

Policy Analysis Focus 24-3

Economic Impact of US Tariff Hikes¹

May 2024

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I. Introduction

Former United States (US) president Trump will likely become the Republican candidate for the November 2024 presidential election. In 2017, on his first day as president, Trump withdrew the US from the Trans-Pacific Partnership (TPP). In 2018 he imposed additional tariffs on steel and aluminum as well as on imports from China, to which China responded by imposing additional tariffs on imports from the US.

Moreover, former president Trump is reported to have proposed the introduction of a 10% “universal baseline tariff” and 60% tariffs on China. This article quantitatively investigates the impact of further US tariffs on the US and other economies, by means of simulation studies using a computable general equilibrium (CGE) model of global trade.²

II. Impact on the US economy

The estimated impacts of the following US tariff hikes on the US economy are compared in Table 1.

Uniform: uniform 10% additional tariffs on all economies in the world

China: 60% additional tariffs on China³ and 10% tariffs on the rest of world

¹ 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 Global Trade Analysis Project (GTAP) 7 model (based on GTAP 11c Data Base released in April 2024), 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 accumulation and endogenous labor supply. The elasticity of labor supply with respect to real wage rate is set as 0.4, which would account for that elasticity used in the US public sector. The baseline data of GDP and population is updated from those for 2017 in the GTAP 11c Data Base to those for 2023 based on the World Economic Outlook (WEO) Database, April 2024, International Monetary Fund (IMF).

³ The magnitude of tariff hikes up to 60% would vary depending on baseline tariffs but the estimated impact of an additional 60% in tariffs would not be affected by those variations.

Table 1 Impact on the US economy

	(% , Trade balance: billion USD)							
	Imports		Trade balance		Production		Employment	
	Uniform	China	Uniform	China	Uniform	China	Uniform	China
Agri., forestry & fisheries	-12.2	-13.7	0.9	-0.4	-1.0	-1.7	-1.3	-2.2
Mining	-17.7	-18.5	34.6	38.6	-0.3	-0.8	-0.3	-1.2
Processed foods	-13.6	-15.4	7.5	7.7	-0.9	-1.6	0.2	0.0
Textiles & apparel	-8.1	-12.2	14.7	22.1	1.7	11.7	2.2	12.5
Other manufacturing	-16.7	-25.6	27.7	45.5	-0.2	0.8	0.6	2.0
Chemical products	-13.1	-16.0	-7.0	-3.8	-3.5	-3.7	-2.0	-1.3
Metals	-16.7	-19.3	0.5	-2.7	-2.9	-3.6	-1.9	-2.1
Motor vehicles	-11.5	-12.8	17.5	14.0	-2.4	-4.1	-1.2	-2.3
Other machinery	-15.4	-20.1	10.8	7.8	-3.1	-3.2	-2.1	-1.7
Electronic products	-11.7	-17.1	12.1	20.0	-3.4	1.9	-2.2	3.6
Services	4.2	4.8	-90.2	-115.5	-1.6	-2.7	-0.5	-1.0
Total	-10.2	-13.2	29.1	32.9	-1.7	-2.5	-0.5	-0.8

Source: Author's simulations.

It is estimated that US imports would decrease by 10.2% and trade balance (here, the balance of trade in goods and services) would improve by 29.1 billion US dollars (USD) under uniform 10% additional tariffs. Meanwhile, if an additional 60% tariff were imposed on China, decreases in imports (13.2%) and improvement in trade balance (32.9 billion USD) would be larger.

That said, domestic production is estimated to decrease from 1.7% to 2.5% and employment is also estimated to decrease from 0.5% to 0.8%. It is indicated that domestic production would not necessarily increase as a result of decreases in imports. Rising production costs due to import tariff hikes would cause the US to lose export competitiveness. US exports are estimated to decrease from 16.1% to 20.4%, exceeding import decreases, as is shown in Table 2, discussed later.

By sector, it is estimated that imports of goods would decrease but imports of services, on which tariffs are not imposed, would increase. Meanwhile, if higher tariffs were imposed on China, it is estimated that the magnitudes of further decreases in imports would be larger in textiles and apparel, and in other manufacturing, as well as electronic products and other machinery. Trade balance is estimated to improve substantially in mining and other manufacturing, followed by textiles and apparel, motor vehicles, and electronic products; but to deteriorate in services. Production and employment are estimated to decrease to a larger extent in heavy manufacturing than in other industries, but to increase in textiles and apparel, in particular to a large extent under higher tariffs on China.

It is not shown in the tables here, but if the US imposed 25% in tariffs on metals,⁴ imports of metals would decrease by the singularly high rate of 42.0%⁵ and production of metals would increase by 9.9%. That said, production of other industries would decrease without exception due to rising costs, and production (0.3%) and employment (0.1%) would decrease in industries as a whole. It is indicated that the protection of specific industries could not save jobs at the macro level.

Meanwhile, if the US and China imposed 15% tariffs on each other,⁶ US imports are estimated to decrease by 3.2% but the improvement of trade balance is estimated to be limited to 6.1 billion USD, which accounts for less than 0.1% of US GDP. This indicates that US trade balance with China would be improved but those with other economies would deteriorate due to trade diversion effects, as discussed below. As a matter of fact, US goods trade deficits with China decreased from 375 billion USD in 2017 to 279 billion USD in 2023, but increased from 793 to 1,063 billion USD⁷ with the world as a whole according to International Trade, the US Census Bureau.

III. Impact on each economy

The impact of US tariff hikes on each economy is shown in Table 2. If the US uniformly hiked tariffs, the exports of each economy to the US, i.e., the imports of the US from each economy, are estimated to decrease by 10.1% in the world as a whole. Moreover, if higher tariffs were imposed on China, China's exports to the US would seriously decrease (86.9%) but the exports of the other economies to the US would increase as mentioned above. The magnitude of the decrease in world exports to the US (13.1%) would not be much larger than that under uniform tariff hikes.

Overall exports would decrease the most in the US. Meanwhile, the decreases of exports by Canada and Mexico, both close trade partners with the US, would be larger than those of other economies. On the other hand, China's exports would decrease by a smaller extent than the world average under uniform tariff hikes, but those magnitudes would be larger if tariffs on China were higher. That said, exports would not necessarily

⁴ 25% tariffs on steel and 15% tariffs on aluminum were actually imposed.

⁵ The impact of tariff hikes in two cases introduced in 2018 is estimated based on data in 2017.

⁶ The average import tariffs of the US from China were hiked from 2.6% in 2018 to 16.0% in 2020 and those of China from the US were hiked from 6.2% to 16.4% according to Bekkers, E. and S. Schroeter (2020), "An Economic Analysis of the US-China Trade Conflict," Staff Working Paper ERSD-2020-04, World Trade Organization (WTO), March 19, 2020.

⁷ US trade deficits in goods increased with Canada (52 billion USD), Mexico (83 billion USD), Viet Nam (66 billion USD) and others.

Table 2 Impact on each economy

	(% , Trade balance: billion USD)							
	Exports to US		Exports		Trade Balance		Real GDP	
	Uniform	China	Uniform	China	Uniform	China	Uniform	China
Australia	-5.3	5.1	0.1	0.3	-0.9	-1.0	-0.1	-0.1
China	-11.7	-86.9	-0.7	-4.6	-10.9	-18.0	0.1	-1.3
Japan	-10.0	9.2	-0.7	0.2	-0.5	-0.4	0.1	0.4
Korea	-11.8	16.3	-0.4	0.3	-0.7	0.5	0.1	0.5
ASEAN	-9.8	29.4	-0.3	1.9	-1.4	-1.2	0.1	1.1
India	-8.2	8.2	-0.8	0.2	-1.0	-1.9	0.3	0.6
United States	-	-	-16.1	-20.4	29.1	32.9	-1.7	-3.0
Canada	-8.8	-3.8	-3.8	-2.3	2.1	0.4	-1.4	-0.9
Mexico	-11.2	1.3	-7.5	-0.3	-2.2	-0.1	-4.7	-1.2
European Union	-9.5	7.1	-0.2	0.1	-4.4	-1.2	0.1	0.3
United Kingdom	-4.8	4.5	-0.4	-0.2	0.6	-0.6	0.0	0.2
Russia	-11.8	0.7	0.3	0.7	-2.3	-2.3	0.2	0.3
World	-10.1	-13.1	-2.2	-2.6	-	-	-0.5	-0.8

Source: Author's simulations.

decrease in other economies including Australia, the Association of Southeast Asian Nations (ASEAN) countries and Russia, and world exports as a whole would decrease (from 2.2% to 2.6%) but to a far smaller extent than exports to the US.

Trade balance is estimated to be improved primarily in the US but to deteriorate to a larger extent in China than in other economies. That said, those effects reflect the larger economy size and trade value in the US and China. The ratio of change in trade balance to GDP would not necessarily vary much among economies.

The impact on the real GDP of each economy appears similar to that on exports. That said, it would be noted that adverse macroeconomic impact would be larger compared with impacts under earlier US tariff hikes. World real GDP is estimated to decrease from 0.5% to 0.8%, which is larger than that under metal tariff hikes (0.1%) and tariff hikes between the US and China (0.2%). US real GDP is also estimated to decrease more (from 1.7% to 3.0%) than under earlier tariff hikes (from 0.4% to 0.7%).

IV. Concluding remarks

It is estimated that the adverse impact of further US tariff hikes on the world economy, in particular on the US economy, would be larger than that under tariff hikes since 2018. It is indicated that trade balance would be improved to some extent in the US economy, but exports, production and employment would be adversely affected. The impact on economy at both the macro and sector levels needs to be considered when introducing policy measures moving toward protectionism.