

THE COST OF SOYBEANS TO BRAZIL:

tax waivers, subsidies and exemptions
for the productive chain



Technical data

Author

Arnoldo de Campos

Author

ACT Promoção da Saúde

Instituto Democracia e Sustentabilidade (IDS)

Instituto Brasileiro de Defesa do Consumidor (IDEC)

Instituto Sociedade, População e Natureza (ISPN)

Observatório das Economias da Sociobiodiversidade

[Observatory for the Economies of Sociobiodiversity] - Ó SocioBio

Supported by

WWF Brazil

Instituto Clima e Sociedade (iCS)

Proofreading

Dominik Giusti

Rosa Mattos

Larissa Fonseca Augusto

Renato Araujo

Graphic design and layout

Jambo Estúdio

Cover photo

© Werner Rudhart/Greenpeace.

Soybeans in a silo in Itacoatiara, Amazonas.

.

2023



Summary

5 Presentation

7 1. Introduction

11 2. The Soybean Production Chain in Brazil

16 3. Survey of Federal Tax Exemption in the Soybean Production Chain

3.1. The Soybean Production Chain from a Tax Perspective

3.2. Federal Tax Incidence – PIS/Pasep and Cofins and IPI

3.3. Estimated PIS/Pasep, Cofins and IPI Exemption in the Soybean Production Chain

23 4. Estimated ICMS Exemption in the Soybean Production Chain in the State of Mato Grosso

4.1. The Soybean Production Chain in Mato Grosso

4.2. ICMS Exemption in the Soybean Production Chain in Mato Grosso

29 Conclusions

32 Attachment I – Technical References and calculations used in the tax study

Presentation

We live in a period of simultaneous, overlapping crises. In this scenario of obesity and malnutrition pandemics, loss of biodiversity and climate change, it is imperative to reassess the policies that have favored these crises. This is the case with tax policies, which can encourage or discourage the production and consumption of goods and services, with negative or positive consequences for health and the environment.

This study maps out the tax incentives which have contributed decisively towards the structuring and growth of the emblematic soybean chain: no other chain has received such large amounts of support from the Brazilian State. In 50 years of uninterrupted tax waivers and other public incentive policies, Brazil has become the world's largest producer and exporter of this grain. As a consequence, the current plantation area under a monoculture system seriously compromises biodiversity and water supply for various water basins. Another indirect result of soybean expansion is the increase in the price of farmland, which makes it difficult for small farmers to access arable land. Incentives to produce and export this commodity attract farmers, who stop producing basic foods such as rice, beans, fruit, greens and vegetables, which has contributed to food inflation since 2007.

A fundamental part of a healthy food system is losing ground to a system which makes you ill, based on ultra-processed products, which is unthinkable in a country like Brazil, with its absurdly rich biodiversity, a vast area of arable land and as yet untapped potential for the production of healthy and sustainable food. Yet food insecurity is still present in the lives of millions of people.

An integral part of the long history of economic cycles with high levels of income concentration, huge environmental impact and unjustifiable privileges, soybeans currently occupy, in the 21st century, no less, the role previously occupied by sugarcane, coffee, rubber and cocoa. The time has come for soybean producers to let go of the hand of the Brazilian State, which has already played its part in supporting the



Photo: © Marizilda Cruppe/Greenpeace.

structuring of the sector. Agribusiness needs to act its age, and size, and start paying its bills, like any Brazilian adult.

Over the last 30 years, Brazil has been the country that has deindustrialized the most, yet it still hasn't overcome functional illiteracy and hasn't managed to guarantee food security and basic health for its population. Needs that are compromised when the State relinquishes public revenue to the order of tens of billions of Reais a year. It is a political choice which the whole country must know about and that we are today able to change.

Our aim is to show how tax policies, along with other public policies, have favored soybean production in detriment of other alternatives necessary for the food security of the Brazilian population, leading to huge tax waivers and environmental costs. We also seek to reflect on the role that can be played by a Tax Reform in the face of the multiple public health crises, loss of biodiversity and climate emergency that we are going through.

We have a major opportunity to reassess priorities, considering the fight against hunger with real food, that prevents disease, produced in a sustainable way. We hope this information will contribute to a change of course and that we will have a healthier, more supportive and sustainable country, connected to the current demands of the Brazilian and world population. We can and want to do better.

Paula Johns

ACT Promoção da Saúde

Marcos Woortmann

Instituto Democracia e Sustentabilidade (IDS)

Carlota Aquino

Instituto Brasileiro de Defesa do Consumidor (IDEC)

Guilherme Eidt

Instituto Sociedade, População e Natureza (ISPAN)

1. Introduction

The discussion of Tax Reform should not be dissociated from the analysis of the more general context in which it is situated. The current Brazilian tax model has been consistent with the development strategies formulated and implemented in the 1960s through to the 1980s.

The tax structure was defined by Constitutional Amendment No. 18 of 1965¹, which provides for the national tax system. Specific adjustments were made by the Constitution of 1988, which expanded the autonomy of states and municipalities for tax collection.

The 1988 Constitution created social contributions, such as PIS/PASEP and COFINS and CSLL, which affect company revenue. These contributions have specific purposes, such as financing social security and economic development, but did very little to change the logic of tax incidence in force until then. The Brazilian tax system is complex, bureaucratic and regressive, as it encumbers low-income sectors, which pay proportionally more consumption taxes, than high-income sectors, which should pay more income taxes.

Despite having relevant advances, such as the exemptions on the basic food basket and on fruit and vegetable products, there is still the predominance of a structure that does not structurally take into account contemporary issues such as the human right to food, the promotion of health/healthy food and the climate crisis.

The current tax structure is engaged with the so-called Green Revolution, implemented in the country with the objective of “modernizing” the countryside and expanding exports, dominant objectives between the ‘70s and ‘90s. This model has a major impact on the definitions regarding food taxation in Brazil.

The current Tax Policy contributed to the structuring and feasibility of the hegemonic food production, processing and consumption systems that predominate in the country, which, in turn, are integrated into the hegemonic food systems at the global level.

1-Brazil. Constitutional Amendment No. 18 dated December 1st, 1965. Provides for the national tax system and other measures. Available at: <https://www2.camara.leg.br/legin/fed/emecon/1960-1969/emendaconstitucional-18-1-dezembro-1965-363966-publicacaooriginal-1-pl.html#:~:text=1%C2%BA%20O%20sistema%20tribut%C3%A1rio%20nacional,lei%20federal%2C%20estadual%20ou%20municipal/>

2-HLPE. 2020. Food security and nutrition: building a global narrative towards 2030. A report by the High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security, Rome. Available at: <https://www.fao.org/3/ca9731en/ca9731en.pdf>.

3-2nd National Inquiry On Food Insecurity in Brazil's Covid-19 Pandemic Context. Available at: <https://pesquisassan.net.br/2o-inquerito-nacional-sobre-inseguranca-alimentar-no-contexto-da-pandemia-da-covid-19-no-brasil/>

4-More information at: <https://www.gov.br/saude/pt-br/centrais-de-conteudo/publicacoes/svsa/doencas-cronicas-nao-transmissiveis-dcnt>.

5-More information at: <https://www.gov.br/mcti/pt-br/acompanhe-o-mcti/sirene/publicacoes/estimativas-anuais-de-emissoes-gee/arquivos/6a-ed-estimativas-anuais.pdf>.

These food systems are under wide scrutiny around the world, questioned by the inability to ensure the human right to food, the overweight, obesity and NCD pandemic as well as the climate crisis, forming the so-called Global Syndemic².

In Brazil, the Global Syndemic has had an intense impact. Even though Brazil is one of the major food producers, the country has high levels of food insecurity. According to II Vigisan 2022³, there were more than 33 million people in a situation of severe food insecurity in the country last year, and more than half of the population reported some level of food insecurity.

The Ministry of Health, in turn, has warned about the continuous growth of obesity among all age groups in recent decades, and points out that NCDs are already the main cause of death among adults in the country, with both phenomena strongly related to poor diet, especially the consumption of ultra-processed foods. The Ministry of Health proposes a wide range of measures to combat this scenario⁴. The Tax Policy should contribute towards addressing these issues, and serve as an instrument for stimulating and promoting health, through tax instruments that encourage healthy eating.

Finally, agriculture and land use account for more than 2/3 of greenhouse gas (GHG) emissions in the country⁵. At a global level this number is just over 30%. The predominant food systems in the country are concentrated on the production and export of a few commodities, are highly dependent on oil-based inputs and advance voraciously over the Amazon and the Cerrado regions, making the country the largest emitter in the world in terms of agriculture and land use.

There is an additional problem in the Brazilian food system that has been manifested for at least 15 years: food inflation. Since 2007/08, food prices have been rising above the general inflation average, in a movement that is driven by the increase in basic, fresh and minimally processed foods. Food inflation has strongly impacted the most vulnerable population and the lower middle class, which comprises most of

the Brazilian population, forcing choices for foods of poorer nutritional quality, in particular ultra-processed foods, which have become cheaper compared to basic and healthy foods.

It is undeniable and abundantly documented that the predominant food systems in the country, with its powerful agribusiness production base and the large agribusinesses and food industries based in the country, at the stage they are at today, are the result of considerable effort by the government.

Based on well-defined strategies, the Brazilian Government has developed and implemented a comprehensive set of public policies, through coordination of instruments and resources, in liaison with the private sector.

Tax instruments are part of this package of measures, which contributed towards the country becoming one of the largest food producers and exporters in the world, and gained relevant participation in the main global agri-food chains, generating resources for the country and islands of wealth and prosperity in the territories where it concentrates its activities.

It can be said that the structure of current food systems is an example of what the State can do when it defines strategies, results and goals to be achieved, and guides its capacity and resources, in partnership with the private sector.

Several public policy instruments have been mobilized over the last decades, such as rural credit, technical assistance, development and technological innovation, education, transport infrastructure, storage, energy, water, among others. The Tax Policy was not left out of this “toolbox” of the Brazilian State.

Throughout the last few decades, several instruments have been developed to reduce the tax burden at all stages of the prioritized agri-food production chains. Mechanisms were created to reduce or exempt taxes on inputs used in production, such as seeds and seedlings, fertilizers and pesticides. Benefits were created for agribusinesses and food industries, and in the stages of commercialization and export of agri-food products produced in the country.



No production chain represents this story better than that of soybeans. None other has benefited more from this set of public policies and instruments for promotion and development than the soybean production chain, including the rules for its taxation. An analysis of the benefits given to the soybean production chain, especially with regard to tax within this context of the Tax Reform, allows us to shed light on this debate, and demonstrate how powerful public instruments are in order to generate concrete results, and reflect on how they should be used to face current challenges.



Agribusiness Race in the MATOPIBA Region, in Brazil. The region between the States of Maranhão, Tocantins, Piauí and Bahia, known as MATOPIBA in Brazil, is considered the showcase of Brazilian agribusiness, with high production of soybeans and corn for export. However, this predatory model has accelerated deforestation in the Cerrado biome region, which is one of the most threatened biomes in Brazil and extremely important for the supply of aquifers throughout Latin America. Photo © Marizilda Cruppe/Greenpeace.

2. The Soybean Production Chain in Brazil

The soybean is a very versatile plant and adapts well to different conditions and regions. It is also rich in nutrients, with high protein and oil content, as well as fiber, vitamins and minerals.

It is an essential base for the production of meat, milk and edible oils in Brazil and worldwide. Culture contributes directly or indirectly to the production of part of the foods that make up the basic food basket of Brazilians.

Grains are also a key base for the food industry, in particular ultra-processed foods. Their byproducts become fundamental ingredients in the manufacture of cookies, snacks, beverages, margarines, cake dough, pies, ice cream, ready-made desserts, frozen dishes, instant soups, sausage meats, nuggets, industrialized bread, and many others. Several of these ultra-processed foods are related to the development of obesity and NCDs, being considered villains of poor diet⁶.

From an exotic plant inadequate to the country's edaphoclimatic conditions, until its adaptation and development, to the time when Brazil became the world's largest producer and exporter of oilseed, five decades have gone by. The production chain has become a phenomenon and symbol of the success of Brazilian agribusiness.

The evolution of the crop, as well as other crops, such as corn, orange, sugarcane, and cotton, in addition to beef and chicken, is the result of a strategy and "successful" planning by the Brazilian Government, who decided to implement a model of production and agro-industrialization, based on large monocultures and large industries, with emphasis on commodity exports. To this end, it used public policy instruments and partnerships with the private sector, which placed the country among the world's largest producers and exporters of agricultural commodities and food.

⁶-See Food guide for Brazilian population. Ministry of Health, 2014. Available at: https://bvsms.saude.gov.br/bvs/publicacoes/guia_alimentar_populacao_brasileira_2ed.pdf

There is no way to dissociate the development and results achieved by the soybean production chain from Government support on several fronts. For example:

- Large credit supply, with interest subsidized by the Federal Government, offered in scale by public banks, always associated with climate insurance, also heavily subsidized by public resources;
- Acceleration of technological development, professional qualification and provision of technical assistance, skilled workforce through Embrapa, the Ater system, universities and research centers;
- Minimum Price Guarantee Policy and subsidies for the flow of production, whenever the viability of the crop was threatened by international market prices;
- Development of road, rail, river and maritime storage and transport infrastructure;
- Favorable national and state tax policies, whether for inputs, production, marketing and exports.

The 2017 Agricultural Census estimated the total number of agricultural establishments in the country at just over 5 million, of which around 236,000 establishments reported to be soybean producers, which corresponds to close to 5% of the total. Compared to other foods, the Census calculated at more than 930,000 the number of bean producers, at almost one million the number of cassava producers and at about 145 thousand the number of vegetable producers.

According to a report by CEPEA, financed and technically supported by ABIOVE (Brazilian Association of Vegetable Oil Industries)⁷, in 2022, the total GDP of the soybean production chain reached R\$ 673.7 billion. There seems to be no limit to this culture in Brazil.

From 2010 to 2022, the share of the soybean production chain in the national agribusiness GDP went from 9% to 27%. From 2010 to 2022, the GDP of the production chain expanded by 58%, while agribusiness grew by 8% and the economy by 12% in the same period.

This dynamism is supported by the State on several fronts, as previously mentioned. An example of the privileges achieved by the soybean production chain in Brazil, which are still ongoing, is the participation

7-Center for Advanced Studies in Applied Economics (Cepea) and Brazilian Association of Vegetable Oil Industries (Abiove). Soybean and biodiesel chain: GDP, jobs and foreign trade – First Results and methodology. 2023. Available at: <<https://www.cepea.esalq.usp.br/br/pib-da-cadeia-de-soja.aspx>>

of this crop in the Rural Credit program, granted with resources controlled by the Federal Government. According to the Brazilian Central Bank (BCB), in 2022, of the total rural credit to fund Brazilian crops, no less than 52% of the funds were destined exclusively for the financing of soybean crops, transferred through 187,000 contracts. In other words, out of a total of R\$133.2 billion borrowed to fund crops in the country, R\$ 69.5 billion were allocated to finance exclusively the cost of soybeans.

Soybeans alone take on more credit with resources under different conditions than all other foods grown in the country combined. If corn is added to this account, the two crops snapped up 72% of the credit funding for crops in Brazil in 2022⁸.

Nearly 140 crops, almost all of them food crops, took only 28% of rural credit in the country. Basic and healthy foods are practically excluded from rural credit or access volumes that are often insignificant.

By way of comparison, beans took less than 1% of the resources allocated to the cost of crops in 2022, through only 8,400 contracts. Cassava did not reach 0.4%, with 3,200 contracts and vegetables represent nothing more than a line in the statistics. Products with significant growth dynamics, such as açaí, also have no expression in terms of the volume of resources accessed and in the number of contracts signed.

Additionally, access to technical guidance by food producers is another example of the privileges enjoyed by the soybean production chain. While 76% of soybean producers reported having received technical guidance, according to the 2017 Agricultural Census only 14% of bean producers and 17% of cassava producers reported having received the service, respectively. Only 10% of açaí producers, 17% of cupuaçu producers and 18% of banana producers received technical guidance, according to the same source. Among vegetable producers, this number is 26%.

With so much support and opportunities, soybean production has been growing continuously over the

8-Source: Central Bank of Brazil (BCB) - Department of Regulation, Supervision and Control of Rural Credit and Proagro Operations (Derop)



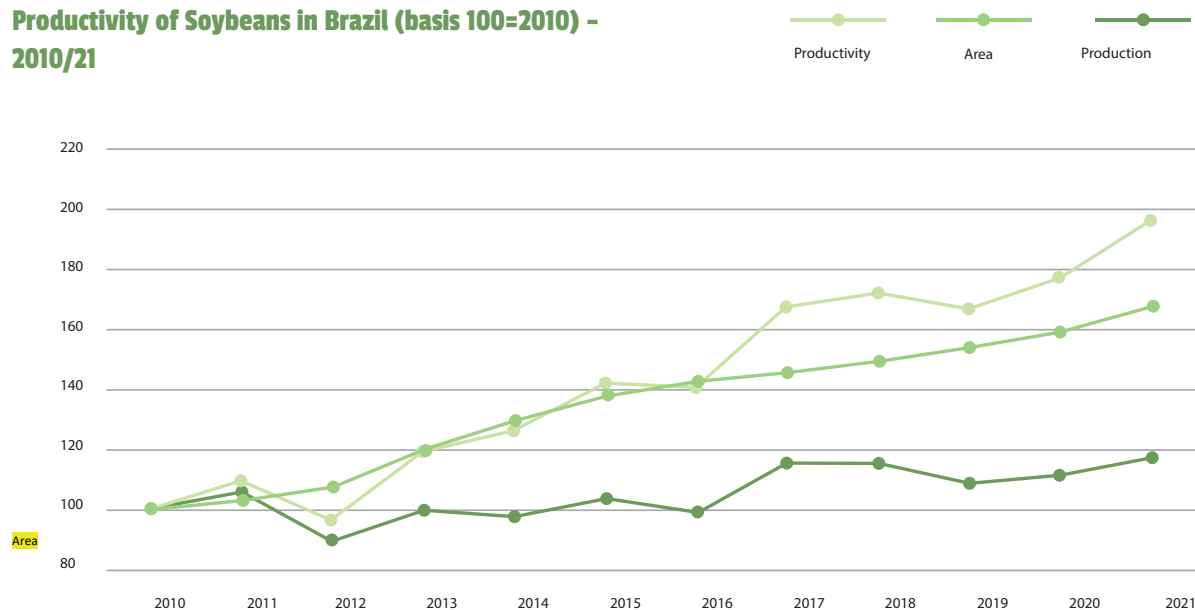
last decades in Brazil, driven by heavy public and private investments, technological development and professional education, technical guidance, all kinds of infrastructure viability and the growing demand by the international market.

In the early 1990s, the area cultivated with soybeans was around 10 million hectares, practically the same area as corn. In the early 2010s, the area of soybeans was already almost twice the area of corn, reaching 23 million hectares, against 13 million for corn. At the beginning of the current decade, the area with soybeans reached almost 40 million hectares. And in this year of 2023 it is expected that the 40 million-hectare barrier will be crossed for the first time. In other words, in the last 30 years, soybean cultivation has expanded the cultivation area by more than 30 million hectares, being the main responsible for the expansion of cultivation areas in the country, with the consequences that we all know.

The Graph below shows the evolution of soybean production, area and yield indicators in the last 12 years, ending in 2021. As can be seen, although productivity evolved in the period, the expansion of the area was decisive for the strong growth of production in Brazil in the last decade.

Soybean production in the Cerrado. Deforested area in the municipality of Barreiras. This region is known as the "Soybean Ring", which brings together several soybean farms, processors and distribution centers. The "ring" passes through the municipalities of Luís Eduardo Magalhães, Riachão das Neves, Formosa do Rio Preto and Barreiras, in the Cerrado region, in western Bahia. Photo: © Marizilda Cruppe/Greenpeace.

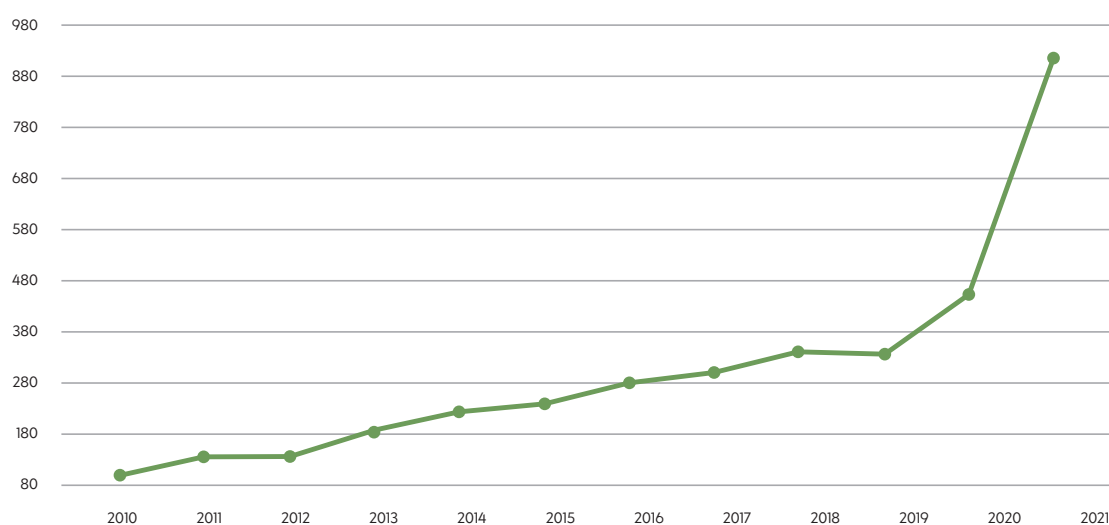
Cumulative Variation in % of Production, Area and Productivity of Soybeans in Brazil (basis 100=2010) - 2010/21



Source: IBGE Agricultural Research for Municipalities, by Arnaldo de Campos

As if public investments and subsidies were not enough, the soybean production chain has seen an increase in international market prices in the last decade, which has caused the Value of Production to skyrocket, as shown in the graph below. The Value of Soybean Production grew by almost 900%, in nominal terms, in the last 12 years ending in 2021.

Cumulative % Variation of Soybean Production Value in Brazil (basis 100=2010) 2010/21



Source: IBGE Agricultural Research for Municipalities, by Arnaldo de Campos

No other crop relevant to the food system has experienced such performance. The sector prides itself on being competitive, a major producer and exporter worldwide, of having efficiency and cutting-edge capabilities, maturity, and efficiency. Does such a developed sector need so much support from the State to maintain its positions in the markets?

Isn't it time for the segment to return part of the investments that Brazilian society has been making in this production chain?

In the next paragraphs, we will explain how the soybean production chain still benefits from the current Tax Policy, what mechanisms are used for the production chain to pay less tax at the national and state levels and thus reduce costs and increase margins in the stages of production, processing, export, and consumption of its products.

3. Survey of Federal Tax Exemption in the Soybean Production Chain

If the objective of the agricultural, commercial, infrastructure and tax policies of the '70s and '80s was to provide a framework for the main agribusiness chains in the country, it was successfully achieved. Brazil became a major global food producer and integrated its main production chains.

Soybeans, as seen earlier, are the best example of the success of these measures. The sector was and remains, by far, the largest beneficiary of this set of efforts by the Brazilian State, ultimately by Brazilian society, which translates into numerous forms of support, including the reduction of taxes levied throughout the production chain.

The chain has reached a degree of maturity and development in the country that places it at the top of world production and export, with high competitiveness, leaving behind major competitors such as the USA, China, and Argentina.

Amid discussions on tax reform, we ask ourselves the question: how is the soybean production chain positioned in the Brazilian tax system?

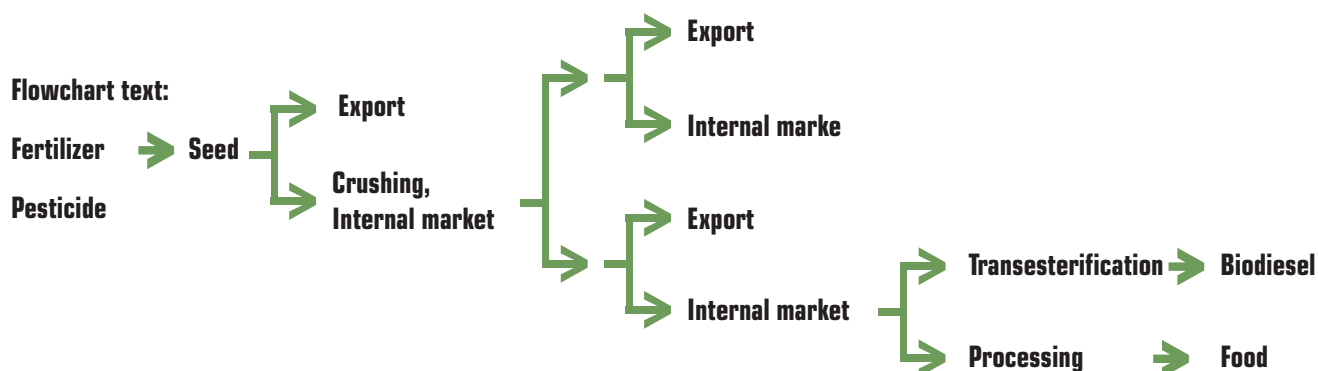
How are federal taxes and ICMS levied and collected on this production chain?

Are there privileges? Should they be maintained? This is what will be discussed in the next topics.

3.1. The Soybean Production Chain from a Tax Perspective

An analysis of tax incidence on soybeans was carried out considering all stages of the production chain.

The analysis of the tax incidence begins with the acquisition of inputs for production, followed by the commercialization of the grain by the producers, which can follow on for crushing or to export. It is then analyzed in the industry, which markets the bran or oil, destined for export or the domestic market, or even destined for the biodiesel industry. The following diagram illustrates all these stages:



To perform this analysis, updated data were collected regarding production cost and volumes produced and marketed at each stage in the production chain. Conab, ABIOVE and ANP were the main sources of data and information used in the study. The survey was carried out with data from 2022, which allowed for a very up-to-date evaluation of the taxation situation in the production chain.

All rates applied in the calculation of incidence and exemption are those defined in the legal frameworks in force, whether at the federal level, for IPI, PIS/Pasep and Cofins, as well as for the State of Mato Grosso, which was the state analyzed regarding the application and exemption of ICMS.

The analysis of tax incidence begins with the purchase of inputs used in production. The tax incidence on seeds, fertilizers, and pesticides, which are the main inputs used in the primary production of soybeans, was analyzed.

Once produced in the field by farmers and rural companies, soybeans are destined for industry or export. If destined for industry, they are transformed into bran, oil, or biodiesel, the first two of which can be destined for the domestic market or for export. Biodiesel, in turn, is destined entirely for the domestic market.

All these stages were studied and had the incidence and tax exemption analyzed and calculated. All sources and references used in the calculations performed are presented and described in Attachment I of this Technical Note.

3.2. Federal Tax Incidence – PIS/Pasep and Cofins and IPI

The analysis of the federal tax incidence was carried out based on the two main Federal taxes that are levied on the soybean production chain: PIS/Pasep and Cofins, which is levied on the Gross Revenue of companies; and IPI, which is levied on the

industrialized product when leaving the taxpaying establishment.

In the case of PIS/Pasep and Cofins, large companies usually opt for the non-cumulative system, in which the standard rate is 9.25% for products in this production chain, except for biodiesel, as will be shown below. This is the reference used for the purposes of calculating the exemption.

The IPI tax, in turn, does not have a standard rate. In this case, a reference rate of 3% was used for the purpose of calculating the exemption. It could be higher, but we opted for an aliquot used on other products.

The PIS/Pasep and Cofins that affect the Soybean production chain are described in the following table, which also shows the respective legal frameworks that determine it.

Operation/taxable event	PIS/Pasep and Cofins	
	Rate	Legal basis
Purchase of inputs by the producer (seeds, fertilizers, and pesticides)	Zero	Law No 10,925 dated 07/23/2004, section (sctn) I
Sale of soybeans by the individual producer (natural person)	Not levied	Law No 10,637 dated 12/30/2022, sctn I and Law No 10,833 dated 12/29/2003
Sale of soybeans by a legal entity producer	Suspended	Law No 12,865 dated 10/09/2013, sctn 29
Sale of soybeans for export	Suspended	Law No. 10,865 dated 04/30/2004, sctn. 40, caput, with wording given by Law No 10,925, dated 07/23/2004, sctn. 6)
Soybean oil sales	Zero	Law No 12,839 dated 07/09/2013, sctn I, XXIII
Biodiesel sales	Zero	LC No 192 dated 03/11/2022, with effect in 2022 (MP No 1,157, of 01/01/2023 converted into Law No 14,592 dated 05/30/2023.
Sales of soybean bran/flour	Suspended	Law No 12,865 dated 10/09/2013, sctn 29

As we can see, there is no incidence of PIS/Pasep and Cofins in the soybean production chain. Taxes are either not levied, suspended, or have a zero rate.

The soybean production chain also has the benefit of presumed credit, given to the industry, even if outputs are exempt, as shown below.

The cost of soybeans to Brazil: tax waivers, subsidies and exemptions for the productive chain

Operation/taxable event	Presumed PIS/Pasep and Cofins credit	
	Rate	Legal basis
Food oil sales	$27\% \times 9.25\% = 2.4975\%$ on the sale value of the oil.	Law No 12,865 dated 10/09/2013, pgph 31
Biodiesel sales	$45\% \times 9.25\% = 4.1625\%$ on the sale value of biodiesel.	Law No 12,865 dated 10/09/2013, pgph 31. If biodiesel is made from soybean oil purchased from third parties, subtract from the presumed oil credit (2.4975%) applied to the value of the oil purchased (Law No 12,865, dated 10/09/2013§3, sctn 31)
Sale of soybean bran/flour	$27\% \times 9.25\% = 2.4975\%$ on the bran sale value.	Law No 12,865 dated 10/09/2013, sctn 31. If rations are made from bran and residues from the crushing of soybeans acquired from third parties, subtract from the presumed credit the result of the same rate (2.4975%) applied to the value of the bran/residue acquired (Law No 12,865, dated 10/09/2013§3, sctn 31)

20

Photo: © Marizilda Cruppe/Greenpeace.

Thereby, when the industry sells bran, oil, or biodiesel, even without paying taxes on the output of these products, it is entitled to tax credits, which can be deducted from other Federal taxes or even be redeemed in currency. It's a type of negative tax.

The research of IPI rates, on the other hand, considered the most common fertilizer used (Supersimple). For pesticides, glyphosate and the fungicide Azoxystrobin were identified, the latter being used in soybeans and, according to a study engaged by UNDP (2013), the highest Brazilian consumption is of glyphosate, and the highest sales value is of fungicides. Therefore, the respective products accurately represent the inputs used in soybean production.

In the following table, it is possible to identify the incidence of IPI on inputs and by-products of soybean industrialization.

The cost of soybeans to Brazil: tax waivers, subsidies and exemptions for the productive chain

Classification	Item	NCM	IPI(a)
Fertilizer	Fertilizer (Fertilizers of animal or vegetable origin, whether mixed together or chemically treated; fertilizers resulting from the mixing or chemical treatment of products of animal or vegetable origin, other)	3102.10.90	NT
Pesticides	Defensives (glyphosate) most used in soybeans	3808.93.24	0
Pesticides	Defensives, fungicide, Azoxystrobin (others)	3808.92.99	0
Soybean	Soybean grain	1201.90.00	NT
Seed	Soybean seed	1201.10.00	NT
	Soybean flour	1208.10.00	0
	Soybean oil and its fractions, whether refined or not, but not chemically modified.	15.07	
	Margarine, except liquid	15.17.10.00	0
	Pies (bagasse) and other solid residues, whether crushed or in pellets or not, from the extraction of soybean oil.	23.04	0
	Dog and cat food, put up for retail sale	23.09.10.00	0
	Biodiesel and its blends, not containing or containing less than 70 % by weight of petroleum oils or bituminous mineral oils	3826.00.00	NT
	Lecithins and other phosphoaminolipids	2923.20.00	0
	Refined Soybean Oil	15.07.90.1	0

NT = not taxed

a) Legal basis: TIPI 2022 Table Approved by Decree No. 11,158, dated July 29, 2022.

As can be seen, there is also no incidence of end-to-end IPI in the soybean production chain.

3.3. Estimated PIS/Pasep, Cofins and IPI Exemption in the Soybean Production Chain

The entire circuit of the soybean production chain, from the acquisition of inputs, fertilizer, pesticides, seeds, through food oil, bran and biodiesel and exports are exempt from 100% of the PIS/PASEP and Cofins and IPI rates.

In addition to not paying any of these taxes, the industrial sector is entitled to presumed credits, which can be used to pay other federal taxes, or even allow reimbursement to be requested to the Federal Government. As estimated in this study, the soybean industry's "cashback" is in the billions.

To calculate the exemption, the standard rate of PIS/Pasep and Cofins of 9.25% on revenue was used, except for biodiesel, which used the fixed amount of R\$ 148.00/m³.

To reach the amounts waived by the Federal Government, the exemption was calculated at each stage of the production chain, the results of which are shown below⁹ :

- Production (fertilizer, pesticide and seed inputs only) - R\$18.59 billion;
- Industry (bran, food oil and biodiesel, all destined for the domestic market) - R\$9.99 billion;
- Exports (of soybeans, oil and bran) - R\$28.23 billion;
- Presumed Credit for the Industry - R\$2.78 billion;

Total exemption in the Soybean Production Chain, including presumed credit: R\$56.81 billion.

⁹-The data are detailed in Attachment I of this document.

Between exemptions and presumed credit, the soybean production chain fails to pay or receives a "shot in the arm" of tax benefits worth around R\$ 56.81 billion, which is equivalent to approximately 15% of the total revenue of the production chain, estimated at almost R\$ 400 billion.

The tax waiver in the soybean production chain is almost double that of the tax waiver estimated to be granted by the Federal Government for the entire basic food basket, calculated at R\$ 30 billion¹⁰.

The exemption grand total did not include compensation by the Federal Government to the exporting States, for the exemptions from ICMS on exports, provided for in article 32 of Complementary Law No 87, dated 09/13/1996 (Kandir Law). In other words, in addition to not collecting any taxes, the Federal Government disburses resources to pass on to exporting States.

4. Estimated ICMS Exemption in the Soybean Production Chain in the State of Mato Grosso

4.1. The Soybean Production Chain in Mato Grosso

If soybeans represent the production chain that benefits the most from the so-called “modernization of the countryside” in Brazil, concentrating investments and public policies aimed at national agribusiness, Mato Grosso is the state that has benefited most from the expansion of agribusiness in general, and soy in particular.

Mato Grosso has become the largest national producer of cereals, legumes and oilseeds, accounting for 28.5% of the national total.

The state has started to lead the national production of soybeans and corn, which are the main agricultural crops in the country in value and volume, and is also the largest beef producer, with 1.2 million tons (IMEA, 2018). The State also has a relevant participation in the production of sugarcane and cotton.

¹⁰-Federal Revenue Service, Center for Tax and Customs Studies. (Available at < <https://www.gov.br/receitafederal/pt-br/centrais-de-conteudo/publicacoes/relatorios/renuncia/gastos-tributarios-ploa/dgt-ploa-2022-base-conceitual>>

State agribusinesses, along with agriculture, play a central role in its economic dynamics. The Agricultural Production Value for the state of Mato Grosso was estimated by MAPA at R\$195.2 billion in 2021, which represents about 17% of the total value of agricultural production in the country.

Among the 50 municipalities with the highest Agricultural Production Values in the country, 20 belonged to Mato Grosso in 2020.

From the productive, agro-industrial development and the services associated with its production and value chains, this unit of the federation became the largest exporter of national agribusiness, having reached the mark of US\$ 31.6 billion exported in 2022, accounting for about 20% of the national total.

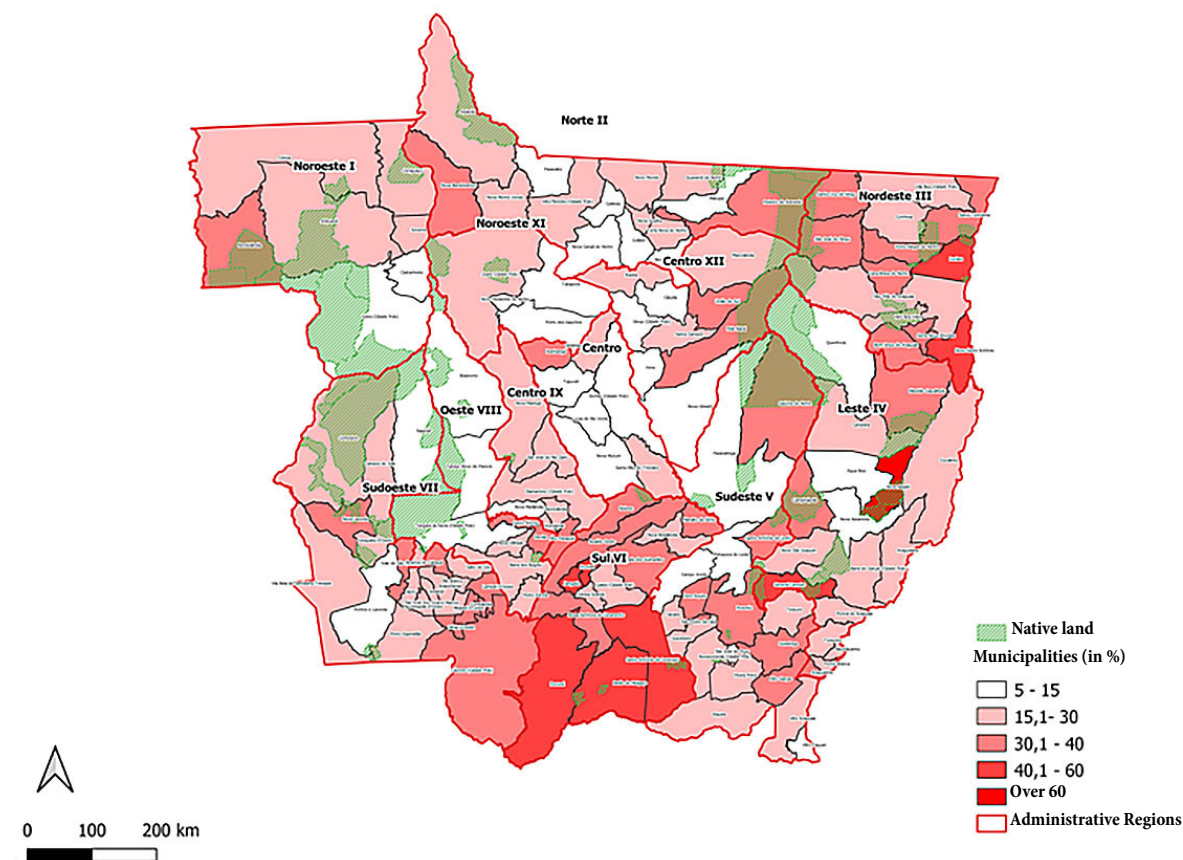
The State's GDP reached R\$ 178.6 billion in 2020, 220% higher in nominal terms than in 2010 (IBGE, 2010/20). The Added Value for Agriculture reached 26% of GDP in the same year and was 449% higher than in 2010. The growth rate of the Mato Grosso economy is more than double the national growth rate, and when it comes to agriculture, it is almost triple the average of national agriculture. However, this wealth is concentrated in a small number of municipalities. In 2020, according to IBGE data, only 10 municipalities concentrated more than 50% of the State's GDP, while the remaining 132 municipalities responded for less than half of the GDP in the same year.

In terms of per capita income, inequalities between municipalities and regions are even greater. At one end, the state displays figures that place some municipalities among those with the highest per capita income in the world, such as Campos de Júlio, with R\$ 270 thousand per capita income per year and Santa Rita do Trivelato, with R\$ 256 thousand.

At the other end, there are municipalities, such as Alto Paraguai and São José do Povo, with per capita income 20 times lower, R\$11,600 and R\$11,900 per capita per year respectively, both outside the perimeter of the state's agribusiness. As in the rest of the country, the Global Syndemic manifests itself intensely in this State. Despite the great economic growth experienced in recent decades and the dynamism of agribusiness in the state, social indicators are not much better than the country's average.

Hunger and poverty have grown again in recent years. In August 2022, Mato Grosso had 291,700 families registered in the Single CAD Program, which is equivalent to 1,017,154 people, or almost a third of the state's population. The II VIGISAN reported that more than 32% of the population of Mato Grosso lived in a situation of severe or moderate food insecurity, with more than 17% in a serious situation, which corresponds to more than 650 thousand people. The state has one of the largest indigenous populations in the country, with the vast majority living in poverty, extreme poverty, and food insecurity. The Graph below shows how poverty surrounds the dynamic agribusiness territories in the State of Mato Grosso.

Graph: Percentage of the population below the poverty line in the municipalities and Administrative Regions of Mato Grosso.



Source: CADÚnico 2022.

The obesity and NCD pandemic continues at a fast pace in the state, following national trends. According to the 2019 National Health Survey, released by IBGE, 26.8% of the adult population in the state was obese, broken down into 30.2% of women and 22.8% of men.

Deforestation and burning, along with agriculture, are the main causes of emissions in Mato Grosso, accounting for more than 90% of the state's total emissions. Mato Grosso is the third largest emitter in the country, following Pará and Minas Gerais.

There is a significant loss of biodiversity in all biomes, generating imbalances that threaten the Pantanal, the Cerrado and the Amazon regions. According to INPE data, Mato Grosso was the 3rd State that most deforested the Amazon in recent years, and the first in regard to deforestation in the Cerrado region.

4.2. ICMS Exemption in the Soybean Production Chain in Mato Grosso

O Mato Grosso is the largest producer and exporter of soybeans in Brazil. The state is responsible for 33% of production, followed by Goiás, with 14%, and Paraná, with 10%¹¹. Regarding biodiesel production, Mato Grosso is the third largest national producer, according to the ANP.

To estimate the ICMS of the soybean complex, the tax rates were applied to the numbers in the production chain. For the purposes of this analysis, it was considered that all pesticides came from Southeastern states¹², that the seeds were all produced in the state itself, as is the national practice of sowing located close to consumption and that the fertilizer was imported from abroad, as was evident in the recent supply crisis of this input in 2022¹³.

The ICMS tax is levied on the soybean complex in Mato Grosso, as shown in the table below.

Operation/taxable event	ICMS rate in MT	
	Rate	Legal basis
Pesticide and seed imports from other states	7%*60%= 4.2% (interstate)	ICMS Agreement No 100/97, clause One
Fertilizer imports from abroad, interstate	4% (interstate)	ICMS Agreement No 100/97, clause three- A
Internal purchase of inputs by the producer	Exempt.	Adherence to agreement 100/97. RICMS/MT Chapter XXI, Section II, sctn 115 (attached)
Sale of soybeans by the individual producer	Deferred.	RICMS/MT, art. 7th section VI, Chap. I
Sale of soybeans by legal	Deferred.	RICMS/MT, art. 7 section VI, Chap. I

11-With data from Conab, 2022/2023 harvest, 8th Survey. Available at: www.conab.gov.br.

12-Most of the pesticide companies are in the Southeastern region, notably São Paulo. Source: members of the National Union of Agricultural Defense Products Industry – Sindiveg.

13-Petrobras had several fertilizer production units in Brazil that were deactivated over the last two decades, and the country now depends heavily on imports from abroad.

Operation/taxable event	ICMS rate in MT	
	Rate	Legal basis
Sale of soybean oil interstate	12%	12% (RICMS/MT, art 49, Section II, chap II)
Interstate sale of soybean bran/flour	8,4%	Reduced calculation basis: $70\% \times 12\% = 8.4\%$ (RICMS/MT cap I, art 1, Annex V (adhesion to ICMS agreement 128/94), use of other credits prohibited)
Sale of inner soybean bran/flour	Exempt.	Adherence to agreement 100/97. RICMS/MT Section II, art 115, XVIII (annex)
Sale of biodiesel	Deferred in internal and interstate operations to be charged to the distributor	RICMS/MT Chapter II, Section V, art. 483 (regulations in force in 2022)

Sale of biodiesel Deferred in internal and interstate operations to be charged to the distributor
RICMS/MT Chapter II, Section V, art. 483 (regulations in force in 2022)

The transgenic soy production cost survey data provided by Conab¹⁴ were used to estimate the value of fertilizers, seeds and pesticides used in soybeans produced in 2022 in Mato Grosso.

To estimate the value of the ICMS exemption in MT in the soybean production chain, the following was considered:

- That fertilizer coming from abroad was to be taxed at the interstate rate of 4% and that upon admission to MT it paid the Rate Difference – Difal of $17\% - 4\% = 13\%$;
- That there would no longer be a reduction in the calculation basis of interstate ICMS for pesticides, which would then change from the reduced basis (4.2%) to 7% (interstate ICMS of states from SE/S to CO) and that Difal would be paid upon admission to MT at the rate of $17\% - 7\% = 10\%$;
- That the ICMS of the soybean seeds produced in the state would go from the zero rate to the standard rate in the state of MT (17%);

14-Detailed in Attachment I and accessible at: <https://www.conab.gov.br/info-agro/custos-de-producao/planilhas-de-custo-de-producao/itemlist/category/824-soja>.

d) That there would no longer be a reduction in the interstate ICMS calculation base for bran, which would then change from the reduced base (8.4%) to 12% (interstate standard rate of MT for any other state);

e) That the oil for the domestic market in MT would change from the reduced calculation basis (12%) to the internal rate of 17%;

f) That biodiesel would change from deferred ICMS (0) to the standard MT rate of 17%; and

g) There would be no change in ICMS on exports.

The result is presented below. The state relinquished almost eight billion reais in ICMS in 2022 in the soybean production chain. The analysis does not include the waiver with exports abroad.

ITEM	Amount (R\$)
Estimated ICMS/MT value without exemptions	13.741.325.153,64
Value of ICMS/MT of soybeans with current ICMS benefits	5.921.746.303,98
Estimated value of ICMS exemption	7.819.578.849,66
Value of the production chain (sale for other uses/states, industry sales and exports)	127.490.657.706,67
Percentage of ICMS collection loss, not considering exports	6,13%

Revenue for the sector in the State was almost 127.5 billion reais and the ICMS collected from the production chain was estimated at R\$ 5.9 billion, or 4.6% of the sector's revenue. Without exemptions, applying the standard ICMS rates of 17%, the State should have collected approximately R\$ 13.7 billion, or 11% of the total revenue of the production chain (data detailed in Attachment I).

As a result, there is an estimated exemption of R\$ 7.8 billion in 2022, considering ICMS only, which is equivalent to 6.1% of the entire revenue for the production chain in the state. This is the amount that Mato Grosso failed to collect in order to promote soybean agribusiness.

5. Conclusions

Despite being complex, Brazilian Tax Policy, which focuses on goods and services traded in the country, has a well-defined logic, which is consistent with the development strategies outlined during the authoritarian regime that took power in the mid-1960s.

In this period, the bases were established for the implementation of the so-called “Green Revolution”, which had “modernizing the countryside” among its objectives, expanding productive and industrialization capacities, reducing dependency on imports, and expanding exports in the agri-food sector.

The dominant production models encouraged at the time remain in force and are based on monoculture, large agribusinesses, and food industries. The social, population health and climate impacts were not assessed and prevented against at the time and remain without consideration in current policies. As we have seen in this study, these strategies have shaped public policy instruments, such as the Agricultural Policy, with its credit and insurance instruments, technological development, technical assistance and supply. They also guided higher education and vocational education systems/ apprenticeship programs and directed large resources towards enabling the necessary infrastructure for transport, energy, storage, water, etc.

Significant amounts of public resources have been drained out in order to support the predominant food systems in the country.

Tax Policy was not left out of this “toolbox” and was shaped to foster and enable the prioritized production chains.

Soybeans, as seen in this Technical Note, are the apex of this model, which allowed the country to move from being a non-producer of this grain to becoming the largest producer and exporter of soybeans in the world.



The Tax Policy is highly beneficial to the soybean production chain. At the federal level, the estimated exemption is close to R\$ 60 billion, twice the estimated exemption for the basic food basket. In just one state, Mato Grosso, the ICMS exemption reaches almost R\$ 8 billion. It is safe to assume that other producing states have similar levels of exemption, which allows us to roughly estimate that the states' exemption can reach close to R\$ 25 billion, since Mato Grosso accounts for 1/3 of national production.

The Brazilian tax model, which is levied on consumption, instituted in 1965, has undergone few changes in the 1988 Constitution and beyond to the present day. The main changes, however, further strengthened the model rather than adjust it to the current challenges.

In structural terms, in other words, despite important advances, such as exemptions for fruit and vegetable producers and tax reductions for the Basic Food Basket, the Brazilian tax model follows the same logic of the '60s, '70s and '80s.

Taxation in the country does not take into account current challenges, such as the Global Syndemic. In a context in which the Tax Reform focusing on taxes on the consumption of goods and services is being debated, it is important to reflect on the importance of tax instruments for the economic and social development of the country, their possible impacts on the food and nutritional security of the population and their contribution to the climate crisis.

It is necessary to review these instruments, in the light of current challenges, and put them to the service of other results and strategies, such as fighting hunger, reducing food inflation, favoring basic and healthy foods, discouraging foods of poor nutritional quality such as ultra-processed foods and promoting production, processing and consumption systems that can contribute to mitigate the climate crisis, for example.

This enables the possibility for some questions to be

asked of parliamentarians in the National Congress as well as to decision-makers in the Federal and State Governments.

If the objective of fostering and developing agribusiness has been achieved, as the soybean case highlighted here demonstrates, does it make sense to maintain the current levels of support that privileged production chains have enjoyed for decades? Shouldn't Brazilian agribusiness, especially large commodities and the agribusinesses and food industries associated with it, start to return part of the investments that the country has made to reach the current levels of development and competitiveness? Do these sectors, pointed out by their leaders as super advanced and competitive, mature, and sustainable, need to continue with the current tax advantages? Wouldn't it be time for them to make their contribution so that other sectors, which need urgent support and investments to face the current challenges, can also move forward?

Part of the Brazilian elite always questions the fact that poor families remain in social programs for an indefinite period, Bolsa Família for example, and demands from the government that they provide the so-called "exit doors", so that these families cease, after a certain period, to receive support from the State. They say that families should not be "dependent" on social policies.

Could this type of reasoning be applied to the soybean production chain, for example? After decades of receiving large public resources and investments, would it not be time to start contributing more significantly towards financing the State as well?

Could the instruments now destined to support this and other mature production chains in the country not be reviewed and calibrated so that they can foster and support other food crops, which need to be stimulated and strengthened for the good of the country?

Shouldn't the Tax Policy be at the service of and guided towards contributing to face challenges, such as the guarantee of the staple "beans and rice" diet on the plate of all Brazilians? Or to reduce food inflation? Or even to improve the quality of the food consumed by the population?

Couldn't part of the tax advantages for soybeans be directed towards the implementation of production, processing and marketing practices that mitigate and allow for adaptation to the climate crisis?

Attachment I – Technical references and calculations used in the tax study.

Data from the soybean complex in 2022

ITEM	Quantity (t)	Price (BRL)
Soybean		
National Production:	129.944.000(a)	
Import	419.172(a)	
Export	78.730.000(a)	R\$ 240.214.820.258,40(b)
Processing	50.891.528(a)	R\$ 157.704.364.535,60(c)
Other uses	741.643,63 (d)	
Soybean oil		
Production	9.936.490(a)	
Import	24.396(a)	
Export	2.596.802(a)	R\$ 18.759.297.510,74(b)
Movement of oil to the domestic market:	7.179.953	
Oil from vertical biodiesel companies (f)	2.431.177	R\$ 16.088.214.950,52
Oil sales to non-vertical biodiesel companies(f)	1.197.445	R\$ 7.924.046.169,66
Food oil sales (all vertical companies) (f)	3.575.727	R\$ 23.103.857.672,72
Biodiesel		
Biodiesel sales by vertical companies (m3)	2.765.844	R\$ 17.705.219.747,48
Biodiesel sales by non-vertical companies (m3)	1.362.281	R\$ 8.720.481.368,16
Bran		
Production	39.039.088(a)	
Import	3.224(a)	
Export	20.352.880(a)	R\$ 46.209.178.011,85(b)
Sales to the domestic market	18.907.709(a)	R\$ 44.778.427.880,71(g)
Valor estimado faturamento, incluso exportação (h)		R\$ 399.491.282.450,06
Estimated revenue value, including export (h)		R\$ 94.307.986.669,06

Source and/or calculation memory in the cell indicated by (a):

Source: Abiove (<https://abiove.org.br/estatisticas/>).

Source and/or calculation memory in the cell indicated by (b):

For the purposes of calculating the value of exports presented by Abiove in dollars, the conversion rate of 1US=R\$5.16 was applied (2022 average according to the Central Bank, source: https://ptax.bcb.gov.br/ptax_internet/consultaBoletim.do?method=consultarBoletim).

Source and/or calculation memory in the cell indicated by (c):

For the purposes of calculating the value of soybeans for processing, the average price of the regions surveyed by Abiove in 2022 (R\$185.93/sc) was adopted.

Source and/or calculation memory in the cell indicated by (d):

Other uses: result of the quantity produced added to the quantity imported, subtracted from the quantity exported and subtracted from the quantity exported. It refers to different uses such as direct use in food on the property (without commercialization), foreign materials, physical and moisture losses.

Source and/or calculation memory in the cell indicated by (e):

The amount of oil for food use was calculated by subtracting, from the amount of oil produced, the amount of oil destined for biodiesel, adding to the amount of oil imported.

Source and/or calculation memory in the cell indicated by (f):

The amount of oil used for biodiesel production was calculated as follows:

ITEM	Amount
Average biodiesel price in 2022 (ANP, R\$/m3):	6.401,38
Biodiesel production in 2022 (ANP, m3):	6.254.736
Percentage of soybean biodiesel in 2022 (ANP):	66%
Biodiesel production in 2022 (ANP, m3):	4.128.125,67
Considered biodiesel density	0,879
ÓSoybean oil used in biodiesel production (t) (= biodiesel production *density)	3.628.622
Soybean biodiesel revenue in 2022 (R\$)	26.425.701.11

Source: ANP, 2023. Dynamic Panel of Biodiesel Producers.

The ANP provides data on the amount of biodiesel production per company. Abiove, in turn, presents data on the installed capacity of soybean crushing per company. The cross-referencing of this information in 2022 allowed us to conclude that in that year, 67% of biodiesel was produced by vertical companies, in other words, companies that buy soybeans and produce bran, oil and biodiesel. And that 33% of biodiesel was produced by companies that buy the oil from third parties. This segregation is important for the correct application of PIS/Pasep and Cofins rates.

Source and/or calculation memory in the cell indicated by (g):

To calculate the bran turnover, the average price of bran (R\$/t) in the city of SP was adopted, with 8.4% of ICMS in 2022 calculated by Abiove (R\$2,585.44/t), which resulted in a unit value (net price) of R\$2,368.26/t.

Source and/or calculation memory in the cell indicated by (h):

The estimated revenue value, including export, comprises: exported soybean, oil and bran revenues, food oil, bran and biodiesel revenues for the domestic market.

Source and/or calculation memory in the cell indicated by (i):

The estimated value of sales excluding exports includes: the revenue from food oil, bran and biodiesel.

Estimated consumption of fertilizers, pesticides and seeds in soybean production in 2022

For the purposes of the analysis, only the fertilizer, pesticide and seed production inputs used in soybean production were considered.

The transgenic soy production cost survey data provided by Conab were used to estimate the value of fertilizers, seeds and pesticides used in soybeans produced in 2022 in Mato Grosso. Conab presents the costs in R\$/bag of soybeans (60kg). Soy produced in 2022 (in tons) was multiplied by 1,000 and divided by 60 to calculate the production in bags, which was then multiplied by the cost per bag. The result is presented below.
Soy produced in Brazil, 2022 (in bags):
2,165,733,333.33

I - COSTING EXPENSES	Cost (R\$/bag) (a)	Brazil Cost (R\$)
Others
8 - Seeds	R\$ 11,21	R\$ 24.283.285.000,00
9 - Fertilizers	R\$ 42,76	R\$ 92.600.953.168,00
10 - Pesticides	R\$ 28,75	R\$ 62.254.351.184,00
Others

source: <https://www.conab.gov.br/info-agro/custos-de-producao/planilhas-de-custo-de-producao/itemlist/category/824-soja>

PIS/PASEP and IPI Tax Burden in the Soybean Production Chain and the estimated Exemptions.

The PIS/Pasep and Cofins rates were levied on the values of inputs, bran, food oil and biodiesel. The presumed PIS/Pasep and Cofins credits were also calculated based on the description of the calculation method provided for by law.



Sowing corn after soybeans in Brazil. Harvesters combined with seeders sow genetically modified corn, followed by newly harvested soybeans. Immediately after the soybean harvest in Brazil, genetically modified corn seeds are being planted. Photo © Werner Rudhart/Greenpeace

Estimativa da carga tributária na cadeia produtiva da soja em 2022

Phase	ITEM	Sale value excluding taxes (R\$)	PIS/PASEP+COFINS		Presumed PIS/Pasep+Cofins credit		IPI	
			Rate	Amount	Rate	Amount	Rate	Amount
Production	Production inputs							
	Fertilizer	92.600.953.168,00		0			0	0
	Pesticide	62.254.351.184,00		0			0	0
	Seed	24.283.285.000,00		0			0	0
	Total inputs	179.138.589.352,00						
	Domestic market soybean revenue	157.704.364.535,60						
Industry	Domestic market							
	Bran	44.778.427.880,71			2,4975%	1.118.341.236,32		
	Food oil Vertical Companies	23.103.857.672,72	0		2,4975%	577.018.845,38	0	0
	Biodiesel oil (non-vertical companies)	7.924.046.169,66	0		2,4975%	197.903.053,09	0	0
	Biodiesel oil Vertical Companies	16.088.214.950,52	0				0	0
	Biodiesel (non-vertical companies)	8.720.481.368,16	0		1,665%	145.196.014,78	0	0
	Biodiesel (vertical companies)	17.705.219.747,48	0		4,1625%	736.979.771,99	0	0
	Total revenue industry domestic market	94.307.986.669,06						
Export	Export							
	Soybean	240.214.820.258,40	0				0	0
	Oil	18.759.297.510,74	0				0	0
	Bran	46.209.178.011,85	0				0	0
	Total export:	305.183.295.780,99					0	0
Total for the industry and export circuit						2.775.438.921,55		0

To estimate the order of magnitude of the federal tax waiver, some considerations and assumptions were made to apply the rates on the macro numbers presented herein:

a) In the case of inputs, the standard PIS/Pasep and Cofins rate of 9.25% was considered. In the case of the IPI levied on inputs, both fertilizers and seeds are untaxed, but pesticides have an IPI rate of zero. As there is no standard IPI rate, the same rate as for soaps (3.25%) was adopted for these chemicals (TIPI position 3401.11.90).

b) In the industry, soybeans are purchased free of PIS/Pasep and Cofins (deferred), and this condition was maintained in the analysis, therefore a tax-free purchase without associated credit, nor presumed credit. Soybeans are free of IPI tax.

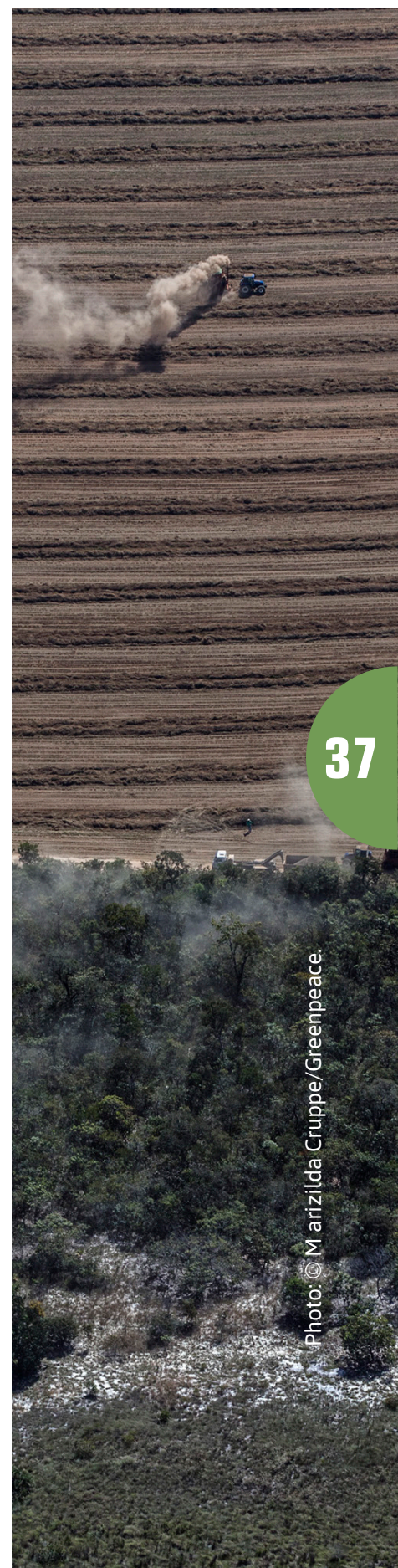
c) Bran was considered to be traded with PIS/Pasep and Cofins at the rate of 9.25% and without IPI, since this tax is not levied on it.

d) Food oil, produced exclusively by vertical companies, and biodiesel produced by vertical companies did not have PIS/Pasep and Cofins credit associated with the purchase of raw materials, while biodiesel from non-vertical companies had the credit related to the purchase of oil that was deducted in the calculation of these taxes to be paid. The rate applied was the standard, 9.25%.

e) Food oil maintained at zero IPI rate.

f) The sale of biodiesel was taxed at the standard single-phase and ad rem rate of R\$148.00/m³ and free of IPI, since it is not taxed.

The result is presented below.



Calculation of PIS/Pasep and Cofins and IPI levied on the soybean production chain without application of tax exemptions.

	Item	Sale value excluding tax	Cumulative		Credit		Debit		Payable and cumulative	%	IPI	
			Rate	Amount	Rate	Amount	Rate	Amount			Rate	Amount
Production	Production inputs											
	Fertilizer	92.600.953.168,00	9,25%	8.565.588.168,04							N T	0
	Pesticide	62.254.351.184,00	9,25%	5.758.527.484,52							3,25%	2.023.266.413,48
	Seed	24.283.285.000,00	9,25%	2.246.203.862,50							N T	0
	Total input	179.138.589.352,00										
Industry	Total soybean in internal market	157.704.364.535,60				R\$ -	0.00%	-	16.570.319.515,06	11%		
	Soybean buys	157.704.364.535,60		-		R\$ -						
	Bran	44.778.427.880,71	0	-			9.25%	4.142.004.578,97				
	Food oil (vertical companies)	23.103.857.672,72					9.25%	2.137.106.834,73				
	Oil for biodiesel vertical companies)	7.924.046.169,66					9.25%	732.974.270,69				
	Oil for biodiesel non-vertical companies	16.088.214.950,52					0.00%	-				
	Oil for biodiesel vertical companies	8.720.481.368,16	0	-		R\$ 732.974.270,69	148,00	305.481.299,74			N T	
	Oil for biodiesel non-vertical companies)	17.705.219.747,48	0	-		R\$ -	148,00	620.219.608,57			N T	
	Total revenue industry/internal market	94.307.986.669,06							7.204.812.322,01	8%		
	Soybeans	240.214.820.258,40	9,25%	22.219.870.873,90			9.25%	22.219.870.873,90			N T	
Export	Oil	18.759.297.510,74	0	-			9.25%	1.735.235.019,74			N T	
	Bran	46.209.178.011,85	0	-			9.25%	4.274.348.966,10			N T	
	Total export	305.183.295.780,99							28.229.454.859,74	9%		
	Total of industry and export circuit	399.491.282.450,06							52.004.586.696,81	13%		2.023.266.413,48

In order to estimate the exemption, in addition to applying the standard rates as calculated above, it is necessary to add the credits presumed today attributed to the sector. Thus, the final calculation of these federal taxes is shown as follows

Item	Billing	Estimated waiver in the sector			Total waiver by sector	% Sector revenue
		PIS/Pasep and Cofins	PIS/PASEP and COFINS (presumed credit)	IPI		
Agricultural production	157.704.364.535,60	16.570.319.515,06		2.023.266.413,48	18.593.585.928,54	12%
Industry, domestic market (oil, bran, biodiesel)	94.307.986.669,06	7.204.812.322,01	2.775.438.921,55		9.980.251.243,56	11%
Exports (soybeans, oil, and bran)	305.183.295.780,99	28.229.454.859,74		0	28.229.454.859,74	9%
Total (domestic market and export)	399.491.282.450,06	52.004.586.696,81	2.775.438.921,55	2.023.266.413,48	56.803.292.031,84	14%
Internal market (agriculture and industry)	252.012.351.204,67				28.573.837.172,10	11%

Thus, a waiver of IPI, PIS/Pasep and Cofins is estimated in agricultural production in 2022, due to fertilizers, pesticides, and seeds, to the tune of about 18.5 billion reais. In the realm of industrialization (commercialization of bran, oil and biodiesel destined for the domestic market) it was estimated at almost 10 billion reais and in exports, at about 28 billion reais.

Total tax expenditures for the domestic market in agriculture and industry added up to R\$ 28.5 billion, and if we add this to renunciation of PIS/Pasep and Cofins due to the export of soybeans in grains, bran and oil, the grand total adds up to a total waiver of almost 57 billion reais in 2022.

The waivers due to the ICMS credit compensation for exports, provided for in article 32 of Complementary Law No 87, dated 09/13/1996 (Kandir Law), were not accounted for.

Data from the soybean complex in Mato Grosso in 2022

Item	Quantity (t or m ³)	Billing amount
Soybean production 2022 MT (t)	41.490.200 ^(a)	
Soybean production 2022 MT (t) domestic market Brazil	16.725.450 ^(b)	49.209.062.022 ⁽ⁿ⁾
Soy crushing in MT, 2022 (t)	11.233.616 ^(c)	
Soybeans not crushed in the state and not exported (other uses, other states)	5.491.834 ^(d)	16.157.891.481 ⁽ⁿ⁾
Biodiesel produced in MT, 2022 ^(m3)	1.019.633 ^(e)	6.493.481.778,85 ^(o)
Oil produced in MT in 2022 ^(t) est	2.145.621 ^(f)	
Oil produced in MT for domestic market Brazil in 2022 ^(t) est	1.576.319 ^(g)	11.523.902.269,39
Oil crushed by biodiesel company (100% of demand)	1.019.633 ^(h)	
Oil for sale to the consumer	556.686 ⁽ⁱ⁾	4.069.732.474,27 ^(p)
Bran produced in MT in 2022 ^(t) est	8.986.893 ^(j)	21.977.805.818,11 ^(q)
Soybean oil exports 2022	569.301,45 ^(l)	4.392.838.346,76 ⁽ⁿ⁾
Soybean exports 2022	24.764.749,81 ^(m)	74.398.907.807,76 ⁽ⁿ⁾
Bran exports 2022	0 ^(m)	-

Source and/or calculation memory in the cell indicated by (a):
Conab, 2022/2023 Harvests, 8th Survey.

Source and/or calculation memory in the cell indicated by (b):
Quantity produced (a) minus quantity exported (m)

Source and/or calculation memory in the cell indicated by (n):
The unit price adopted was the average annual price calculated based on the prices of the MT region in 2022 (Above)
(R\$2,942.17/t)

Source and/or calculation memory in the cell indicated by (c):
Source: IMEA/MT

Source and/or calculation memory in the cell indicated by (d):
Equals production for the domestic market (b) minus soybean crushed in MT (c)

Source and/or calculation memory in the cell indicated by (e):
Source: ANP

Source and/or calculation memory in the cell indicated by (o):

Average price of biodiesel in MT in 2022: R\$6,368.45/m³ (ANP)

Source and/or calculation memory in the cell indicated by (f):

Estimated amount, using 19.1% yield on crushed soybean volume

Source and/or calculation memory in the cell indicated by (i):

Equal to the oil produced in MT state (g) minus biodiesel oil (h)

Source and/or calculation memory in the cell indicated by (p):

Average price of crushed oil in MT in 2022 of R\$7,310.64/t (source: IMEA/MT)

Source and/or calculation memory in the cell indicated by (j):

Estimated amount, using 80% yield on crushed soybean volume

Source and/or calculation memory in the cell indicated by (q):

Average price of bran produced in MT in 2022 of R\$2,445.54/t (source: IMEA/MT)

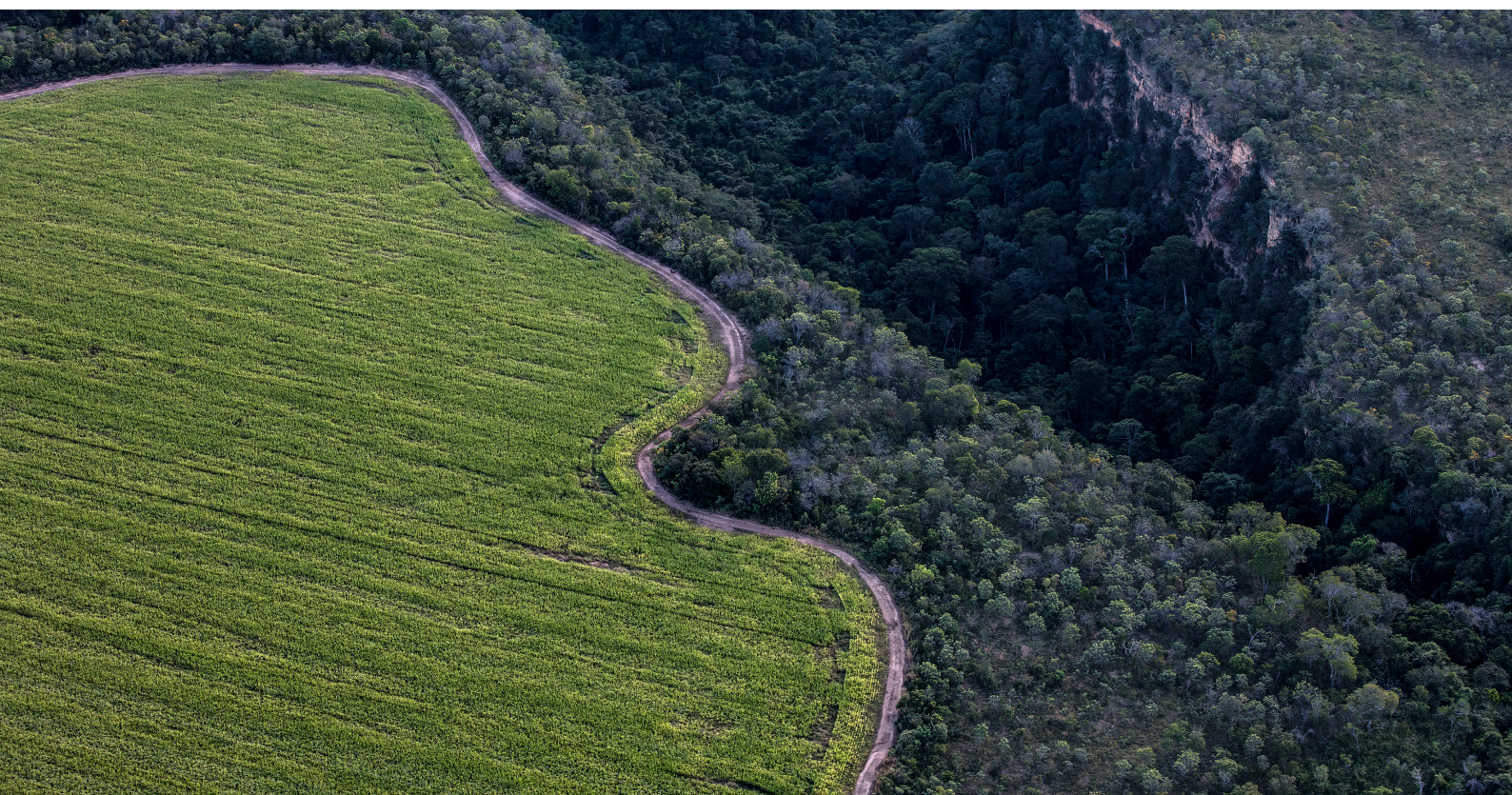
Source and/or calculation memory in the cell indicated by (l):

Source: <http://comexstat.mdic.gov.br/pt/geral>

Source and/or calculation memory in the cell indicated by (n):

Source: <http://comexstat.mdic.gov.br/pt/geral>. The dollar was used, calculated at the exchange rate of R\$5.16.

Agribusiness Race in the MATOPIBA Region, in Brazil. The region between the States of Maranhão, Tocantins, Piauí and Bahia, known as MATOPIBA in Brazil, is considered the showcase of Brazilian agribusiness, with high production of soybeans and corn for export. However, this predatory model has accelerated deforestation in the Cerrado biome region, which is one of the most threatened biomes in Brazil and extremely important for the supply of aquifers throughout Latin America. Photo © Marizilda Cruppe/Greenpeace.



Estimated consumption of fertilizers, pesticides, and seeds in soybean production in Mato Grosso in 2022

The transgenic soy production cost survey data provided by Conab were used to estimate the value of fertilizer, seed and pesticides used in soybeans produced in 2022 in Mato Grosso. Conab presents the costs in R\$/bag of soybeans (60kg). Soy produced in 2022 (in tons) was multiplied by 1,000 and divided by 60 to calculate the production in bags, which was then multiplied by the cost per bag. The result is presented below.

Soybean produced MT, 2022 bags): 91,503.33

I - COSTING EXPENSES	Cost (R\$/bag)	MT Cost (R\$)
Others	
8 - Seeds and seedlings	R\$ 11,21	R\$ 7.753.481,13
9 - Fertilizers	R\$ 42,76	R\$ 29.566.829,30
10 - Pesticides	R\$ 28,75	R\$ 19.877.373,96
Others	

source: <https://www.conab.gov.br/info-agro/custos-de-producao/planilhas-de-custo-de-producao/itemlist/category/824-soja>

To estimate the ICMS of the soybean complex, the tax rates on production chain figures were applied. For the purposes of this analysis, it was considered that all pesticides came from Southeastern states¹⁵, that the seeds were all produced in the state itself, as is the national practice of sowing located close to consumption and that the fertilizer was imported from abroad, as evidenced in the recent supply crisis of this input in 2022¹⁶. The result is presented below.

For a chain with a turnover of almost 128 billion reais, the ICMS collected for MT State was estimated at almost 6 billion reais (4.6% of the turnover from soybeans exported abroad, sent to other states and other uses, added to the turnover of bran, food oil and biodiesel resulting from processing)

15-Most of the pesticide companies are in the Southeastern region, notably São Paulo. Source: members of the National Union of Agricultural Defense Products Industry – Sindiveg.

16-Petrobras had several fertilizer production units in Brazil that were deactivated over the last two decades, and the country now depends heavily on imports from abroad.

Estimated ICMS value in the soybean chain in Mato Grosso in 2022.

FASE	Item	Sale value excluding taxes (R\$)	ICMS		payable and cumulative	%
			Rate	Amount		
Production	Production inputs					
	Fertilizers	29.566.829.304,40	4%	1.182.673.172,18		
	Pesticides	19.877.373.957,20	4,2%	834.849.706,20		
	Seeds	7.753.481.125,00	0	-		
	Total MT soybean inputs	57.197.684.386,60			2.017.522.878,38	3,5%
	MT soybean revenue	49.209.062.022,24				
	Soybean revenue intended for other uses and other States of the Union	16.157.891.480,91	12,0%	1.938.946.977,71	1.938.946.977,71	12,0%
Industry	Bran consumption in MT (20%)	4.395.561.163,62	0	-		
	Bran consumption in other states (80%)	17.582.244.654,49	8,40%			
	MT domestic market oil (food)	4.069.732.474,27	12%	488.367.896,91		
	Biodiesel	6.493.481.778,85	0	-		
	Industry revenue	32.541.020.071,24	0		1.965.276.447,89	6,0%
Export	Soybean	74.398.907.807,76	0	-		
	Oil	4.392.838.346,76	0	-		
	Bran	-	0	-		
	Total export:	78.791.746.154,52			-	0,0%
	Total soybean (other uses/states, industry and export)	127.490.657.706,67			5.921.746.303,98	4,6%

To estimate the value of the ICMS exemption for MT in the soybean production chain, the following was considered:

- h) That fertilizers coming from abroad were taxed at the interstate rate of 4% and that upon admission to MT they paid the Rate Difference (Difal) of $17\% - 4\% = 13\%$;
- i) That there would no longer be a reduction in the calculation basis of interstate ICMS on pesticides, which would then change from the reduced basis (4.2%) to 7% (interstate ICMS of states from SE/S to CO) and that there would be the payment of Difal upon admission to MT State at the rate of $17\% - 7\% = 10\%$;
- j) That ICMS on soybean seeds produced in the state would change from the zero rate to the standard rate in MT (17%);
- k) That there would no longer be a reduction in the interstate ICMS calculation base for bran, which would then change from the reduced base (8.4%) to 12% (interstate standard rate from MT to any other state);
- l) That the oil for the domestic MT market would change from the reduced calculation basis (12%) to the internal rate of 17%;
- m) That biodiesel would change from deferred ICMS (0) to the standard MT rate of 17%; and
- n) There would be no change in ICMS on exports.

The result is presented below. As a result, the state waived almost eight billion reais in ICMS in 2022 in the soybean production chain. The analysis does not include the waiver on exports abroad.

Item	Amount (R\$)
Estimated ICMS/MT value without exemptions	13.741.325.153,64
Value of ICMS/MT of soybeans with current ICMS benefits	5.921.746.303,98
Estimated value of ICMS exemption	7.819.578.849,66
Value of the production chain (sale for other uses/ to other states, industry sales and exports)	127.490.657.706,67
Percentage of ICMS collection loss, not considering exports	6,13%

Estimated ICMS value in the soybean chain in Mato Grosso in 2022 excluding waivers

FASE	Item	Sale value excluding taxes (R\$)	ICMS		A PAGAR E CUMULATIVO	%
			Rate	Amount		
Production	Production inputs					
	Fertilizers	29.566.829.304,40	13%	3.843.687.809,57		
	Pesticides	19.877.373.957,20	10,00%	1.987.737.395,72		
	Seeds	7.753.481.125,00	17	1.318.091.791,25		
	Total MT soybean inputs	57.197.684.386,60			7.149.516.996,54	12,5%
	MT soybean revenue	49.209.062.022,24	0			
	Soybean revenue intended for other uses and other States of the Union	16.157.891.480,91	12%	1.938.946.977,71	1.938.946.977,71	12,0%
Industry	Bran consumption in MT (20%)	4.395.561.163,62	17%	747.245.397,82		
	Bran consumption in other states (80%)	17.582.244.654,49	12,00%	2.109.869.358,54		
	MT domestic market oil (food)	4.069.732.474,27	17%	691.854.520,63		
	Biodiesel	6.493.481.778,85	17%	1.103.891.902,40		
	Industry revenue	32.541.020.071,24			4.652.861.179,39	14,3%
Export	Soybeans	74.398.907.807,76	0	-		
	Oil	4.392.838.346,76	0	-		
	Bran	-	0	-		
	Total exports:	78.791.746.154,52			0	0,0%
	Total soybeans without ICMS benefits (other uses/states, industry and export)	127.490.657.706,67			13.741.325.153,64	10,8%

Made by



Support



2023