

INTERNATIONAL ECONOMICS

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Analyzing Global Trade Shock Scenarios : A GTAP Simulation of G20 Nations



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ABSTRACT

Using the GTAP model, this study investigates the effects of trade liberalization on crop grains from the African Union to the G20, EU, G7, and India. It also looks at how trade liberalization has affected all commodities, from India to the G20, EU, and G7. There are four shock scenarios played out: (1) a shock to tariffs of -100 on grain crops exported by the African Union to all target regions; (2) a shock to non-tariff trade barriers of -50 on grain crops exported by the African Union to all target regions; (3) a shock to tariffs of -50 on all commodities exported by India to the G20, G7, and EU; (4) A change in non-tariff trade barriers that would shock all commodities coming from India to the G20, G7, and EU. The findings indicate that the effects of policy shocks on the world economy are not uniform. The findings suggest that before enacting trade liberalization policies, decision-makers should carefully consider the potential advantages and disadvantages of doing so.

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INTRODUCTION

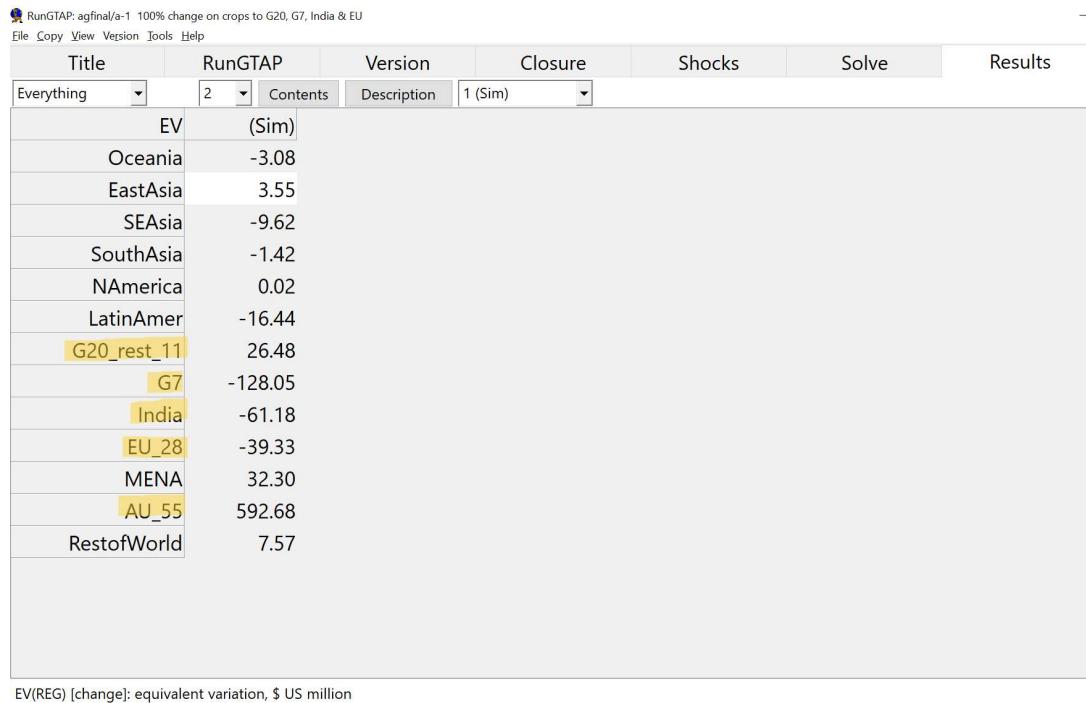
The world's top economies meet in an international conference known as the G20 (Group of 20). It was established in 1999 as a discussion platform for central bank governors and finance ministers to examine global financial stability. When it was first established in 1975, it was known as the G7 (Canada, France, Italy, Germany, Japan, the United Kingdom, and the United States). The G20 was expanded to include additional nations in 2001. The European Union and the African Union became new members in 2008, increasing the total number of members to 20. The transition of the G20 from the G7 to the G12 to the G20 reflects how the world economy is evolving. China and India, two growing market nations, were included in the G12 when it was founded. All of the largest economies in the world are members of the G20. The African Union, representing 55 countries, was admitted as a new member of the G20 in September 2023 making it now the G21. The G20 supports two-thirds of the world's population and more than 80% of the global GDP. Trade, financial stability, and economic growth are all on the G20's agenda. India is a significant player in the G20 because it is the group's current chair for 2022–2023. Enhancing international financial cooperation and advancing equitable and sustainable economic growth are among India's top concerns as the G20 chairmanship approaches. India is in an excellent position to spearhead the G20's efforts to address these goals.

METHODOLOGY

1. The analysis comprises four distinct policy scenarios:
 - a. Tariff Change Shock (-100) on Grains_crops from the African Union to G20 Countries, European Union, G7, and India:
 - We imposed a negative tariff change shock of -100 on the Grains_crops sector for the African Union in all target regions simultaneously. This simulates a substantial reduction in tariffs on Grains_crops exports from the African Union to these regions.
 - b. Non-Tariff Trade Barrier Change Shock (-50) on Grains_crops from the African Union to G20 Countries, European Union, G7, and India:
 - We introduced a non-tariff trade barrier change shock of -50 on Grains_crops from the African Union to the specified target regions. This represents a reduction in non-tariff barriers affecting Grains_crops trade.
 - c. Tariff Change Shock (-50) on All Commodities from India to G7 Countries, G20, and the European Union:
 - We applied a tariff change shock of -50 on all commodities exported from India to the G7 countries, G20 countries, and the European Union. This scenario models a decrease in tariffs on Indian exports across all product categories to these regions.
 - d. Non-Tariff Trade Barrier Change Shock (-50) on All Commodities from India to G7 Countries, G20, and the European Union:
 - We implemented a non-tariff trade barrier change shock of -50 on all commodities exported from India to the G7 countries, G20, and the European Union. This scenario reflects a reduction in non-tariff trade barriers for Indian exports to these regions.

INFERENCES

Shock 1: TMS=-100 on crops from AU to G20_rest_11, EU_28, India, G-7



African Union (AU) :- \$592.68 million

The removal of import taxes would significantly benefit AU countries. These nations are typically less economically developed and have a comparative advantage in producing certain grain crops. By eliminating import taxes, their agricultural products become more competitively priced on the international market.

G20 Countries :- \$26.48 million

The positive but relatively modest impact on equivalent variation in G20 countries is due to the varying impacts on different G20 members. Those that are net importers of grain crops from the AU would benefit from the lower prices, but net-exporting G20 countries might experience reduced income for their agricultural producers in those specific sectors.

European Union (EU) :- -\$39.33 million

The EU, as a trading bloc, is a mix of countries with diverse agricultural interests. The negative impact on equivalent variation in the EU suggests that the EU, as a whole, may have a higher dependency on the production of grain crops that face competition from AU imports.

It implies that certain segments of the EU's agricultural sector would experience reduced income.

India :- -\$61.18 million

India is a significant agricultural producer and consumer. The negative impact on equivalent variation in India arises from the fact that the removal of import taxes on AU grain crops could hurt domestic Indian agricultural producers in sectors where they compete with AU imports.

Indian farmers who grow grain crops similar to those imported from the AU might face increased competition.

G7 Countries :- -\$128.05 million

The G7 countries are primarily developed nations with varied agricultural landscapes. The removal of import taxes could increase competition for domestic producers in the G7 countries, particularly in sectors where they rely on imports from the AU. The negative impact reflects the potential harm to domestic agriculture in these specific grain crop sectors.

Effect in terms of percentage change in industry output

RunGTAP: agfinal/a-1 100% change on crops to G20, G7, India & EU													
Title		RunGTAP		Version		Closure		Shocks		Solve		Results	
Everything	qo	LatinAmer	G20_rest_11	G7	India	EU_28	MENA	AU_55	Resto				
Land	0	0	0	0	0	0	0	0	0				
UnSkLab	0	0	0	0	0	0	0	0	0				
SkLab	0	0	0	0	0	0	0	0	0				
Capital	0	0	0	0	0	0	0	0	0				
NatRes	0	0	0	0	0	0	0	0	0				
GrainsCrops	-0.07	-0.10	-0.13	-0.14	-0.13	-0.13	-0.04	0.43					
MeatLstk	0.01	0.02	0.01	0.05	-0.00	-0.00	-0.00	-0.11					
Extraction	0.01	0.01	0.00	0.01	0.01	0.01	0.00	-0.09					
ProcFood	0.00	0.02	0.01	0.06	0.00	0.00	0.00	-0.14					
TextWapp	0.01	0.02	0.00	0.07	0.01	0.01	-0.00	-0.37					
LightMnfc	0.01	0.00	0.00	0.02	0.00	0.00	-0.00	-0.28					
HeavyMnfc	0.01	0.00	0.00	0.02	0.00	0.00	-0.00	-0.34					
Util_Cons	-0.00	0.00	-0.00	-0.00	0.00	0.00	-0.00	-0.01					
TransComm	0.00	0.00	0.00	0.01	0.00	0.00	0.00	-0.09					
OthServices	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.03					
CGDS	-0.00	0.00	-0.00	0.00	-0.00	-0.00	-0.00	0.04					

qo(NSAV_COMM,REG) [%-change]: industry output of commodity i in region r

1. Comparative Advantage: The African Union might have a comparative advantage in grain crop production, meaning they can produce these grain crops more efficiently.. Removing import taxes allows them to expand their market share in these regions, leading to increased output.

3. Quality and Price: African Union grain crops may offer a combination of quality and price that is attractive to the importing regions, while grain crops from other regions (G7, G20, and the European Union) may not be as competitive in terms of cost and quality.

5. Increased Demand: The removal of import taxes may lead to increased demand for African Union grain crops in G7, G20, and the European Union, further boosting production in the African Union.

6. Domestic Competition: The negative changes in G7, G20 (excluding India), and the European Union might be a result of their domestic grain crop industries facing tough competition from the African Union, leading to reduced output.

Change in the volume of global merchandise exports for grains and grain crops

RunGTAP: agfinal/a-1 100% change on crops to G20, G7, India & EU					
File Copy View Version Tools Help					
Title	RunGTAP	Version	Closure	Shocks	Solve
Everything	(Sim)	2	Contents	Description	1 (Sim)
qxwcom			Pre	Post	Ch/%Ch
GrainsCrops	0.33	438940.37	440408.44	1468.06	
MeatLstk	0.02	209984.88	210034.67	49.80	
Extraction	0.00	2231614.50	2231633.25	18.75	
ProcFood	0.01	824028.75	824128.63	99.88	
TextWapp	0.01	775505.25	775592.88	87.62	
LightMnfc	0.00	3515999.00	3516158.00	159.00	
HeavyMnfc	0.00	8891441.00	8891529.00	88.00	
Util_Cons	0.01	217147.03	217167.41	20.38	
TransComm	0.00	2225946.75	2226042.25	95.50	
OthServices	0.00	1978799.38	1978891.38	92.00	

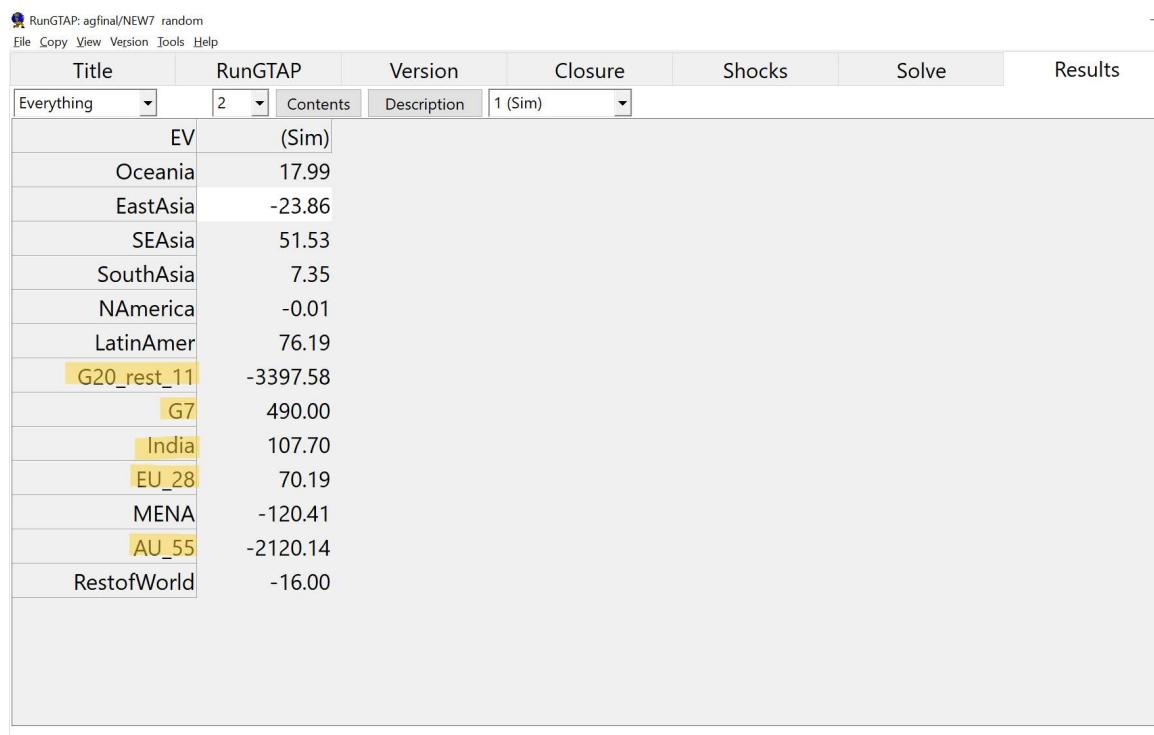
qxwcom(TRAD_COMM) [%-change]: volume of global merchandise exports by commodity

1. Increased Trade: The elimination of import taxes can lead to increased trade between the African Union and the specified regions. When trade barriers are reduced, it becomes more cost-effective for countries to engage in cross-border trade. This can lead to an increase in the volume of exports.

2. Price Competitiveness: African Union countries may have a comparative advantage in the production of certain grain crops. By removing import taxes, their agricultural products become more price competitive in the specified regions, encouraging greater demand and thus increasing exports.

3. Diversification of Suppliers: The removal of import taxes can diversify the sources of agricultural products for the G20 , EU, India, and G-7 regions. This can reduce their reliance on a limited number of suppliers.

Shock 2: AMS= -50 on crops from AU to *G20_rest_11, EU_28, India, G-7*



EV(REG) [change]: equivalent variation, \$ US million

African Union (AU) (-2120.14 million dollars): A reduction in non-tariff trade barriers may lead to increased competition and easier access to the AU market. This can reduce the perceived quality of AU grain crops, resulting in a decrease in demand and negative equivalent variation.

G20 Countries (-3397.9 million dollars): A significant reduction in non-tariff barriers could result in a flood of AU imports, potentially leading to lower prices, reduced domestic production, and a decline in equivalent variation.

European Union (EU) (70.9 million dollars): The modest positive equivalent variation may be due to the fact that these products may still face some non-tariff restrictions, and competition with EU products may limit the impact on the market.

India (107.70 million dollars): India might have implemented certain non-tariff trade barriers to protect its domestic agricultural sector. A reduction in these barriers can lead to an increase in the import of AU grain crops, providing consumers with a greater variety of choices and potentially lower prices.

G7 Countries (490.00 million dollars): A moderate reduction in non-tariff barriers might not significantly disrupt their markets. The positive equivalent variation indicates that consumers in G7 countries benefit from easier access to AU grain crops, leading to a positive impact on their welfare.

Effect on industry output

Title		RunGTAP	Version	Closure	Shocks		Solve	Res	
Everything	qo	LatinAmer	G20_rest_11	G7	India	EU_28	MENA	AU_55	R
Land	0		0	0	0	0	0	0	
UnSkLab	0		0	0	0	0	0	0	
SkLab	0		0	0	0	0	0	0	
Capital	0		0	0	0	0	0	0	
NatRes	0		0	0	0	0	0	0	
GrainsCrops	0.31		0.76	0.51	0.07	0.24	0.12	-1.52	
MeatLstk	-0.02		-0.14	0.00	-0.02	0.08	0.03	0.40	
Extraction	-0.03		-0.02	-0.02	-0.02	-0.03	-0.01	0.31	
ProcFood	-0.01		-0.13	0.00	0.01	0.03	0.00	0.52	
TextWapp	-0.04		-0.12	-0.01	-0.03	-0.00	0.02	1.31	
LightMnfc	-0.04		-0.03	-0.01	-0.01	-0.00	0.01	1.00	
HeavyMnfc	-0.04		-0.01	-0.02	-0.01	-0.01	0.00	1.19	
Util_Cons	0.00		-0.02	0.01	0.01	0.00	0.00	0.03	
TransComm	-0.01		-0.02	-0.00	-0.01	-0.01	-0.01	0.31	
OthServices	-0.00		-0.01	-0.00	-0.01	-0.00	-0.01	0.12	
CGDS	0.01		-0.02	0.02	0.01	0.01	0.00	-0.12	

qo(NSAV_COMM,REG) [%-change]: industry output of commodity i in region r

1. Positive Change in G20, G7, and European Union: The reduction in non-tariff barriers might have encouraged these regions to diversify their sources of agricultural products, leading

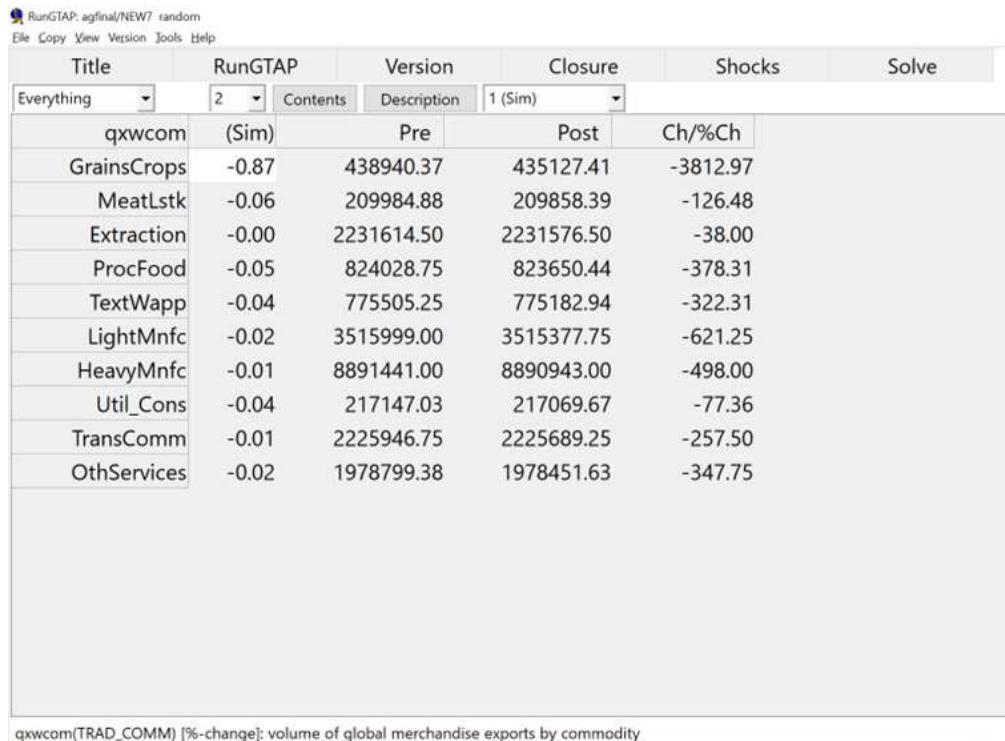
to an increase in the availability of different grain crops. The African Union might offer grain crops at a competitive price point, attracting buyers in G20, G7, and the European Union.

2. Marginal Change in India: The small positive change in India (0.07) suggests that the reduction in non-tariff barriers had a limited impact on the Indian grain crop industry. This could be due to India's already strong domestic agricultural production.

3. Negative Change in African Union: The negative change in industry output (-1.52) in the African Union could be due to increased competition from other regions, including the G20, G7, and the European Union, leading to a decline in domestic production.

Overall, the outcome of reducing non-tariff trade barriers is likely a result of complex factors, including consumer preferences, production capabilities, and market dynamics.

Change in the volume of global merchandise exports for grains and grain crops:



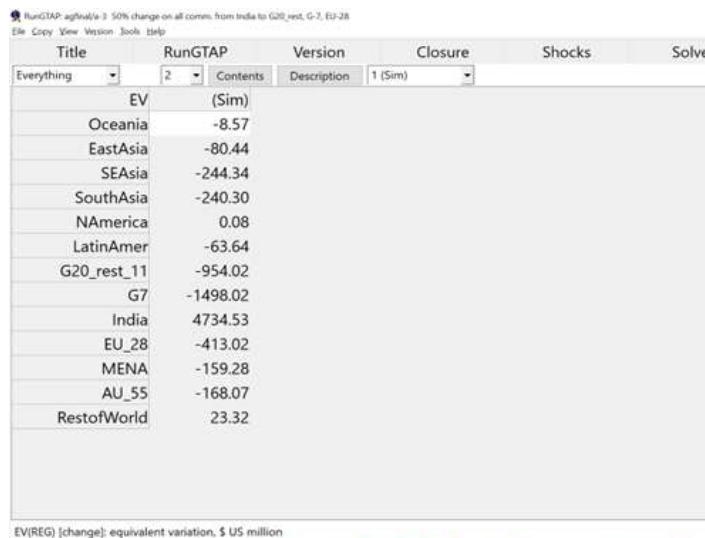
Change in the volume of global merchandise exports for grains and grain crops:

When AMS=-50 on crops from AU to G20_rest_11, EU_28, India, G-7 is applied, Grains and crops saw maximum %change in volume of global merchandise export (-0.87%).

1. Competitive Factors: Lower non-tariff trade barriers may have helped non-AU countries export grains and grain crops to target regions. African Union exporters may lose market share due to increased competition even if they keep producing.

2. Price and Quality Considerations: Despite reduced non-tariff trade barriers between the African Union and certain regions, exporters face challenges in complying with regional quality and safety standards. Factors such as changing consumer preferences, transportation and infrastructure issues, exchange rates, government policies, and global market conditions contribute to the change. Despite these challenges, the African Union must invest in quality control, infrastructure, and compliance to access these markets.

Shock 3: TMS=-50 on all commodities from *India* to *G20_rest_11, EU_28, G-7*



1. G20 countries (-954.02): The negative impact might be due to the fact that some G20 countries have domestic industries that directly compete with Indian imports and make Indian products more affordable and attractive to consumers. This could potentially displace local products, lead to job losses, and reduce domestic production in certain sectors.

2. European Union (-413.02): The EU likely already had relatively low import tariffs on Indian imports, and its competitive industries could produce many goods similar to those from India. Therefore, the lower import taxes on Indian goods might not have significantly impacted consumer welfare.

3. G7 countries (-1,498.02): Similar to the G20 countries, this could be due to the existence of industries in the G7 nations that directly compete with Indian imports. The lower import taxes

made Indian products more affordable and appealing to consumers, potentially displacing domestic products and putting pressure on these industries, which could lead to job losses and reduced domestic production.

4. India (4,743.53): India experienced a substantial positive equivalent variation, indicating that reducing import taxes on its commodities had a significant positive impact on its economy. This policy change made Indian products more competitive in the G20, G7, and EU countries, leading to increased exports, higher revenues, and job creation.

Effect on industry output of different groups:

RunGTAP: agfinal/a-3 50% change on all comm. from India to G20_rest, G-7, EU-28										
Title		RunGTAP		Version		Closure		Shocks	Solve	Results
Everything	qo	LatinAmer	G20_rest_11	G7	India	EU_28	MENA	AU_55	Res	
Land	0	0	0	0	0	0	0	0	0	
UnSkLab	0	0	0	0	0	0	0	0	0	
SkLab	0	0	0	0	0	0	0	0	0	
Capital	0	0	0	0	0	0	0	0	0	
NatRes	0	0	0	0	0	0	0	0	0	
GrainsCrops	-0.02	-0.06	-0.02	0.19	-0.02	0.08	0.01			
MeatLstk	0.00	0.02	0.00	-0.25	-0.00	-0.01	0.01			
Extraction	0.02	0.02	0.02	-0.59	0.03	0.00	0.01			
ProcFood	-0.00	0.02	-0.00	-0.02	-0.02	-0.02	-0.01			
TextWapp	-0.17	-0.23	-0.33	4.00	-0.53	-0.17	-0.12			
LightMnfc	0.00	-0.01	-0.00	0.22	-0.02	0.03	-0.01			
HeavyMnfc	-0.00	0.02	0.01	-0.21	-0.02	0.01	0.01			
Util_Cons	-0.01	-0.01	-0.01	0.40	-0.01	-0.02	-0.02			
TransComm	0.01	0.00	0.00	0.02	0.01	-0.01	-0.00			
OthServices	0.01	0.00	0.00	-0.39	0.01	-0.00	0.00			
CGDS	-0.02	-0.01	-0.03	0.59	-0.02	-0.02	-0.03			

1. Positive Change in India (4.00): Several factors could contribute to this positive change:

Lower tariffs make Indian products more competitive in international markets, leading to increased exports and higher production.

Indian goods and commodities may align well with the demand in these regions, making them attractive to consumers and businesses.

India may have a comparative advantage in certain industries or products, allowing it to benefit from increased access to these markets.

2. Negative Change in G7, G20, European Union, and the African Union:

Increased Competition: Reduced tariffs may have exposed domestic industries in these regions to intensified competition from Indian products, leading to decreased production.

Quality and Standards: Indian exports may not meet the quality or safety standards required by these regions, making them less appealing.

Change in the volume of global merchandise exports for Textiles and Apparels:

RunGTAP: agfinal/a-3 50% change on all comm. from India to G20_rest, G-7, EU-28					
Title		RunGTAP		Version	Closure
Everything		(Sim)	2	Contents	Description
qxwcom	(Sim)	Pre	Post	Ch/%Ch	
GrainsCrops	0.09	438940.37	439319.94	379.56	
MeatLstk	-0.06	209984.88	209864.52	-120.36	
Extraction	0.03	2231614.50	2232232.00	617.50	
ProcFood	0.04	824028.75	824333.06	304.31	
TextWapp	0.15	775505.25	776632.56	1127.31	
LightMnfc	0.03	3515999.00	3516963.25	964.25	
HeavyMnfc	0.03	8891441.00	8894444.00	3003.00	
Util_Cons	-0.00	217147.03	217136.59	-10.44	
TransComm	-0.01	2225946.75	2225813.25	-133.50	
OthServices	-0.05	1978799.38	1977827.38	-972.00	

qxwcom(TRAD_COMM) [%-change]: volume of global merchandise exports by commodity

When TMS=-50 on all commodities from India to G20_rest_11, EU_28, G-7 is applied, Textiles and Apparels saw maximum %change in volume of global merchandise export (0.15%).

1. Improved Cost Competitiveness: Lower tariffs can reduce the cost of Indian textiles and apparels in the target regions. This increased cost competitiveness can lead to a rise in demand for Indian products.

2. Market Access: Reduced tariffs enable Indian textiles and apparels to expand market opportunities, enhance competitiveness, and adapt to consumer preferences, favorable exchange rates, trade agreements, marketing optimization, and seasonal demand fluctuations.

Shock 4: AMS= -50 on all commodities from India to G20_rest_11, EU_28, G-7

RunGTAP		Version	Closure	Shocks	Solve
Title	2	Contents	Description	1 (Sim)	
Everything					
EV	(Sim)				
Oceania	315.93				
EastAsia	3738.55				
SEAsia	7794.14				
SouthAsia	4878.83				
NAmerica	15.62				
LatinAmer	2419.37				
G20_rest_11	-15783.91				
G7	-9616.40				
India	-168350.48				
EU_28	-4641.60				
MENA	6602.63				
AU_55	6409.77				
RestofWorld	1156.91				

EV(REG) [change]: equivalent variation, \$ US million

G20 Countries (-\$15,783.91 million):

Increased competition: A reduction in non-tariff trade barriers may lead to increased competition from Indian goods, which can put downward pressure on prices and reduce profits for domestic industries in G20 countries.

Displacement of local industries: Lower trade barriers can lead to the displacement of local industries in G20 countries, particularly those that cannot compete with lower-cost Indian goods, resulting in job losses and negative economic impacts.

European Union (-\$4,641.60 million):

Market saturation: The EU may already have relatively open trade with India or not rely heavily on Indian imports, leading to a smaller impact on economic welfare .

Diverse sourcing: The EU can source goods from various countries, so the reduction in non-tariff trade barriers with India may not significantly affect its overall economic welfare.

G7 Countries (-\$9,616.40 million):

G7 countries may have larger and more diversified economies, making them less susceptible to economic fluctuations resulting from changes in trade with India.

India (-\$168,350.48 million): Due to reduced quality , the demand in other countries will go down eventually leading to reduced equivalent variation.

Impact on Industry output

Title		RunGTAP	Version	Closure	Shocks	Solve	Res	
qo		LatinAmer	G20_rest_11	G7	India	EU_28	MENA	AU_55
Land	0	0	0	0	0	0	0	0
UnSkLab	0	0	0	0	0	0	0	0
SkLab	0	0	0	0	0	0	0	0
Capital	0	0	0	0	0	0	0	0
NatRes	0	0	0	0	0	0	0	0
GrainsCrops	-0.08	-0.09	-0.60	5.90	-0.20	-2.17	-0.46	
MeatLstk	-0.11	-0.33	-0.33	4.77	-0.39	-0.00	-0.34	
Extraction	-0.56	-0.39	-0.41	16.06	-0.87	-0.08	-0.21	
ProcFood	-0.02	-0.37	-0.05	3.89	-0.05	0.37	0.29	
TextWapp	-0.47	0.09	0.81	-0.43	1.85	-0.48	-0.36	
LightMnfc	-0.16	0.13	-0.08	3.45	0.41	-1.50	0.05	
HeavyMnfc	0.41	0.25	0.15	-0.81	0.50	-0.54	-0.16	
Util_Cons	0.63	0.26	0.33	-12.70	0.22	0.66	0.85	
TransComm	-0.04	-0.01	-0.03	-2.68	-0.14	0.46	0.24	
OthServices	-0.07	-0.05	-0.04	3.14	-0.10	0.20	0.08	
CGDS	0.89	0.35	0.65	-21.56	0.47	0.85	1.07	

qo(NSAV_COMM,REG) [%-change]: industry output of commodity i in region r

1. Positive Change in India (16.06): Lower non-tariff trade barriers may have facilitated increased exports of Indian extraction products to these regions, leading to a substantial boost in production. India may possess valuable extraction resources or commodities that are in high demand in G20, G7, and the European Union, resulting in increased production.

Indian extraction products may meet the quality and safety standards of these regions, making them attractive to consumers and businesses.

2. Negative Change in G20, G7, and the European Union (-0.39, -0.41, and -0.87): Reduced non-tariff trade barriers may have exposed domestic industries in these regions to intensified competition from Indian extraction products, leading to a decrease in their own production.

These regions may have a preference for using their own domestic resources, leading to lower demand for Indian imports.

Change in the volume of global merchandise exports for Extraction:

RunGTAP: agfinal/a-6 50% ams change on all comod, from India to G20_rest, G-7, EU_28				
Title	RunGTAP	Version	Closure	Shocks
Everything	2	Contents	Description	1 (Sim)
qxwcom	(Sim)	Pre	Post	Ch/%Ch
GrainsCrops	0.33	438940.37	440369.94	1429.56
MeatLstk	1.30	209984.88	212707.81	2722.94
Extraction	-1.59	2231614.50	2196225.75	-35388.75
ProcFood	-0.42	824028.75	820550.56	-3478.19
TextWapp	0.67	775505.25	780674.63	5169.37
LightMnfc	-0.34	3515999.00	3504063.00	-11936.00
HeavyMnfc	-1.04	8891441.00	8799042.00	-92399.00
Util_Cons	-0.17	217147.03	216779.81	-367.22
TransComm	-0.39	2225946.75	2217370.00	-8576.75
OthServices	0.57	1978799.38	1990019.50	11220.13

qxwcom(TRAD_COMM) [%-change]: volume of global merchandise exports by commodity

When AMS=-50 on all commodities from India to G20_rest_11, EU_28, G-7 is applied, Extraction saw maximum %change in volume of global merchandise export (-1.59%).

1)Quality and Environmental Standards: Even with lower non-tariff barriers, quality and environmental standards must be met. Indian exports could be limited if extraction commodities did not meet target regions' strict standards.

2)Other supplier competition: Competition from other countries lowering non-tariff trade barriers may have increased global extraction commodity supply, reducing India's market share and export volumes.

3)Protectionist measures: Even with reduced non-tariff trade barriers, target regions may have implemented quotas, licensing requirements, or export restrictions, which can limit export opportunities.

4)Environment and Sustainability Concerns: Environmental sustainability and regulations may affect the extraction industry. Exports may drop if Indian extraction commodities fail to meet strict environmental standards in importing regions.

Geopolitical factors, market access and distribution challenges, energy mix changes, timing, and market cycles also contribute to the change.

LITERATURE REVIEW

G20, in the world of today has gained a sort of a primer status for itself and it has reflected in the ever growing importance of its policy agenda. To wrap our minds around the relevance and technicalities of the G20 policy frameworks we have majorly looked at the following two research papers.

(Alessandr Nicita & Julia Seiermann, 2016)

The paper keeps itself along the lines of the immense potential upside the LDCs(Least developed countries) could have in the G20 sphere. It analyzes G20 trade policies and the trade landscape of LDCs to find a way to get both of them to benefit off each other. It tries to figure out the potency of a myriad of policy solutions like the tariff preferential and NTMs(Non Tariff Measures) by offering a deep dive into what both of these could mean on a domestic and international levels respectively. The paper makes use of econometric tools like the cross sectional gravity model framework and coefficients from regression to estimate the magnitude of the trade effects of tariffs and the distortionary trade effect of NTMs.

(McKibbin, Warwick J. and Triggs, Adam, April 24, 2018)

The paper attempts to build a general equilibrium G20 model incorporating a range of real world complexities. It considered four policy shocks (namely a productivity shock, fiscal shock, consumption shock and a shock with all three of them together) and consequences that would flow from the G20s policy agenda. It dissects the complex trade and financial linkages between countries and brings together the real and financial sectors into a single model.

CONCLUSION

The report "Analyzing Global Trade Shock Scenarios: A GTAP Simulation of G20 Nations" has analyzed the impact of reducing import taxes and non-tariff trade barriers on grain crops from the African Union to the G20 countries, European Union, G7, and India. Shock 1: The African Union, G20 Countries, European Union, India, and G7 Countries should all consider implementing the policy, they either benefit significantly or experience mixed effects on industry output. Shock 2: The African Union should not implement the policy as they experience an adverse change in industry output., while the G20 Countries, European Union, India, and G7 Countries should consider implementing it because of a positive change in industry output. Shock 3: The African Union, G20 Countries, and G7 Countries should not implement the policy unless they are willing to support domestic industries that may be negatively affected due to a negative equivalent variation and adverse change in industry output. India and the European Union should consider implementing the policy, subject to certain conditions. Shock 4: The African Union, European Union, G7 Countries, and India should consider implementing the policy, as there is a negative equivalent variation and positive change in industry output, while G20 Countries should only implement the policy if they are willing to provide support to domestic industries that may be negatively affected because they experience a negative equivalent variation and negative change in industry output. All countries and unions should carefully consider the potential impacts of each policy before implementing them.

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