

**YANOLJA RESEARCH BRIEF**

# **How U.S. Reciprocal Tariffs Reshape the Global Tourism Landscape: A GTAP-Based Analysis**

# How U.S. Reciprocal Tariffs Reshape the Global Tourism Landscape: A GTAP-Based Analysis

On April 2, 2025, U.S. President Donald Trump officially announced the implementation of a "Reciprocal Tariff" policy, signaling a major shift in the global trade order. This policy immediately imposed high tariffs of up to 145% on Chinese imports, including those related to fentanyl. For approximately 70 countries, including South Korea, a differentiated approach was adopted: a 10% tariff would be temporarily deferred for 90 days during which bilateral negotiations would be pursued. This tiered strategy increases trade uncertainty in the short term and suggests that final tariff rates and sectoral applications will vary by country depending on negotiation outcomes.

Amid uncertainty surrounding final tariff levels and implementation details, global markets are responding with mixed expectations and concerns. Although the exact tariff rates remain undetermined, the policy's enactment is highly likely to reduce global trade volumes, contributing to inflation. In the mid-to-long term, this could lead to a decline in real household disposable income and weaken consumer sentiment—adversely affecting non-trade-based service sectors such as travel and tourism. However, the magnitude and direction of these economic ripple effects will largely depend on final tariff levels and country-specific negotiations. Thus, precise forecasting and scenario-based response strategies are urgently needed. In particular, export-dependent countries face a pressing need to closely assess the potential impact of the reciprocal tariff policy and prepare effective countermeasures.

This brief aims to quantitatively analyze the impact of the U.S. reciprocal tariff policy on the global travel and tourism industry, grounded in economic theory. The analysis reflects both the currently implemented tariffs and various proposed tariff levels under ongoing discussions. For example, a 25% tariff has been applied to Canada and Mexico since March 2025, but temporary exemptions are being considered for goods complying with the 2020 United States-Mexico-Canada Agreement (USMCA). That is, tariff standards differ across countries and sectors, with some areas still lacking clearly defined criteria. To simplify the analysis, this study assumes that each country's tariffs are applied uniformly across all industries. Tariff rates are categorized by USMCA partners (Canada, Mexico), China, and other countries, with the specific rates detailed in [Table 1]. It is assumed that no country faces higher tariffs than China in any scenario presented in this analysis.

Quantitative analysis was conducted using the Global Trade Analysis Project (GTAP), a multi-region, multi-sector global macroeconomic modeling framework used by researchers and policymakers to analyze international policy issues. Using the GTAP model, this study estimates changes in sectoral output due to tariff adjustments, focusing specifically on the accommodation/food service and air transportation sectors. Although GTAP data covers 141 countries and 65 sectors, this report concentrates on South Korea and its major trading partners (the United States, Japan, the European Union, and China) to provide an in-depth examination of the impacts on the travel and tourism industry, ultimately deriving policy implications.

[Table 1] Tariff Rates by Country Group and Scenario Assumption

Scenario	USMCA (Canada, Mexico)	China	Others (South Korea, Japan, EU, etc.)
Current Draft Proposal (Base)	0%	145% (US: 125%)	10%
Scenario 1 (S1)	0%	0%	0%
Scenario 2 (S2)	0%	10%	10%
Scenario 3 (S3)	10%	10%	10%
Scenario 4 (S4)	10%	20%	10%
Scenario 5 (S5)	10%	40%	10%
Scenario 6 (S6)	10%	40%	20%
Scenario 7 (S7)	15%	40%	20%
Scenario 8 (S8)	20%	50%	20%
Scenario 9 (S9)	25%	60%	25%
Scenario 10 (S10)	25%	100%	25%

Note: This analysis assumes that the same tariff rates are applied to the United States. However, under the current policy in effect, the United States imposes a 145% tariff on China, while China imposes a 125% tariff on the United States, indicating that the two countries apply asymmetric tariff rates.

## Reference – GTAP (Global Trade Analysis Project) Model

The **Computable General Equilibrium (CGE)** model is a widely used analytical tool for assessing the impact of changes in trade environments by integrating interdependent economic activities such as production, consumption, investment, and international trade. The model consists of mathematical equations that describe the behavior of economic agents, initial values of relevant variables, and parameters that estimate outcomes based on variable changes. The actions of economic agents are represented through a system of interlinked equations. When an external shock (e.g., a policy shift or market fluctuation) is introduced, the model captures how all elements interact to reach a new equilibrium. This enables a quantitative analysis of changes in variables such as output, value-added, and employment, thereby deriving the economic ripple effects.

**GTAP (Global Trade Analysis Project)** is a global economic analysis framework based on a **multiregional and multisectoral CGE model**. It systematically integrates input-output tables by industry for each country, international trade flows, government and household expenditures, investment, the use of production factors such as labor, capital, land, and energy, and protectionist policy data, including tariffs and non-tariff barriers. This comprehensive structure allows for in-depth analysis of the complex interdependencies in the global economy.

This brief utilizes the **latest version of the GTAP database (Version 11, released in April 2023)**. The database is benchmarked to the year **2017** and covers **141 countries and 65 industry sectors**. Despite the time lag between the reference year and the most current economic indicators, the data remains valid for macroeconomic impact analysis for the following reasons:

- The primary goal of GTAP** is not to predict the absolute level of output or GDP following a specific policy implementation, but rather to **compare and evaluate the relative impacts** of various policy scenarios. This helps stakeholders intuitively grasp the effects of policy changes.
- GTAP is built on decades of accumulated data**, establishing a stable equilibrium among production, consumption, and trade. This allows the model to **accurately and quantitatively estimate the impact of external shocks** across the economy.

Thanks to these features, GTAP serves as a highly effective tool for analyzing the effects of global trade policies, economic shocks, and environmental changes.

# Country-Specific Analysis of the Impact of Reciprocal Tariffs

## United States

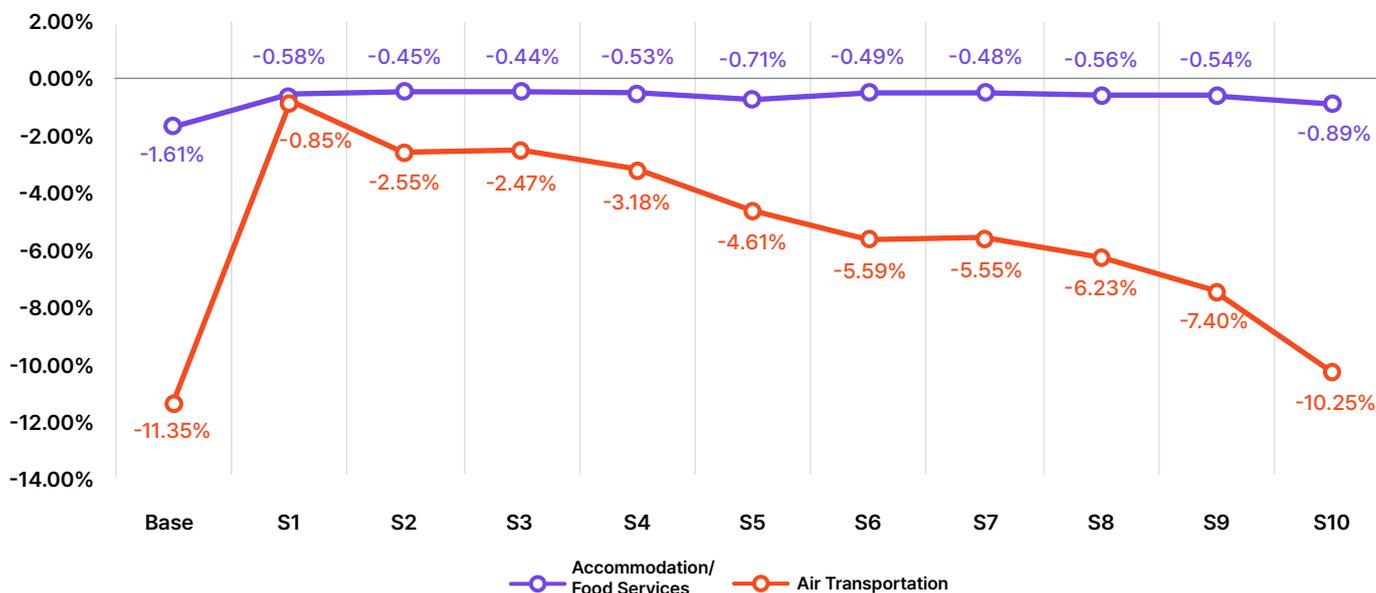
In all scenarios, the United States' accommodation and food service sector experienced a decline in output, ranging from -0.58% to -1.61%. The most significant reduction (-1.61%) occurred under the scenario that includes the currently imposed 145% high tariff on Chinese imports. This reflects the severe contraction in demand and rising costs in the tourism and service sectors as U.S.-China trade tensions escalate. The decline can also be interpreted as a compounded effect of weakened consumer purchasing power due to tariffs and subsequent cuts in dining and travel-related spending.

The air transportation sector responded even more sensitively than accommodation and food services. Even in the zero-tariff scenario, a moderate decline of -1.27% was observed. As tariffs intensified, the decline accelerated, reaching -11.35% in the current policy scenario. This indicates that the air transport sector is highly exposed to shifts in demand for international travel and logistics. The high tariffs led directly to a contraction in cargo volumes and a reduction in outbound travel. Moreover, the findings suggest that domestic substitution effects (i.e., replacing foreign goods or services with domestic ones) were largely ineffective in the air transport sector.

These results highlight that, despite the large size of the U.S. domestic market and relatively strong domestic demand for air travel, the structural inefficiencies (e.g., deadweight losses) induced by the tariff policy have severely damaged the broader travel industry. The compensatory effect of domestic substitution has not been sufficient to offset these industrial losses. Instead, inefficient resource reallocation and weakened demand appear to be interacting negatively.

In summary, under all analyzed tariff scenarios, both the accommodation/food service and air transportation sectors in the U.S. saw reductions in output, making the United States the country most adversely affected by the reciprocal tariff policy. This outcome reveals that, contrary to the intended goal of protecting domestic industries through protectionist measures, the policy has inflicted structural harm on the nation's own service sectors.

[Figure 1] Changes in Output by Scenario (%) – U.S. Accommodation/Food Services and Air Transportation



## South Korea

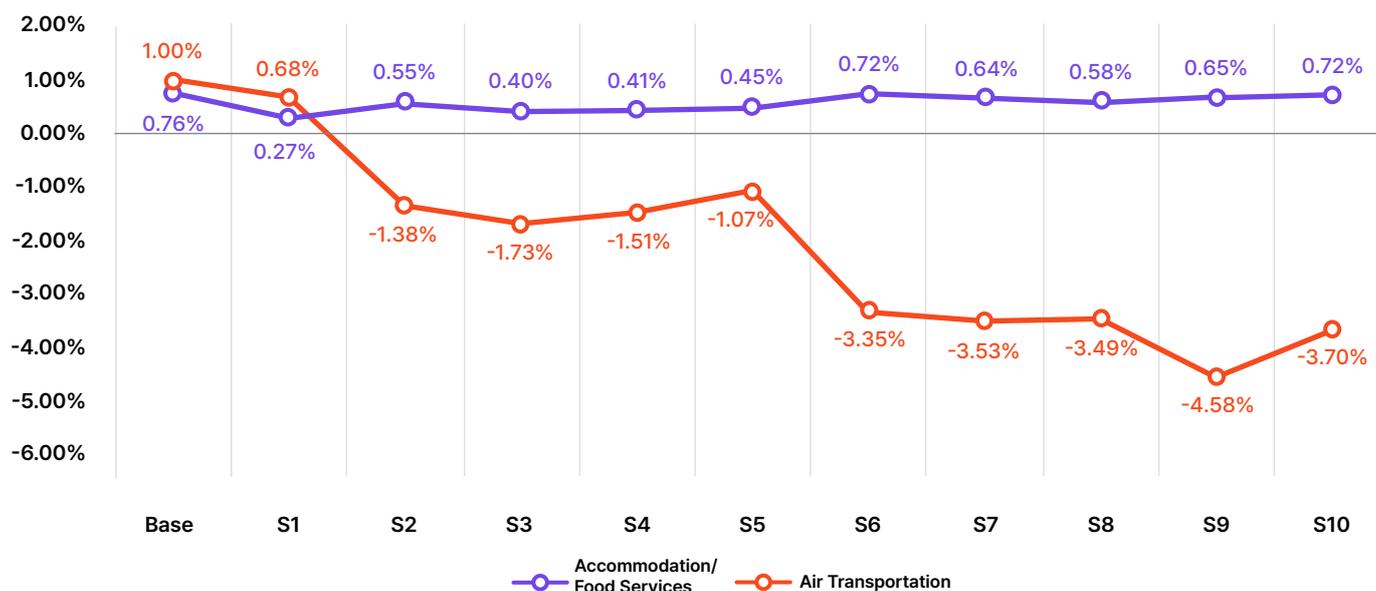
Under the various scenarios of the U.S. reciprocal tariff policy, South Korea showed a consistent growth trend in the accommodation and food service sector, while the air transportation sector exhibited sharply contrasting results depending on the scenario. This highlights a clear structural distinction between domestically driven industries and externally dependent sectors.

The accommodation and food service sector in South Korea recorded output growth across all scenarios. Notably, the growth rate increased gradually in scenarios where the U.S. imposed higher tariffs on China. The production increase ranged from +0.27% to +0.76%, indicating a shift from outbound travel to domestic tourism demand as international travel became less attractive due to tariffs. A similar trend was observed during the COVID-19 pandemic, reinforcing the finding that escalating global trade tensions can stimulate domestic tourism and drive up real demand for lodging and related services.

In contrast, the air transportation sector displayed a very different pattern. In the zero-tariff scenario (+0.68%) and the current policy scenario (+1.00%), the sector saw moderate growth. However, in scenarios involving globally elevated tariffs, output declined sharply, with production dropping between -1.07% and -4.58%. This suggests that rising tariffs suppress outbound travel demand, leading to reduced inbound tourism as well, while the substitution effect is minimal for air travel—with domestic transportation demand primarily shifting to road and rail rather than air.

Particularly, the more extensive the tariff application to countries beyond the U.S. (e.g., Canada, Mexico, and other regions), the more significant the decline in air transport output became. This implies that economic slowdowns in other countries are indirectly but heavily affecting South Korea’s air transportation industry. From Scenario 6 onward, where tariffs imposed on South Korea exceed 20%, a distinct divergence appears: while the accommodation and food service sector experiences relatively strong growth, the air transportation sector suffers substantial declines in output.

[Figure 2] Changes in Output by Scenario (%) – South Korea: Accommodation/Food Services vs. Air Transportation



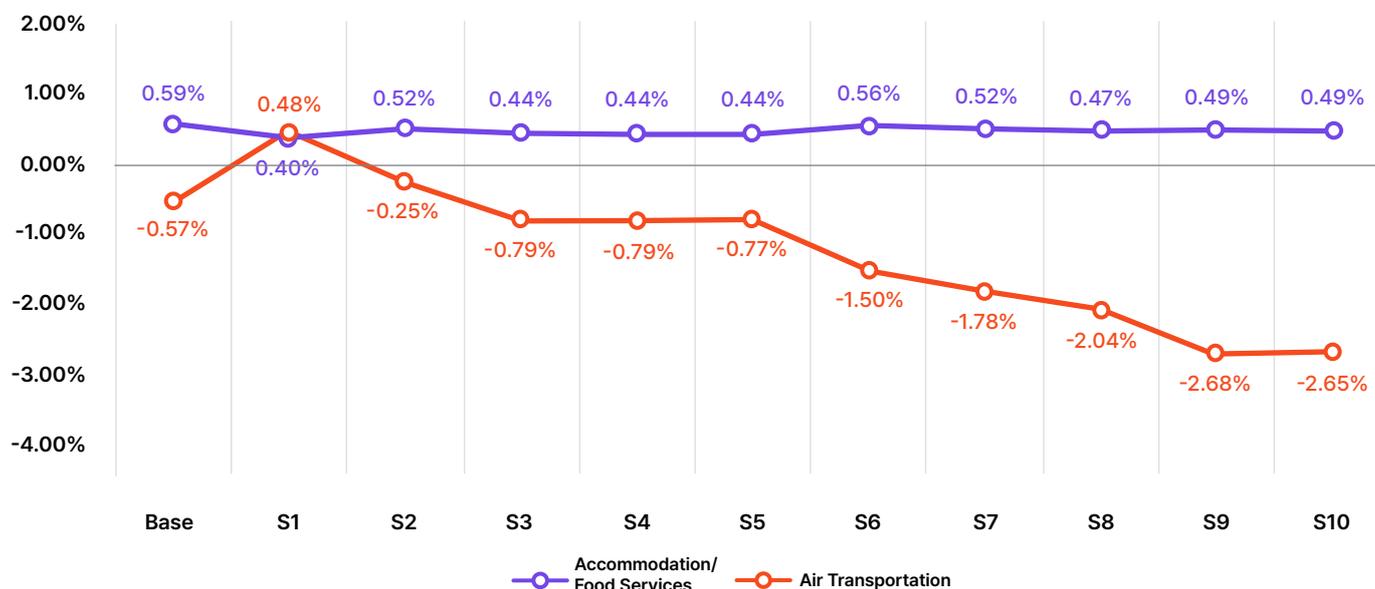
## Japan

Japan exhibited distinctly divergent output trends between the accommodation/food service sector and the air transportation sector depending on the tariff levels in each scenario. While the weak yen served as an external factor that helped sustain inbound tourism demand and offered resilience in certain areas, Japan’s air transportation sector, with its high dependence on external markets, was particularly vulnerable under high-tariff scenarios.

Across all tariff scenarios, Japan’s accommodation and food service sector showed a steady increase in output, with growth rates ranging from +0.40% to +0.59%. The highest increase (+0.59%) was observed under the current policy scenario. This outcome reflects a structural dynamic where high tariffs suppress outbound travel and boost domestic consumption, coupled with the yen depreciation, which made Japan a more attractive destination for foreign tourists. The simultaneous effects of sustained inbound tourism and domestic demand substitution contributed to this growth. However, the relatively modest increase may be explained by Japan’s stagnant domestic tourism market size and near-saturation of tourism infrastructure compared to countries like South Korea.

In contrast, Japan’s air transportation sector experienced declines in all scenarios except the zero-tariff case. The greater the tariff level, the larger the decrease in output, with the most severe drop reaching -2.65%. This is largely due to the sector’s structural reliance on outbound travel and global trade flows. High tariffs reduce international logistics demand and amplify travel avoidance behavior, delivering a direct blow to air travel demand. Nonetheless, thanks to the yen’s depreciation, inbound tourism demand in Japan remained relatively stable, which somewhat mitigated the impact on the air transport sector—resulting in less severe shocks compared to the United States or South Korea.

[Figure 3] Changes in Output by Scenario (%) – Japan: Accommodation/Food Services vs. Air Transportation



## European Union (EU)

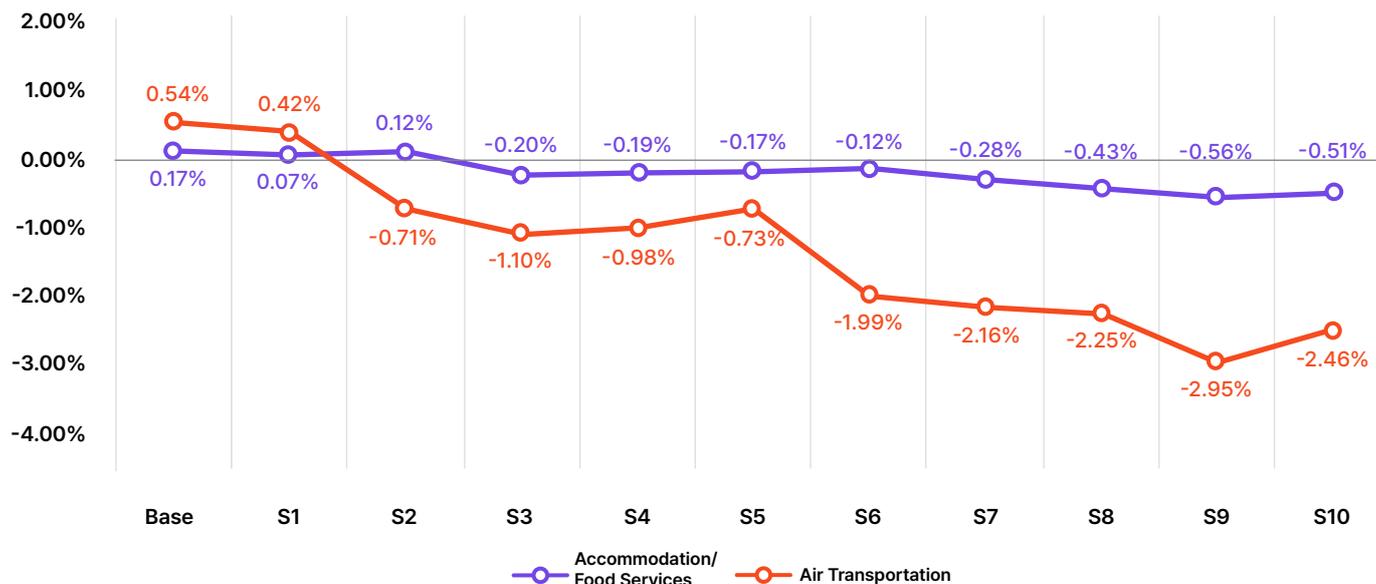
As one of the world’s most tourism-dependent regions, the European Union (EU) is projected to experience persistent and cumulative negative spillover effects on both the accommodation/food service and air transportation sectors under the U.S. reciprocal tariff policy. Particularly, as U.S.-China trade tensions escalate and high tariffs are extended to the EU, the rate of decline in both sectors accelerates significantly.

For the accommodation and food service sector, the EU recorded slight increases in output under Scenario 1 (zero tariffs) and Scenario 2 (10% tariffs). However, from Scenario 3—which involves tariff imposition on all countries—output began to decline. The reduction reached -0.20% in Scenario 3 and -0.51% in Scenario 10, indicating a gradually worsening trend. This suggests that U.S.-driven trade barriers are shrinking global consumer spending capacity, which in turn has stalled or decreased the number of tourists visiting the EU. Notably, beginning with Scenario 7, where direct tariffs are applied to the EU, the rate of decline became more pronounced—highlighting the vulnerability of inbound tourism demand to U.S.-EU trade frictions.

In the air transportation sector, the EU began to see output decline starting from Scenario 2, with the drop intensifying in line with increasing tariff levels. The most significant decrease occurred in Scenario 9, reaching -2.95%. Given the scale of the EU’s air transport industry and the density of intra- and inter-regional routes, this is interpreted as a substantial structural shock. The contraction of transatlantic travel demand, one of the EU’s major air routes, due to rising tariffs, and the slowdown in trade with large external markets like the U.S. and China, have led to reduced logistics volumes.

Additionally, global declines in disposable income and overseas travel spending have resulted in decreased inbound demand for EU destinations as well as reduced outbound travel by EU citizens, further compounding the industry’s downturn.

[Figure 4] Changes in Output by Scenario (%) – EU: Accommodation/Food Services vs. Air Transportation



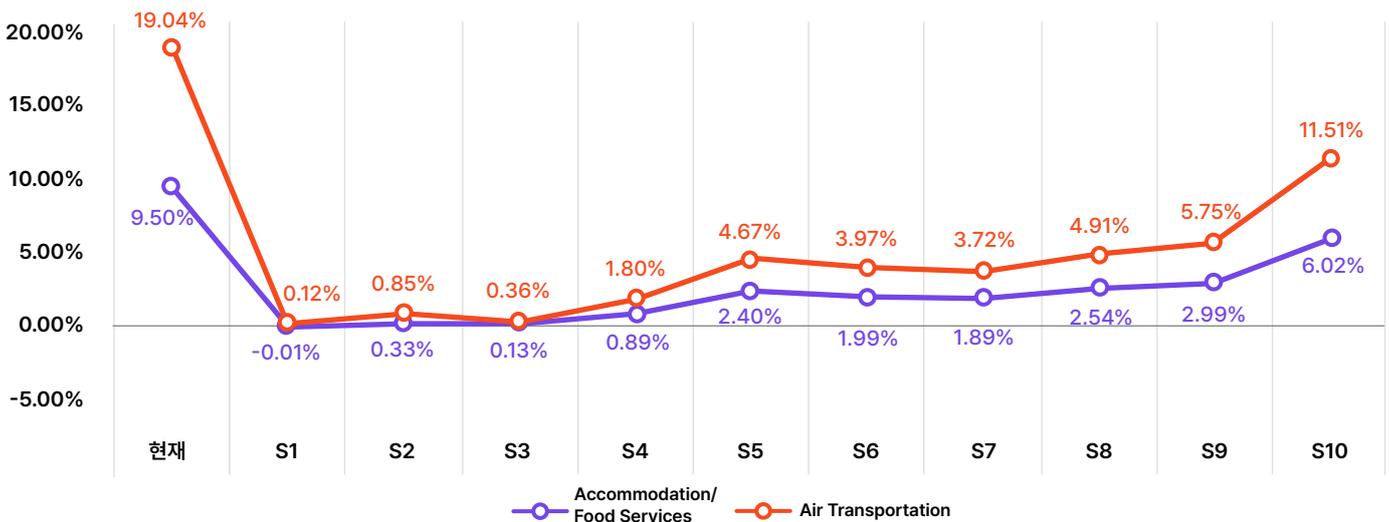
## China

Among all the countries analyzed, China displayed the most unique pattern of output changes in response to the reciprocal tariff scenarios. While most countries showed a tendency for production in the accommodation/food service and air transportation sectors to decline as tariffs increased, China recorded its highest production levels under the current high-tariff scenario, in which the U.S. and China imposed 145% and 125% tariffs, respectively. In contrast, under the zero-tariff scenario, output declined slightly, with -0.11% in accommodation/food services and -0.21% in air transportation. This reversal—where production increases under high-tariff conditions and decreases in a free-trade setting—was uniquely observed in China among all the countries examined.

This phenomenon can be attributed to the structure of China’s trade and industrial policies. In response to export contraction caused by high tariffs, the Chinese government has actively implemented a range of domestic stimulus measures, including subsidies to the tourism sector, distribution of consumer vouchers, expansion of local airports and transportation infrastructure, and tax relief. These interventions have induced domestic demand to compensate for declining external demand, leading to short-term growth in sector output. On the other hand, in the zero-tariff scenario, reduced policy intervention and a return to market-based demand adjustments resulted in a slight decline in production (approximately -0.01%), suggesting that the observed growth under high tariffs stems less from intrinsic competitiveness and more from artificial demand creation and industrial protection.

However, caution is warranted regarding the sustainability of this growth. Structural constraints such as a slowing domestic economy, weakening local government finances, and rising youth unemployment cast doubt on whether China can continue its aggressive policy interventions in the long term. Thus, the increase in China’s output presented in this brief should be understood as the result of short-term policy effects, and its sustainability and structural soundness must be critically reexamined.

[Figure 5] Changes in Output by Scenario (%) – China: Accommodation/Food Services vs. Air Transportation



## Conclusion and Policy Implications

The United States' reciprocal tariff policy has had a profound impact on the global travel and tourism industry, producing varying levels of disruption across countries and sectors. This report, using the GTAP model, analyzed changes in production output in the accommodation, food service, and air transportation sectors under multiple tariff scenarios. Significant differences in impacts among major countries—namely the U.S., South Korea, Japan, the EU, and China—were identified. In particular, the case of the United States revealed that protectionist policies may negatively affect domestic industries, and the direction and magnitude of tariff shocks vary depending on each country's economic structure and policy response. Based on this analysis, this report assesses both the short- and long-term implications of reciprocal tariff policies and presents tailored strategic responses and policy recommendations to support the sustainability of the global tourism industry.

### Global Shocks and Country-Level Differences

Tariff hikes reduce global trade, increase prices, and shrink real disposable income, leading to weakened consumer spending. This indirectly harms non-trade-based service sectors such as tourism.

- **United States:** Under the current policy, air transportation saw the largest drop in output at -11.35%, primarily due to reduced U.S.-China air routes and a restructured global supply chain.
- **South Korea:** Domestic tourism helped the accommodation and food sector grow +0.76%, but the air transport sector declined -4.58%, revealing vulnerability due to reliance on inbound demand.
- **Japan:** The weak yen supported inbound tourism, with lodging increasing +0.59%, but air transport still fell by -2.65%.
- **EU:** Heavy reliance on transatlantic routes led to a -2.95% drop in air transport.
- **China:** Government intervention helped both sectors grow, but concerns remain over the long-term sustainability of such policy-driven gains.

Differences among countries stem from varying economic structures, policy interventions, and industry competitiveness. South Korea and Japan's domestic tourism experiences during COVID-19 served as buffers. Meanwhile, the U.S. and EU, with their inbound-oriented structures, were directly hit. China's growth was supported by strong policy intervention, but its long-term viability is undermined by weakening domestic demand, fiscal constraints, and rising unemployment. These results highlight that reciprocal tariffs are no longer limited to trade in goods; they are a variable reshaping the broader global economic order, including non-trade service sectors like tourism.

### Strategic Responses: Country-Specific Recommendations

Each country must design customized strategies based on its economic structure and policy environment. Based on the findings, the following country-specific policy responses are recommended:

#### 1. United States: Combine Domestic Demand Stimulation with Global Engagement

Recognizing that protectionism has harmed its own industries, the U.S. should balance tariff adjustments with domestic demand stimulus:

- Launch nationwide tourism campaigns (e.g., a modern "See America First") to boost domestic travel.
- Strengthen domestic routes through partnerships with low-cost carriers (LCCs).
- Expand tariff exemptions in negotiations with USMCA partners (Canada and Mexico).
- Pursue diplomatic efforts to de-escalate trade conflicts with China.

These steps would mitigate the sharp drop in air transport output and restore long-term supply chain stability.

## 2. South Korea: Strengthen Inbound Tourism Competitiveness

While benefiting from domestic substitution in accommodation, Korea must address the decline in inbound air travel:

- Enhance Incheon International Airport's status as a Northeast Asian hub with differentiated services (e.g., exclusive transit tourism programs).
- Leverage K-culture for global marketing (e.g., BTS concert-linked travel packages).
- Diversify air routes, especially to Southeast Asia and Europe, in preparation for high-tariff scenarios.
- Focus on inbound travelers from regional competitors like China, Japan, and Taiwan.
- The government and local authorities should emulate Japan's successful examples by:
  - Subsidizing airfare for inbound travelers, and
  - Distributing visitor coupons for key hub cities to stimulate local economies.

## 3. Japan: Leverage Yen Weakness and Optimize Air Routes

Japan should continue leveraging the weak yen to maintain inbound tourism:

- Promote duty-free shopping and regional destinations like Hokkaido and Okinawa.
- Expand short-haul Asian routes (e.g., to South Korea and Taiwan) to offset outbound demand losses.
- Strengthen domestic air travel competitiveness through LCCs.

These steps will help Japan's aviation sector remain relatively resilient.

## 4. European Union: Stimulate Intra-Regional Tourism and Explore Alternative Markets

The EU must reduce dependency on transatlantic travel and stimulate intra-regional demand:

- Develop low-cost travel packages using intra-EU carriers (e.g., Ryanair, easyJet).
- Promote cultural heritage destinations (e.g., Rome, Paris) to boost local demand.
- Diversify flight routes to Asia and the Middle East to compensate for falling U.S. demand.
- Make tourism industry protection a priority in EU trade negotiations.

## 5. China: Stabilize Domestic Demand and Improve Competitiveness

China should maintain domestic policies for now, while working toward long-term industry competitiveness:

- Increase support for key tourist destinations (e.g., Zhangjiajie, Guilin).
- Optimize domestic air routes in tandem with high-speed rail corridors (e.g., Beijing–Shanghai).
- Avoid excessive subsidies that distort markets.
- Implement structural reforms to enhance global competitiveness of private airlines and hotel chains.
- Pursue diplomacy to ease U.S.-China trade tensions and reduce tariff pressure.

## Final Remarks

As this study illustrates, tariff policy uncertainty poses a structural threat to the sustainability of the travel and tourism industry. While short-term measures such as domestic market expansion and tourism demand stimulation can offer temporary relief, long-term resilience depends on multilateral cooperation and the stabilization of trade frameworks.

Organizations like the WTO and regional agreements must offer platforms for tariff negotiation and dispute resolution to ensure stable travel demand and supply chain continuity. Furthermore, the tourism industry is not only of economic value, but also essential to cultural exchange, social cohesion, and environmental sustainability. The impact of reciprocal tariffs extends beyond the immediate trade of goods—it can reshape the global tourism ecosystem at its core. Countries should view this disruption not as a threat, but as an opportunity to drive structural reform, foster innovation, and pursue international collaboration to build a more sustainable and resilient global tourism economy.



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