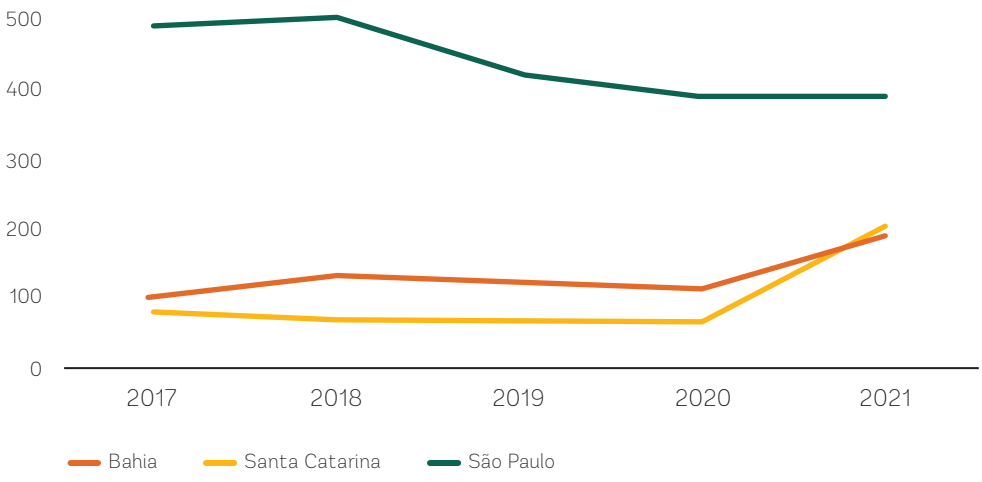


FIGURE 43.

Evolution of GSSE between 2017 and 2021 (million R$)



6. CONCLUSIONS AND POLICY RECOMMENDATIONS

79. **Agrifood plays a crucial role in the Brazilian economy**. In recent decades, this sector has not only emerged as a major global producer of commodities such as soybeans, corn, cattle, and sugar, but it has also shown a significantly higher level of productivity growth compared to other sectors like industry and services. The agrifood sector also plays a significant role in the analyzed states. The contribution of agrifood to the GDP of São Paulo and Bahia has increased since 2011. While there has been a marginal decrease in Santa Catarina, the agrifood sector exhibits high annual rates of variation in value added when compared to other sectors, though also showing a notably growth rate variability. It is imperative for the country's growth to be based on productivity gains rather than factor increases in order to promote sustainable long-term growth. Provided that the sector transitions to less carbon-intensive agrifood practices and technologies and that forest protection is improved, increased agrifood productivity could be reached without leading to higher GHG emissions. Therefore, the role of agrifood support policies and programs is critical to achieve these goals and improvements.

80. **As expected in a country with a highly competitive sector, the level of government support through public policies to the sector is relatively low compared to countries in Latin America and OECD countries at the national level**: at the federal level, Total Support Estimate (TSE) declined, as share of GDP, from 0.7 percent in 2000-02 to 0.5 percent in 2020-22. In OECD countries, the average support as a proportion of GDP was 0.63 percent for the same period. At the state level, the support is even lower: Bahia, São Paulo and Santa Catarina had a TSE of 0.06 percent, 0.05 percent and 0.01 percent as a proportion of the State's GDP.

81. **As described in chapter 4, at the federal level, direct farmer support levels (Producer Support Estimate - PSE) as proportion of farm gross income - already low - showed a downward trend over the past 20 years, falling from 7.6 percent of gross farm receipts in 2000-02 to 3.1 percent in 2020-22**. However, over the past three years, PSE has been increasing due to an increase in MPS that accounts for around 50 percent of PSE. MPS is considered a highly distorting measure, ineffective and unequal type of support, since it tends to benefit only high scale producers and imposes, in practice, an implicit regressive tax that affects deeper to lowest income consumers. PSE is even lower at State level, with an average of 0.2 percent of gross farm receipts in Bahia, 0.06 percent in Santa Catarina and 0.1 percent in São Paulo. There is no MPS implemented in the 3 analyzed States and the bulk of PSE is delivered through payments based on input use (64 percent of PSE in Bahia, 99 percent in Santa Catarina and 97 percent in São Paulo). In São Paulo and Santa Catarina, part of those payments is conditioned to the application of environmental measures.

82. **A small portion of TSE goes to GSSE at the federal level (15 percent in 2021), whereas in the 3 States analyzed, it represented an important share of TSE** (68.9 percent in Bahia, 56.4 percent in Santa Catarina and 43.1 percent in São Paulo). It is worth mentioning though that when benchmarked as a share of the agricultural GDP, GSSE for both the federal level (0.51 percent of AgGDP) and the 3 States (0.57 percent for Bahia, 0.70 percent for Santa Catarina and 1.21 percent for São Paulo) is below the OECD average (5.3 percent).

83. **The agrifood sector in Brazil is at the same time, highly vulnerable to and a significant contributor to climate change.** The World Bank found that

the agrifood sector already loses on average, the equivalent of one percent of agricultural GDP annually as the consequence of extreme climate events. On the other hand, land use change (primarily deforestation) and agrifood represent the bulk of Brazil's GHG emissions (with 52 and 24 percent respectively). Brazil has a well-developed legal framework and guidelines for adapting its agrifood sector to climate change, with its national sectoral strategy, the Brazilian Agricultural Policy for Climate Adaptation and Low Carbon Emission (ABC+). Projections indicate that full implementation of the ABC+ Plan to achieve the sector's NDC goals (NDC scenario) provides the opportunity to reduce GHG emissions by 48 percent by 2030, when compared to business-as usual scenario.

84. The recommendations for realigning agrifood support policies and programs towards greater competitiveness while increasing climate mitigation and adaptation of the sector can be summarized around the following key areas.[93]

- ✓ **Increase support to agrifood public goods and services.** At the federal level, agrifood support is mostly geared towards private goods (e.g. MPS, payments based on inputs such as subsidized rural credit) rather than public investments in agrifood public goods and services. In 2021, only 15 percent of TSE at the federal level went to GSSE. In opposite, in the 3 States analyzed, GSSE represented an important share of TSE (68.9 percent in Bahia, 56.4 percent in Santa Catarina and 43.1 percent in São Paulo), showcasing a strong orientation of the 3 States' public support to the agrifood sector towards public goods. However, when brought as a share of the agrifood GDP, GSSE in both the 3 States and at the federal level is well below the average observed in OECD countries (see Figure 38). GSSE has also been decreasing, particularly at the federal level, both as a share of Total Support Estimates to the sector (from 30 percent of TSE in 2014 to 16 percent in 2021) and as a share of the agrifood production (from 3.4 percent of agrifood value of production in 2000-02 to 1 percent in 2019-21), indicating that it has not kept pace with the sector's growth. It has been demonstrated that support to agrifood public goods and services yield higher economic

93 More detailed and tailored recommendations for each of the States analyzed are presented in each State report.

return than public investments in private goods[94] and that a shift of 10 percentage points of total agrifood public spending from private to public goods—while keeping total expenditure constant—leads to a 5 percent increase in value added per capita.[95] A 1 percent increase in agrifood public research led to a 0.35 percent increase in agrifood TFP.[96]

- ✓ **In the context of climate change that already has an important impact on the sector, it is even more crucial to ensure further innovations are brought to the farmers to adapt to climate change and mitigate the sector's impacts** on the environment, that stronger Sanitary and Phytosanitary systems are in place to face increased occurrence of pest and diseases and that infrastructure is developed to support the changes the sector is facing. For these reasons the federal government should consider shifting its public support from private goods towards public goods. The 3 analyzed States already dedicate an important part of their public support to GSSE though related to their Agriculture GDP, this support is still below the level observed in the OECD countries. It is thus advisable that public support policies and programs to the agri-food sector are further repurposed towards key public goods and services and to seek, whenever the fiscal space allows it, to increase support to public goods and services. It will also be important to foster the synergies and complementarities between the public goods and services supported at State and federal levels, to increase the diffusion of innovations to all farmers, in particular medium and family farmers, and improve rural infrastructure across the various regions of the countries.

- ✓ **Repurpose direct support to producers to enhance inclusion and foster adaptation and mitigation of the sector to climate change.** Producer support (PSE) could evolve beyond merely bolstering farmers'

94 World Bank. 2001. World Development Report 2002. https://doi.org/10.1596/0-1952-1606-7. And DeBoe, G. et al. 2020. Reforming Agricultural Policies Will Help to Improve Environmental Performance. EuroChoices, Vol. 19/1, pp. 30-35. https://doi.org/10.1111/1746-692X.12247.

95 Lopez, C.A., L. Salazar, and C.P. De Salvo. 2017. *Public Expenditures, Impact Evaluations and Agricultural Productivity* Technical Note IDB-TN-1242. Inter-American Development Bank, Washington, DC.

96 Gasques, J.G, Bastos E.T, Valdes C., Bacchi M.R.P. 2012. Produtividade da agricultura brasileira e os efeitos de algumas políticas. Revista de Política Agrícola, ano XXI, no 3

incomes to encouraging the adoption of climate-smart[97] and low-carbon agriculture, while also aiming to halt agrifood area expansion. At the federal level, part of direct support to producers that is delivered through rural credit, is already tied to environmental criteria. This approach could be enhanced by increasing the share of credit lines that support climate-smart and low-carbon agriculture practices. Reallocating resources to programs that prioritize sustainability could reduce the environmental impacts of agrifood activities and support the necessary technological transition in rural areas. States like São Paulo and Santa Catarina have already linked part of its direct support to producers to the implementation of environmental criteria, a model that could be broadened to ensure all producer support is environmentally conditioned. Similarly, the State of Bahia could start integrating climate-smart and low-carbon agriculture technologies and practices into farmers' input support incentives and linking their direct support to producers to the implementation of environmental criteria. Regarding inclusion, at the federal level, while rural credit programs remain a cornerstone, it has been demonstrated that only a limited share of farmers has access to those subsidized lines (only 15 percent of family farmers). This pattern of the same producers consistently benefiting from these lines year after year calls for a reassessment and enhancement of rural credit to expand access to affordable finance for family farmers and vulnerable groups.

- ✓ **Enhance the producer support toolkit at both federal and state levels by incorporating a broader range of tools such as matching grants, partial credit guarantees, and payments for environmental services, alongside traditional subsidized credit lines.** Current direct producer support could be complemented through the implementation, either at federal or state level, of additional mechanisms such as matching grants (in particular targeting the most vulnerable) and partial credit guarantee to foster inclusion of farmers within the financing system. Furthermore, to increase sustainability of the agrifood system, both the federal and state levels should increase the share of decoupled payments to producers, using tools such as payments for environment services for example.

97 See https://www.worldbank.org/en/topic/climate-smart-agriculture

This shift could be financed by redirecting funds currently allocated to producer support (subsidized interest rates) towards more sustainable and production-decoupled forms of support. It would also enable farmers to make production decisions based on market opportunities rather than the level of public support available. The State of Bahia already dedicates more than 20 percent of its direct support through decoupled payments and should seek to increase that share and to disseminate and promote those instruments' use, particularly among small and medium-sized producers. In Santa Catarina, the State has been piloting payments for environmental services in the past as well as matching grants to most vulnerable groups and should seek to expand those programs, repurposing part of the public support, to ensure increased complementarity with what is proposed at the federal level and enhance inclusion of the most vulnerable. The State of São Paulo already dedicates 10 percent of its direct support to decoupled payments and should seek to further increase that share.

- ✓ **Shift from subsidizing private investment to expanding risk management instruments. Brazilian agrifood production is facing increasing risks as a result of climate change, with extreme events becoming more frequent, causing significant crop failures and an increase in the volume of agrifood** insurance claims. Strengthening the country's agrifood policy through measures that protect producers and reduce the negative impacts of climatic and socio-environmental events on the sector is more and more crucial. Given that uninsured risk hampers farmers' investment[98], shifting part of agrifood public subsidies from rural credit towards insurance policies, in particular the agrifood Insurance Premium Subsidy Program (PSR), could help improve the management of environmental and social risks in the agrifood sector.

98 SOUZA, Priscila; ASSUNÇÃO, Juliano. 2020. *Risk Management in Brazilian Agriculture: Instruments, Public Policy, and Perspectives*. Climate Policy Initiative.

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ANNEX 1. METHODOLOGY

1. **This report employs the methodology developed by the OECD to measure the level of public support for the agrifood sector.** The OECD methodology—referred to as Producer Support Estimate (PSE)— computes support indicators measuring transfers to the agrifood sector and enabling comparability over time and across countries. PSE indicators provide insights into the burden that agrifood support policies place on consumers (i.e., market price support) and taxpayers (budgetary transfers). This is the most widely and systematically used methodology to monitor support to the agrifood sector in the world. The results, published annually, provide important contributions to the international policy dialogue on agrifood and trade.

2. **According to the OECD methodology, agrifood support is defined as gross transfers to agrifood from consumers and taxpayers, arising from public policies that support agrifood.** This definition covers both budgetary and non-budgetary expenditures such as credit concessions and direct subsidies (electricity, fuel, water, farm inputs). It also includes implicit support arising from border trade (tariffs, taxes) and domestic market measures (e.g., minimum support prices). Overall, the methodology enables a computation of total transfers to producers (PSE), consumers (CSE), and general services (GSSE) respectively, with a clear identification of transfer sources (domestic and international taxpayers, consumers). The OECD methodology also allows the calculation of disaggregated PSE for each product considered. The different levels of support are reflected in the Producer Single Commodity Transfers (SCT), a measure of commodity-specific agrifood policies indicating policy flexibility for producers in their choices of product mixes.

3. **Total Support Estimate (TSE)** is the annual monetary value of all gross transfers from taxpayers and consumers arising from policy measures that support agrifood, net of the associated budgetary receipts, regardless of their objectives and impacts on farm production and income, or consumption of farm products. This indicator can be expressed in absolute terms or as a %age

of GDP. The latter (%TSE) shows the cost that support to the agrifood sector has in the economy and enables comparisons between economies or over time. The Total Support Estimate (TSE) can be divided into three main categories: Producer Support Estimate (PSE), Consumer Support Estimate (CSE), and General Services Support Estimate (GSSE).

4. **The Producer Support Estimate (PSE)** is a measure of the annual monetary value of gross transfers from consumers and taxpayers to agrifood producers. It includes all policy measures that support agrifood, regardless of their nature, objectives, or impacts on farm production or income. The PSE can be expressed as a specific monetary value or as a %age of gross farm receipts (%PSE). It allows for meaningful comparisons of support between different products, countries, or over time. Unlike other indicators, the %PSE is not affected by inflation or the size of the agrifood sector, making it a reliable tool for comparing changes in the level of support. The OECD considers the %PSE as the most appropriate indicator for analyzing and comparing the impact of support measures.

5. **Public Support for Agriculture (PSE) is categorized based on the type of support it provides**. This categorization enables a more comprehensive evaluation of its impact and alignment with policy objectives. For instance, Market Price Support (MPS) is recognized as a highly distorting measure with significant social costs. On the other hand, payments based on non-commodity criteria are considered to have a lesser distorting effect. The specific subcategories of PSE are elaborated in the box below.

BOX 1:

CATEGORIES OF PRODUCER SUPPORT ESTIMATE (PSE)

A1: Market Price Support:
Transfers from consumers and taxpayers to agricultural producers from policy measures that create a gap between domestic market prices and border prices of a specific agricultural commodity, measured at the farm gate level

A2:Payments Based on Output:
Tramfers from taxpayers to agricultural producers from policy measures on current output of a specific agricultural commodity

B. Payments Based on Input Use:
Transfers from taxpayers to agricultural producers arising from policy measures based on-farm use of inputs

- Variable input use that reduces the on-farm investment cost of a specific variable input or a mix of variable inputs.
- Fixed Capital Formation that reduces the on-farm investment cost of farm buildings, equipment, plantations, irrigation, drainage, and soil improvements
- On-farm services that reduce the cost of technical, accounting, commercial, sanitary and phytosanitary assistance and training providade to individual farmers.

C:Payments Based on current.
A/An/R/I, production required: Tramhers hon taxpayers to agricultural produces arising from policy measures based on ziarent area, animal numbers, revenue, or income, and requiring production

D:Payments Based on non-current A/An/R/I, production required:
Transfers from taxpayers to agricultural producers arising from policy measures based on non current (Le historical or fixed) area, animal numbers, revenue, or income, with cument production of any commodity required

E: Payments Based on non-current A/An/R/1, production not required:
Transfers from toxpayers to agricultural producers arising from policy measures based on non current (Le, historical or fixed) area, animal numbers, revenue, or income, with current production of any commodity not required but optional

F. Payments Based on non-commodity criteria:
Transfers from taxpayers to agricultural producers arising from policy measures based on:

- Long-term resource retirement: Transfers for the long-term retirement of factors of production from commodity production. The payments in this subcategory are distinguished from those requiring short-term resource retirement, which are based on commodity production criteria
- A specific non-commodity output: Transfers for the use of farm resources to produce specific non-commodity outputs of goods and services, which are not required by regulations
- Other non-commodity criteria: Transfers provided equally to all farmers, such as flat rate or lump sum payment

G: Miscellaneous payments:
Transfers brom taxpayers to farmers for which there is a lack of information to allocate them among the appropriate tiate categories

Source: OCDE: Agricultural Policy Monitoring and Evaluation 2022

6. **Single Commodity Transfers (SCT)** represent the total annual monetary value of transfers from consumers and taxpayers to agrifood producers. These transfers are measured at the farm gate level and are a result of policies specifically tied to the production of a single commodity – conditional transfers. In order to receive the payment, producers are required to produce the designated commodity. This category also encompasses broader policies where transfers are specified on a per-commodity basis.

7. **The Consumer Support Estimate (CSE)** is a measure of the annual monetary value of transfers from or to consumers of agrifood commodities. These transfers are quantified at the farm gate level and result from various policy measures that support agrifood, regardless of their nature, objectives, or impact on consumption of farm products. The CSE provides an assessment of the cost or benefit to consumers resulting from sectoral support policies. A negative CSE indicates a negative cost to the consumer, which can be seen as an implicit tax on the consumption of agrifood products. This occurs when a policy causes domestic prices to rise above international reference prices, such as through the implementation of import tariffs. In such cases, consumers bear the cost and transfer it as a benefit to the producers. Conversely, when a policy leads to domestic prices falling below international reference prices, such as through the implementation of export taxes, it generates an "implicit subsidy" to the consumer. This subsidy is financed by the producers. The OECD methodology for calculating the CSE also takes into account support that may arise from food consumption subsidy programs, which are funded by taxpayers. Both sources of financing are considered in the calculations to determine consumer support.

8. **The General Services Support Estimate (GSSE)** represents the annual monetary value of transfers resulting from policy measures that establish favorable conditions for the primary agrifood sector. These measures encompass the development of private or public services, institutions, and infrastructure, irrespective of their specific objectives and impacts on farm production, income, or consumption of farm products. The GSSE includes policies that primarily benefit the agrifood sector as a whole, but it does not encompass any direct payments to individual producers. Similar to PSE, the GSSE is further categorized into subcategories, which are listed in the accompanying box.

BOX 2:
CATEGORIES OF GENERAL SERVICES SUPPORT ESTIMATE

Agricultural Knowledge and innovation system

- **Agricultural Knowledge Generation:** Budgetary expenditure financing research and development (R&D) activities related to agriculture, and associated data dissemination, irrespective of the institution (private or public, ministry, university, research center or producer groups) where they take place, the nature of research (scientific, institutional, etc) or its purpose
- **Agricultural Knowledge Transfer:** Budgetary expenditure financing agricultural vocational schools and agricultural programs in high level education, training and advice to farmers that is generic (e.g. accounting rules, pesticide application), not specific to individual situations, and data collection and information dissemination networks related to agricultural production and marketing.

Inspection and Control

- **Agricultural product safety and inspection:** Budgetary expenditure financing activities related to agricultural product safety and Inspection. This includes only expenditures on inspection of domestically produced commodities at first level of processing and border inspection for exported commodities.
- **Pest and disease inspection and control:** Budgetary expenditure financing pest and disease control of agricultural inputs and outputs (control at primary agriculture level) and 1) and public funding of veterinary services (for the farming sector) and phytosanitary services.
- **Input Control:** Budgetary expenditure financing the institutions providing control activities and certification of industrial inputs used in agriculture (a.g. machinery, industrial fertilisers, pesticides, etc.) and biological inputs (eg, seed certification and control)

Development and Maintenance of Infrastructure

- **Hydrological Infrastructure:** Budgetary expenditure financing public investments into hydrological infrastructure (irrigation and drainage networks)
- **Storage, marketing and other physical infrastructure:** Budgetary expenditure financing investments to off-farm storages and other market infrastructure facilities related to handling and marketing primary agricultural products (silos, harbor facilities-docks, elevators, wholesale markets, future markets), as well as other physical infrastructure related to agriculture, when agriculture is the main beneficiary.

- **Institutional infrastructure:** Budgetary expenditure financing investments to build and maintain institutional infrastructures related to the farming sector: (eg, land cadasters, machinery user groups. Seed and species registries, development of rural finance networks, support to farm organizations, etc.)
- **Farm restructuring:** Budgetary payments related to reform of farm structures financing entry, exit or diversification (outside agriculture) strategies.

Marketing and Promotion

- **Collective schemes for processing and marketing:** Budgetary expenditure financing investment in collective, mainly primary, processing, marketing schemes and marketing facilities, designed to improve marketing environment for agriculture
- **Promotion of agricultural products:** Budgetary expenditure financing assistance to collective promotion of agro-food products (promotions campaigns, participation on international fairs)
- **Cost of public stockholding:** Budgetary expenditure covering the cost of storage, depreciation, and disposal of public storage of agricultural products.

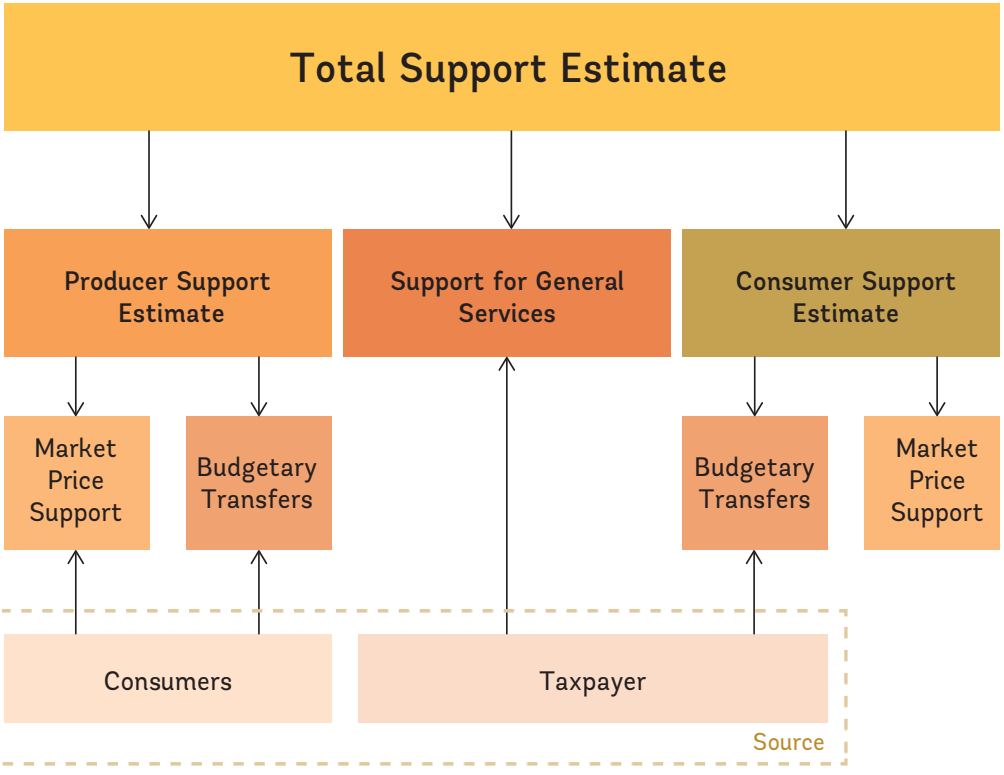
Miscellaneous

Source: OCDE: Agricultural Policy Monitoring and Evaluation 2022

9. **The OECD methodology not only allows for the identification of transfer beneficiaries but also enables the quantification of the sources of financing for these transfers**. The diagram below illustrates the relationship between the recipients and the sources of financing for the transfers. There are three main recipients: individual producers, the entire agrifood sector, and consumers. When a policy measure benefits a specific product or group of products, it falls under the category of Producer Support Estimate (PSE). The financing for these measures can come from either consumers, through higher prices, or taxpayers, through tax payments that fund support programs.

FIGURE 1:

Transfer schemes associated with agrifood support



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