Policy Analysis Focus 24-11
Impact of US tariff hikes on African economies[1]

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I. Introduction

United States (US) President Trump has expressed his intention to hike tariffs on imports from all economies in the world upon his appointment in January, but that action has been postponed. On the other hand, the US has begun to hike tariffs on imports from Canada and Mexico by 25% and to impose a 10% additional tariff on imports from China in February.

Under those pending actions, US tariffs would be hiked on imports of all goods from all economies, very different from tariff hikes under the first Trump administration. Those actions and their impact have also been of concern for developing economies. This article quantitatively investigates the economic impact of US tariff hikes on African economies by means of simulation studies using a computable general equilibrium (CGE) model of global trade.[2]

II. Impact on economy

Those increases in US tariffs on all imports of goods from Canada and Mexico by 25% and from China by 10% (CM25CN10) are estimated to decrease US real GDP by 1.19% as is shown in Table 1. On the other hand, the decrease in China's real GDP would be limited to 0.31%, but real GDP decreases in Canada (by 3.16%) and in Mexico (by

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[1] This is a supplementary report to Kawasaki (2024), "Economic Impact of Further US Tariff Hikes," GRIPS Discussion Paper 24-12, GRIPS, December 2024. 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] 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	-1.50	Canada	-3.16	-1.27
Mexico	-14.09	-4.43	China	-0.31	0.05
Japan	0.78	0.00	EU	0.47	0.01
Algeria	0.20	-0.19	Egypt	0.38	0.06
Libya*	-0.04	-0.79	Morocco	0.31	0.11
Tunisia	0.53	0.44	Benin	0.50	-0.09
Burkina Faso	0.35	0.21	Cameroon	0.26	0.06
Cote d'Ivoire	0.26	0.06	Ghana	0.18	-0.13
Guinea	0.72	0.38	Mali	0.11	-0.02
Niger	0.14	0.14	Nigeria	0.06	-0.44
Senegal	0.66	0.34	Togo	0.54	0.06
Angola**	-0.20	-1.17	Central African Rep.	0.01	0.02
Chad	-0.01	0.11	Rep. of Congo	0.05	-0.28
DR Congo	0.14	0.03	Equatorial Guinea	0.65	-1.82
Gabon	0.13	-0.13	Comoros	0.30	0.30
Ethiopia	0.25	0.02	Kenya	0.82	0.09
Madagascar	0.21	0.15	Malawi	0.18	0.00
Mauritius	0.34	0.12	Mozambique	0.29	-0.12
Rwanda	0.10	0.01	Sudan	0.25	0.05
Tanzania	0.22	0.04	Uganda	0.35	0.10
Zambia	0.18	0.16	Zimbabwe	0.21	0.08
Botswana	0.58	-0.49	Eswatini	0.14	-0.06
Namibia	0.15	0.06	South Africa	0.23	-0.05
Lesotho	1.88	-0.57	Africa total	0.28	-0.06

Note: Proxied by the composite region. * with Western Sahara and ** with Sao Tome Principe.
Source: Author's simulations.

14.09%) would be much more serious. That said, real GDPs of almost all African economies would increase, in turn increasing Africa's total real GDP by 0.28%, similar to the situation in Japan and the European Union (EU). One reason for those increases could be trade diversion effects, where there would be an increase in exports from third parties whose exports replaced those from Canada, Mexico and China to the US.

On the other hand, if an additional 10% US tariff were applied to all economies (WR10), it is indicated that real GDP would increase to a lesser extent or even decrease in Africa, as in Japan and the EU, though generally less than in the US. Total African real GDP is estimated to decrease by 0.06%. The trade intensity index (TII) of African economies would be high internally (around 4.2), followed by that for India (around 2.7) and China (around 1.5) among African major trade partners, but low for the US (around 0.5). To a large extent, Africa would not be adversely affected by US trade policy.

By economy, real GDP is estimated to decrease most in Equatorial Guinea (1.82%), followed by Angola (1.17%), Libya (0.79%), Lesotho (0.57%), Botswana (0.49%), and Nigeria (0.44%). On the other hand, real GDP would increase in Tunisia (0.44%), followed by Guinea (0.38%) and Senegal (0.34%). The differences in economic impact among economies would reflect differences in trade structure by industry, as discussed below. Weak negative correlation (correlation coefficient -0.28) appears between changes in real GDP and per capita GDP of African economies. Income gaps among African economies would not necessarily be amplified by US tariff hikes.

III. Impact on industry

Impact by industry would be larger than that at the macroeconomic level. There is concern that tariff hikes would deteriorate free trade and distort the efficiency of resource allocation. If the US imposed an additional 10% tariff globally, world exports to

Table 2 Impact on production of major industries

(%)

	AFF	MNG	PFD		AFF	MNG	PFD
US	-0.97	-0.22	-0.79	Canada	0.07	-0.47	-1.58
Mexico	-0.45	-0.32	-2.63	China	0.01	-0.31	0.03
Japan	0.12	-0.66	0.18	EU	-0.12	-0.47	-0.21
Algeria	-0.15	-0.24	0.09	Egypt	-0.01	-0.35	0.06
Libya*	-0.32	-0.74	0.13	Morocco	-0.13	-0.74	-0.02
Tunisia	0.00	-0.49	0.20	Benin	-0.06	-0.76	-0.11
Burkina Faso	0.02	-0.52	0.04	Cameroon	0.00	-0.26	-0.04
Cote d'Ivoire	-0.13	-0.32	-0.09	Ghana	-0.14	-0.36	-0.09
Guinea	-0.01	-0.37	0.15	Mali	-0.01	-0.29	0.02
Niger	0.02	-0.35	-0.12	Nigeria	-0.15	-1.04	-0.39
Senegal	0.02	-0.57	0.08	Togo	-0.01	-0.92	0.00
Angola**	-1.11	-1.07	1.43	Central African Rep.	-0.01	-1.00	-0.03
Chad	-0.11	-0.33	-0.10	Rep. of Congo	-0.19	-0.27	0.56
DR Congo	-0.03	-0.35	0.01	Equatorial Guinea	-0.05	-0.76	-1.40
Gabon	0.10	-0.28	0.10	Comoros	-0.05	0.00	0.19
Ethiopia	0.00	-0.60	-0.02	Kenya	-0.05	-0.40	0.08
Madagascar	-0.17	-0.27	0.40	Malawi	-0.05	-0.63	0.36
Mauritius	-0.25	-1.03	0.02	Mozambique	-0.14	-0.31	0.71
Rwanda	-0.05	-0.98	0.01	Sudan	0.02	-0.95	0.07
Tanzania	-0.03	-0.55	0.08	Uganda	0.00	-0.28	0.01
Zambia	-0.08	-0.35	-0.07	Zimbabwe	-0.01	-0.39	0.19
Botswana	0.13	-0.51	0.32	Eswatini	0.03	-0.46	0.05
Namibia	0.02	-0.66	0.17	South Africa	0.00	-0.47	-0.03
Lesotho	0.15	-0.48	0.04	Africa total	-0.15	-0.52	-0.01

Note: Proxied by the composite region. * with Western Sahara and ** with Sao Tome Principe.
Source: Author's simulation.

the US are estimated to decrease by 19.1% with the largest decrease (28.6%) in the mining industry (MNG), though export decreases in agriculture, forestry and fisheries (AFF) (by 7.4%) and processed foods (PFD) (by 12.0%) would be smaller than in other sectors.

The ratio of production in agriculture, forestry and fisheries; mining; and processed foods to total production of industries is high in African economies as a whole. The above three industries account for around 70% of goods production, higher than the share of those industries in the world average. Meanwhile, the revealed comparative advantage (RCA) index of exports is highest in the mining industry (around 4.4) followed by agriculture, forestry and fisheries (around 2.7) and metals (around 1.9).

The impact on the production of the above three major industries is shown in Table 2. Agriculture, forestry and fisheries production is estimated to decrease in many African economies and by 0.15% in Africa as a whole, ranging from a 1.11% decrease to a 0.15% increase. Meanwhile, mining industry production is estimated to decrease to a larger extent in almost all African economies, at the largest by 1.07% and by 0.52% in total. On the other hand, processed food production in many African economies is estimated to not decrease, with changes ranging from a 1.40% decrease to a 1.43% increase, resulting in virtually no change (a decrease of 0.01%) in the total.

Textiles and apparel production is also estimated[3] to decrease (by 0.37%) in Africa. On the other hand, production would increase for other light manufacturing (0.15%), chemical products (0.49%), metals (0.84%), motor vehicles and parts (0.76%), electronic products (0.42%) and other machinery and equipment (0.96%), though production in those industries is smaller than in the above three industries.

IV. Concluding remarks

If targeting of economies were expanded globally, US tariff hikes would adversely affect developing economies including Africa. In particular, there would be concern that production in agriculture, forestry and fisheries and mining would decrease, though those sectors have been competitive internationally. Tariff hikes under the second Trump administration have just begun. Economies and industries targeted for tariff hikes will bear watching. Quantitative simulation studies using economic models will be useful for gauging the economic impact of trade policy including tariff hikes.

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[3] 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.