

IMPACTS OF U.S. TARIFF MEASURES ON BRAZIL



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TOPICS

- US Tariffs in July-August 2025
- Computable General Equilibrium (EGC) Models: GTAP, IMAGE-B
- Impacts on the World Economy, Brazil and Regions
- Influence on global trade relations
- Sectoral of impacts in Brazil
- Projections for different Brazilian states

MODELLING

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- Computable General Equilibrium (CGE)
- Global EGC Model (GTAP)
- Brazilian Interregional CGE model (IMAGE-B)
- Estimated Impact: Medium term (2 years)
- Goal: Analyze the impact of changes in import tariffs from the US, China, and other countries until August 2025

US TRADE TARIFFS (AND CHINA RESPONSE)

- Raising U.S. tariffs on imports from China, Rates increased to 30%
- China's Tariff Hike on U.S. Imports, Rates increased to 10%
- Increase in import tariffs on automobiles and steel in the US. Rates increased to 50%. Applicable to any country
- Rise in U.S. import tariffs on Brazilian exports, Tariffs increased to 50% on some products, with exceptions
- Raising U.S. import tariffs for 14 countries
- U.S. Tariff Agreement with the United Kingdom and the European Union

US TARIFFS POLICY

Import Country	Tax	Exceptions
Brazil	50%	Motor vehicles and parts, 25% Extractive Industry Products, Petroleum & Derivatives, Transportation Equipment, Pulp, Electronic Products, Beverages: 10%
Tailândia	36%	Motor vehicles and parts, 25% Ferrous metals, 50%
Camboja	36%	
Canadá	35%	
Suíça	35%	
China	30%	
África do Sul	30%	
Índia	25%	
Coreia do Sul	25%	
Filipinas	20%	
Indonésia	19%	
União Europeia	15%	
Japão	15%	
Reino Unido	10%	
México	10%	
América Latina	10%	
Austrália	10%	
Vietnã	10%	
Malásia	10%	
Taiwan	10%	
Bangladesh	10%	
Cingapura	10%	
Israel	10%	
Turquia	10%	
Sri Lanka	10%	
Resto do Mundo	10%	

MODELLING: FROM THE GLOBAL SCALE TO NATIONAL AND REGIONAL LEVELS

GTAP (Global Trade Analysis Project) Model

The GTAP model is a prominent Computable General Equilibrium (CGE) framework extensively utilized for examining international trade, economic policies, and the global consequences of tariff modifications. It relies on an extensive database encompassing numerous countries, sectors, and regions, which facilitates detailed simulations of trade policies and their economic impacts.

The IMAGE-B (Interregional General Equilibrium Model for Brazil) is a CGE model designed to examine the Brazilian economy on a regional scale.

It is based on neoclassical principles, including rational decision-making by economic agents, simultaneous equilibrium across markets, and optimisation behaviour.

GTAP – DATABASE AND MODELLING FRAMEWORK

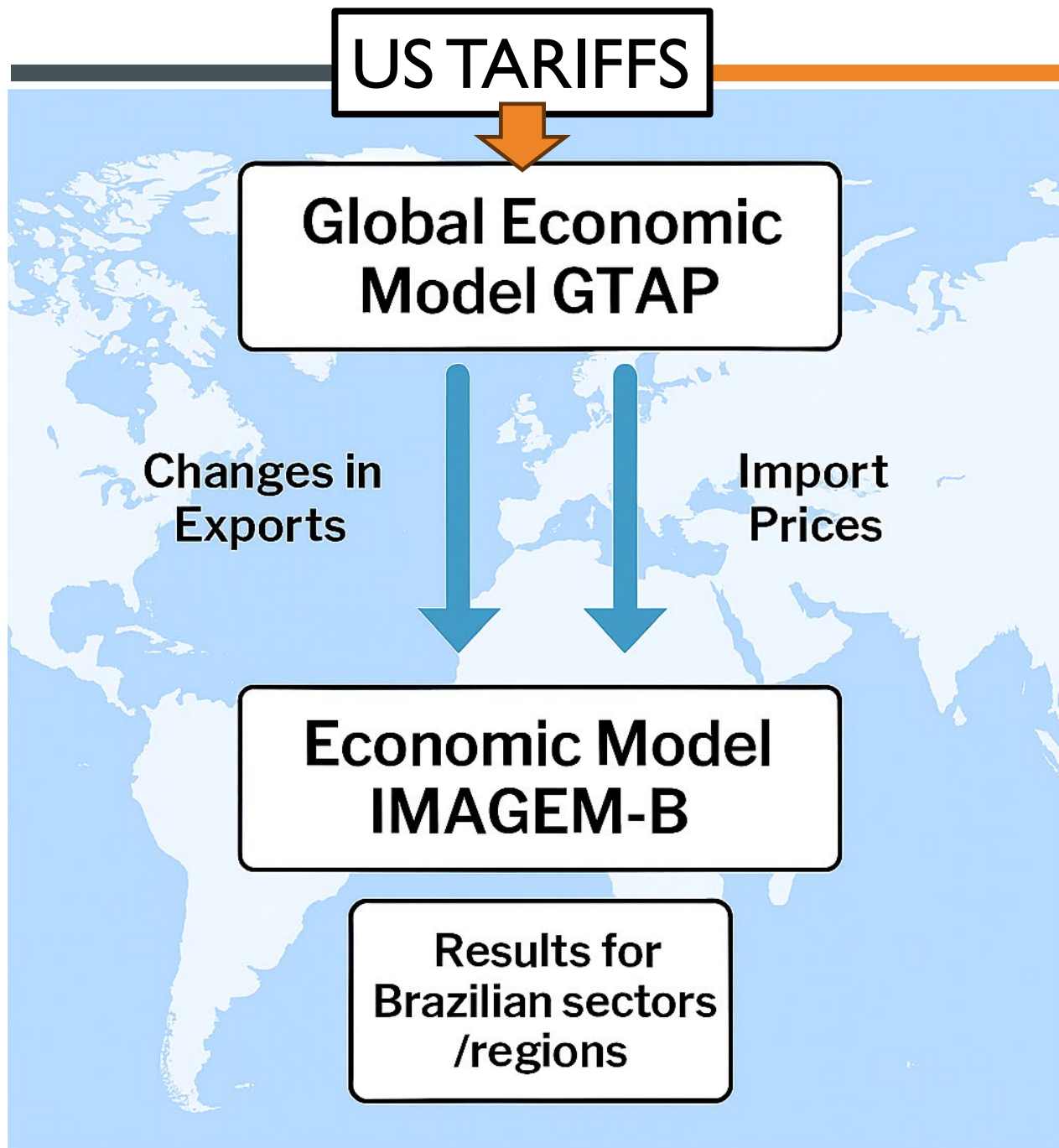
- Multi-region, multi-sector CGE model
 - Covers over 140 countries and 65+ sectors
 - Includes: Input-output tables, Bilateral trade flows
 - **Tariffs and non-tariff barriers**
 - Energy use and emissions
 - Updated regularly through global collaboration
- Assumptions: Perfect competition and constant returns to scale
 - Economic agents: Firms, households, and governments
 - Markets covered: Goods, services, and factors of production
 - Trade modeled using the Armington assumption
 - Production functions specified as nested CES
 - International capital mobility available as an option
 - Both static and dynamic model variants

MODELLING: FROM THE GLOBAL SCALE TO NATIONAL AND REGIONAL LEVELS

The **IMAGE-B**

- **Regional Emphasis:** Provides comprehensive data on interregional trade flows, labor mobility, and variations in savings and investment among Brazilian states.
- **Sectoral Production:** Each regional sector produces various goods by combining domestic and imported inputs alongside primary factors such as land, capital, and labour.
- **Policy Evaluation:** Enables simulation of government policies at local, regional, and national levels, facilitating analysis of trade shocks, tariff adjustments, and other economic interventions.





Soft link

- Brazilian exports are represented as shocks in the IMAGE-B model
 - These include effects from US tariffs on Brazil as well as global factors (e.g., soybean exports to China)
- Changes in import prices resulting from US tariffs also influence Brazil

GLOBAL IMPACTS

- Decline in Global GD: -0.14% reduction in global GDP
- Loss equivalent to US\$112 billion in 2 years
- Losses in World Trade: -3% reduction in world trade, equivalent to US\$645 billion



IMPACT ON THE US, CHINA AND BRAZIL

- United States
 - Reduction of GDP by -0.43%
- China
 - Decrease in GDP by -0.14%
- Brazil
 - GDP drop by -0.10%

Economic Impacts of U.S. Tariffs on Brazil

	Impact of U.S. Tariffs	Total Effect
GDP	-0.26% (R\$ 31 Billion)	-0.10% (R\$ 12 Billion)
Employment	-0,25% (188707 Jobs)	-0,08% (57000 Jobs)
Household Consumption	-0,26%	-0,26%
Exports	-2,83%	-1,19%
Investment	-0,15%	-0,15%

IMPACT ON BRAZILIAN EXPORTS

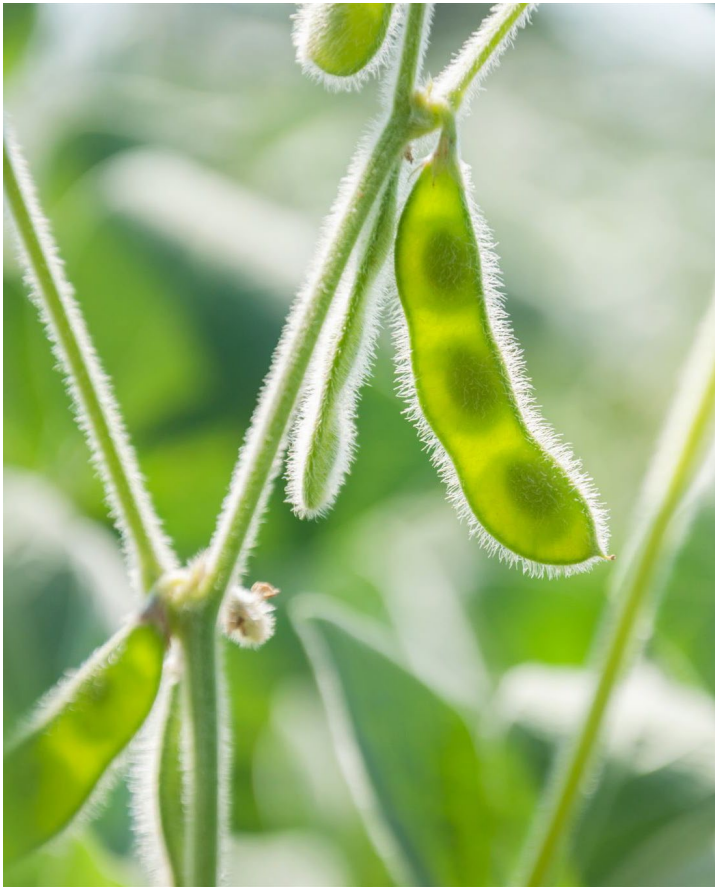
- Total Impact on Exports
 - Reduction of US\$ 4.2 billion in Brazilian exports
- Effect of U.S. Tariffs on Brazilian exports
 - US\$ 8.8 billion drop in exports due to tariff increases
- Partial Compensation
 - Gains of \$4.6 billion due to retaliation, especially from China, and U.S. tariffs on other countries
- Negative Final Balance

IMPACT ON BRAZILIAN EXPORTS

- Impact of U.S. tariffs
 - Less competitive Brazilian products in the North American market
- Impact “mitigation” in some cases
 - U.S. tariffs on other countries and China's retaliation

Product	Full effect (A+B)	Effect of U.S. tariffs on Brazil (A)	Effect of other U.S. tariffs on other countries and retaliation from China(B)
Paddy rice	6,5	-0,01	6,5
Wheat	-1,73	-0,01	-1,72
Cereal grains nec	71,7	-15,7	87,4
Vegetables, fruit, nuts	-63,18	-70,68	7,49
Oil seeds	1.578,34	-0,06	1.578,39
Plant-based fibers	74,15	-0,11	74,26
Crops nec	-668,81	-834,73	165,92
Bovine cattle, sheep...	-5,1	-5,08	-0,02
Animal products nec	-86,58	-88,31	1,73
Fishing	-16,28	-16,28	-0,01
Oil	-356,61	870,07	-1.226,68
Other Extraction	-105,87	37,97	-143,84
Bovine meat products	-1,79	-37,8	36,01
Meat products nec	-5,13	-235,13	230
Vegetable oils and fats	113,22	-31,65	144,87
Dairy products	-4,19	-8,68	4,49
Processed rice	5,44	-9,57	15
Sugar	-8,18	16,76	-24,94
Food products nec	-526,07	-599,5	73,43
Beverages and tobacco products	-220,01	-241,53	21,52
Textiles	-50,52	-72,41	21,89
Wearing apparel	-16,97	-22,2	5,24
Leather products	-268,23	-319,85	51,62
Wood products	-848,15	-914,21	66,06
Paper products, publishing	523,49	270,35	253,14
Petroleum, coal products	626,03	370,22	255,82
Chemical products	-1.109,29	-1.488,02	378,73
Basic pharmaceutical products	-108,83	-204,69	95,86
Rubber and plastic products	-330,18	-429,61	99,43
Mineral products nec	-717,46	-736,8	19,34
Ferrous metals	-1.614,22	-1.663,20	48,98
Metals nec	-242,05	-816,8	574,74
Metal products	-241,07	-335,99	94,91
Computer, electronic and optical products	238,38	143,33	95,04
Electrical equipment	-196,2	-410,62	214,42
Machinery and equipment nec	-652,54	-1.297,16	644,62
Motor vehicles and parts	303,03	-192,82	495,85
Transport equipment nec	706,33	584,07	122,26
Total	-4.218,63	-8.806,44	4.587,75

BRAZIL: POSSIBLE POSITIVE IMPACT



- Oilseeds (Soybeans)
 - US\$ 1578 milhões
 - Expansion of exports to China
- Petroleum Products & Coal Products
 - US\$ 626 milhões
- Paper & Publishing Products
 - US\$ 523 milhões
- Transportation Equipment
 - US\$ 706 milhões
- Motor Vehicles & Parts
 - US\$ 303 milhões
- Computers, Electronics & Optical Products

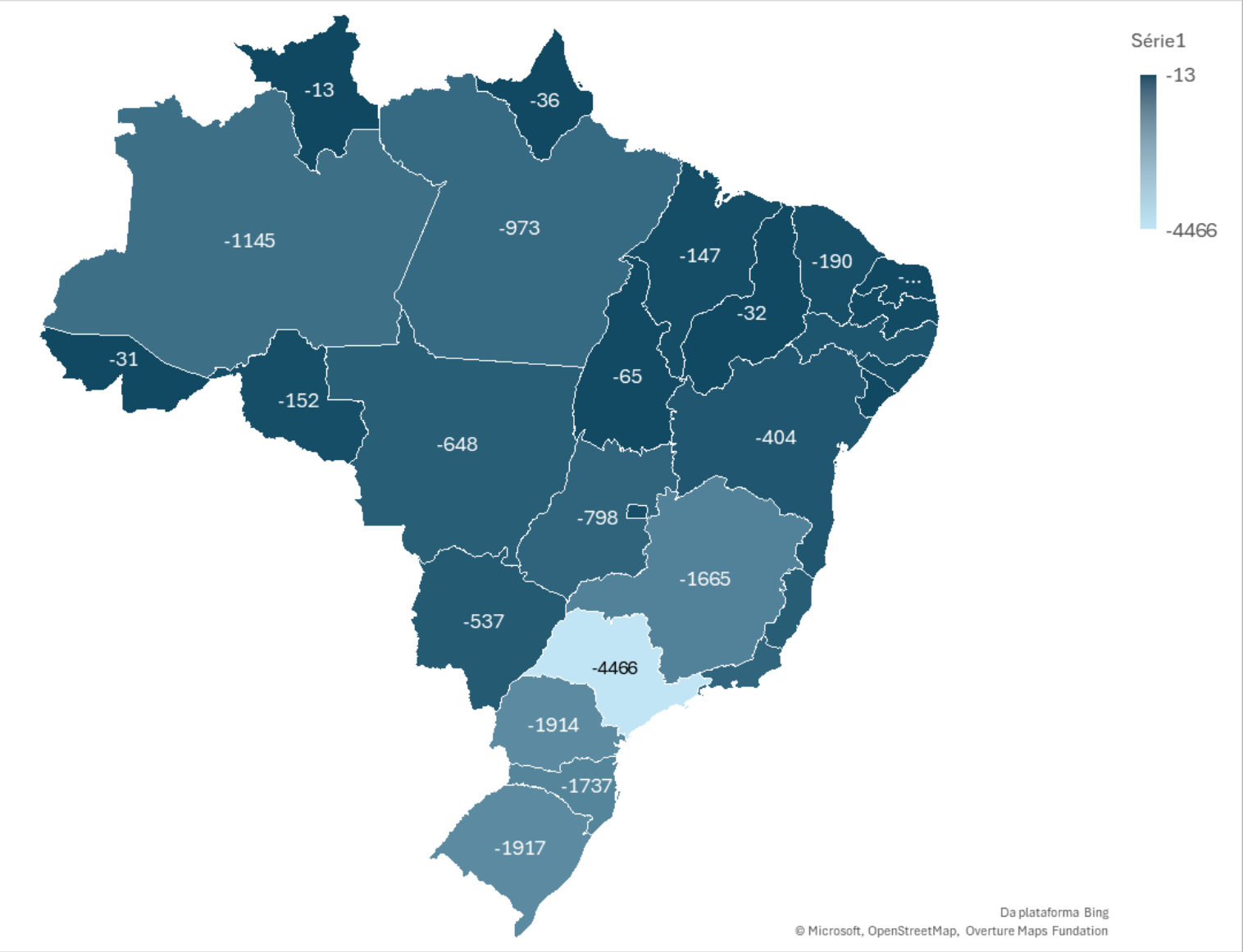
SECTOR IMPACT IN BRAZIL

Sector	Full effect (A+B)	Effect of US tariffs on Brazil (A)	Effect of other US tariffs on other countries and retaliation from China(B)
Agriculture	0.16	-0.06	0.22
Extractive industries	-0.16	0.61	-0.78
Manufacturing industries	-0.01	-0.56	0.55
Construction	-0.12	-0.21	0.09
Trade	-0.18	-0.48	0.30
Transport	-0.05	-0.03	-0.02
Information and communication	0.02	0.08	-0.06
Financial activities	-0.01	-0.04	0.02

BRAZIL: IMPACT ON CONSUMPTION AND INVESTMENT

- Household Consumption
 - -0.26% decrease due to US tariffs
- Exports
 - Significant drop of -2.83% with US tariffs
 - Total reduction of -1.19%
 - Most affected indicator, showing the weight of tariff barriers
 - Damping effect of trade diversification, especially with China's retaliation
- Investments
 - Negative change of -0.15%
 - An environment of lower confidence and deteriorated expectations
 - Companies postponing or reducing investment decisions

REGIONAL IMPACTS (STATE GDP, R\$ MILLIONS)



	% Change	R\$ millions
RO	-0,20	-152
AC	-0,11	-31
AM	-0,67	-1145
RR	-0,06	-13
PA	-0,28	-973
AP	-0,14	-36
TO	-0,10	-65
MA	-0,09	-147
PI	-0,04	-32
CE	-0,08	-190
RN	-0,04	-40
PB	-0,10	-101
PE	-0,13	-377
AL	-0,17	-171
SE	-0,05	-30
BA	-0,09	-404
MG	-0,15	-1665
ES	-0,25	-605
RJ	-0,07	-829
SP	-0,13	-4466
PR	-0,27	-1914
SC	-0,31	-1737
RS	-0,25	-1917
MS	-0,29	-537
MT	-0,21	-648
GO	-0,23	-798
DF	-0,05	-168

THEMES FOR FUTURE DEVELOPMENT

- Detailed analysis of U.S. tariffs, including exemptions
- Integration of Bilateral and Sectoral Agreements
- Examination of particular country-specific agreements
- Assessment of retaliation and cooperation scenarios
Scenario evaluations involving countries like BRICS
- Effects on the North American economy
- Estimation of trade diversion consequences
- Review of support measures for Brazilian industries
- Implications for long-term investments

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