Policy Analysis Focus 24-16
Impact of US tariff hikes on American economies[1]

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I. Introduction

At the beginning of February, the United States (US) imposed a 10% additional tariff on imports from China; in response, China has implemented counter measures. Meanwhile, the US has decided to impose a 25% tariff on imports of steel and aluminum from all economies in the world, to which various economies have voiced opposition. Moreover, President Trump issued an executive order[2] to impose a 25% additional tariff on imports from Canada[3] and Mexico, and expressed his intention to hike tariffs by 10% to 20% on imports from all economies in the world.

This article quantitatively investigates the economic impact of US tariff hikes on individual Central and South American economies alongside that on the US as well as Canada and Mexico by means of simulation studies using a computable general equilibrium (CGE) model of global trade.[4]

II. Impact on economy

The impact of additional 25% US tariffs on imports of all goods from Canada and Mexico and 10% on imports from China (CM25CN10) is estimated to decrease US

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[1] This report supplements Kawasaki (2024), "Economic Impact of Further US Tariff Hikes," GRIPS Discussion Paper 24-12, GRIPS, December 2024, followed by Policy Analysis Focus 24-11, 24-12 and 24-13, those studied the impact of US tariff hikes on African, Asian and European economies respectively. The views expressed in this article are the author's own and do not represent those of GRIPS Alliance or other organizations to which the author belongs.

[2] On February 4 tariff hikes were postponed for a month.

[3] A 10% tariff would be applied to imports of energy and energy resources from Canada.

[4] The framework of model simulations remains unchanged from that in Kawasaki (2024). The Global Trade Analysis Project (GTAP) 7 model (based on GTAP 11c Data Base) is solved using GEMPACK software referred to in Horridge, Jerie, Mustakinov & Schiffmann (2018), GEMPACK Manual, ISBN 978-1-921654-34-3, incorporating dynamic effects of capital and labor. The baseline data for GDP and population are updated to those for 2025 based on the World Economic Outlook (WEO) Database, October 2024, International Monetary Fund (IMF).

Table 1 Impact on real GDP

(%)

	CM25CN10	WR10		CM25CN10	WR10
US	-1.19	-1.49	Canada	-3.17	-1.27
Mexico	-14.15	-4.41	China	-0.31	0.06
Japan	0.78	-0.01	EU	0.47	0.00
Argentina	0.33	0.03	Bolivia	0.32	-0.45
Brazil	0.18	-0.17	Chile	0.39	-0.55
Colombia	0.34	-0.26	Ecuador	0.46	-0.37
Paraguay	0.28	-0.43	Peru	0.26	-0.14
Uruguay	0.31	-0.15	Venezuela	0.30	-0.36
Belize	0.90	-0.79	Costa Rica	1.31	-1.26
Guatemala	1.02	-0.60	Honduras	1.85	-1.54
Nicaragua	2.55	-1.27	Panama	0.21	-0.69
El Salvador	1.78	-1.16	Dominican Rep.	1.04	-1.00
Haiti	1.48	-1.02	Jamaica	-0.10	-1.25
Puerto Rico	0.79	0.25	Trinidad and Tobago	0.89	-0.97
Central/South America	0.35	-0.29			

Source: Author's simulations.

real GDP by 1.19%[5] as is shown in Table 1. The impact on China's resultant real GDP decrease would be limited. On the other hand, Canada and Mexico would be adversely affected (by 3.17% and 14.15% respectively) more seriously than the US. That said, real GDP would increase in almost all Central and South American economies due to trade diversion effects, as in Japan and the European Union (EU). Total real GDP for Central and South American economies is estimated to increase by 0.35%, with a larger increase in Central America (average 1.04%) than in South America (average 0.25%).

That said, if an additional 10% US tariff were applied to all goods globally (WR10), real GDP of almost all Central and South American economies is estimated to turn to decrease resulting in a 0.29% total decrease for Central and South American economies. That decrease is suggested to be larger in Central America (average 0.78%) than in South America (average 0.20%).

By economy, decreases in real GDP would be quite limited in larger economies in Central and South America including Brazil, Colombia and Peru, but large in small Central and South American economies, as discussed above. A positive correlation appears to some extent between changes in real GDP and GDP of Central and South American economies (correlation coefficient 0.37). Meanwhile, a positive correlation is also found between changes in real GDP and per capita GDP of Central and South

[5] This estimated result is not strictly equal to those in earlier studies, as the aggregation of data by economy for model simulations is different from that in earlier studies.

American economies (correlation coefficient 0.39). Income gaps among Central and South American economies would be widened by US tariff hikes.

The trade intensity index (TII) for exports of Central and South American economies would be high internally (around 5.7), followed by that for China (around 1.8) and the US (around 1.3). Average US export dependency ratio of Central and South American is around 21%. That said, the US export dependency ratio would vary by economy (coefficient of variation 0.62); it would be higher in Central American economies (around 40%), which are small in economic size, than in South American ones (around 17%), which are large in economic size. A negative correlation is found between changes in real GDP and the US export dependency ratio of Central and South American economies (correlation coefficient -0.69), which suggests a larger adverse impact of US tariff hikes given the higher US export dependency ratio.

III. Impact on industry

If the US imposed an additional 10% tariff globally, it is estimated that US agriculture, forestry and fisheries production (AFF), which has international competitiveness, would decrease by 1.00%, but non-competitive textiles and apparel (TXL) production would increase by 2.39% as is shown in Table 2. There is concern that tariff hikes would deteriorate free trade and distort resource allocation efficiency.

Production of Central and South American economies as a whole is estimated to

Table 2 Impact on production by major industry

(%)

	AFF	MNG	TXL		AFF	MNG	TXL
US	-1.00	-0.22	2.39	Canada	0.03	-0.48	-1.57
Mexico	-0.53	-0.33	-1.83	China	0.01	-0.31	-0.54
Japan	0.11	-0.66	-0.39	EU	-0.12	-0.48	-0.76
Argentina	-0.19	-0.54	-0.29	Bolivia	-0.24	-0.40	-0.38
Brazil	-0.03	-0.44	-0.21	Chile	-0.31	-0.50	-0.01
Colombia	-0.47	-0.45	-0.25	Ecuador	-0.30	-0.54	-0.11
Paraguay	-0.19	-0.58	-0.70	Peru	-0.32	-0.48	-0.80
Uruguay	-0.21	-0.77	-2.29	Venezuela	-0.29	-0.59	0.20
Belize	-0.46	-0.34	-2.65	Costa Rica	-0.58	-0.56	-1.05
Guatemala	-0.71	-0.95	-4.06	Honduras	-0.25	-0.35	-8.18
Nicaragua	-0.32	-0.13	-5.84	Panama	-0.32	-0.14	-0.72
El Salvador	-0.40	-0.36	-5.89	Dominican Rep.	-0.36	-0.68	-8.39
Haiti	-0.15	-0.63	-6.59	Jamaica	-0.59	-0.08	-0.58
Puerto Rico	-0.27	-0.43	-0.42	Trinidad and Tobago	-0.34	-0.51	0.89
Central/South America	-0.19	-0.48	-1.65				

Source: Author's simulation.

increase in motor vehicles and parts (0.51%), electronic products (0.12%) and other machinery and equipment (0.10%) alongside chemical products (0.99%), but decrease in agriculture, forestry and fisheries (0.19%), mining (0.48%), processed foods (0.14%), textiles and apparel (1.65%), other light manufacturing (0.60%) and metals (0.78%).[6]

The revealed comparative advantage (RCA) index for exports in Central and South American economies as a whole is high in agriculture, forestry and fisheries (around 4.7), processed foods (around 3.0) and mining (around 2.6). There is concern that the allocation of production resources would be made inefficient as production in the above three industries would decrease.

Agriculture, forestry and fisheries, processed foods and chemical products each account for around 20% of total production of goods. On the other hand, motor vehicles and parts, electronic products and other machinery and equipment in total share a small portion, 10%. The contribution of production increases in those three machinery industries would be limited. On the other hand, textiles and apparel production would decrease substantially and its contribution to the decrease of total production would be the largest among industries.

By economy, a decrease in textiles and apparel production is estimated to be significantly larger in Central America (average 5.77%) than in South America (average 0.38%). On the other hand, the decrease in mining production is not estimated to be much different between South America (average 0.48%) and Central America (average 0.51%). Meanwhile an increase in chemical product production is not estimated to be much different between South America (average 0.94%) and Central America (average 1.17%).

IV. Concluding remarks

If US tariff hikes were extended to all economies, international free trade would be deteriorated. There is concern that resource allocation among industries would become inefficient in American economies. The adverse macroeconomic impact would be larger in Central and South American economies, where per capita income level is lower and the US export dependency ratio is higher. Income gaps among Central and South American economies could be expanded. The utilization of quantitative simulation studies employing economic models would be useful for investigation of the economic impact of trade policy including tariff hikes at both macro and sector levels.

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[6] Estimated results for impact on production in individual economies (not shown in Table 2); other estimates are available upon request to the author, where appropriate.