



# Supply Chain Report on the Toyota RAV4 Braking System

## Executive Summary

This report provides an in-depth analysis of the supply chain for the Toyota RAV4 braking system, focusing on the impact of potential tariff changes on the supply chain. The report highlights the significance of the RAV4 in the automotive market and the critical role of its braking system in ensuring vehicle safety and performance. A tariff shock simulation for Japan, with rates of 20%, 50%, and 80%, is conducted to assess the potential impact on the supply chain. Key recommendations are provided to mitigate risks and optimize the supply chain, ensuring resilience and cost-effectiveness.

## Introduction

The Toyota RAV4 is a leading model in the automotive market, known for its reliability and performance. The braking system is a crucial component, ensuring the safety and efficiency of the vehicle. This report aims to analyze the supply chain of the RAV4 braking system and assess the impact of potential tariff changes, particularly focusing on the implications of a tariff shock in Japan.

## Overview of the Braking System Component

The braking system of the Toyota RAV4 includes several key components such as brake pads, rotors, and calipers. These components are essential for the vehicle's safety and performance, requiring high quality and reliability. The braking system's effectiveness is critical in maintaining the RAV4's reputation for safety and dependability.

## Supply Chain Structure

The supply chain for the RAV4 braking system involves multiple suppliers located in various countries. Key suppliers are primarily based in Germany, Denmark, and Belgium, providing components such as brake pads, discs, and calipers. The flow of materials starts from raw material suppliers and progresses through various stages of manufacturing and assembly, ultimately reaching the final assembly line. Technology and logistics play a vital role in ensuring the efficiency and reliability of the supply chain.

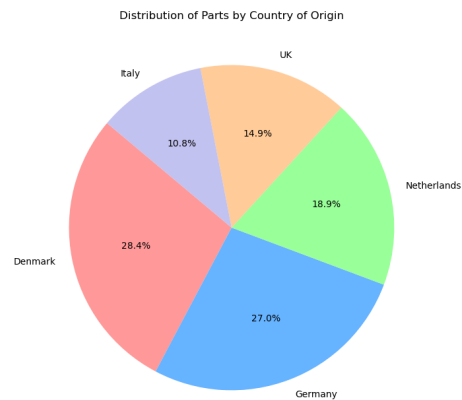
## Tariff Simulation Scenarios

A tariff shock simulation was conducted for Japan, testing tariff rates of 20%, 50%, and 80%. The simulation results indicate varying impacts on the cost structure and supply chain operations. At a 20% tariff rate, the cost increase is minimal, but at 50% and 80%, the impact becomes more significant, affecting the overall cost and potentially disrupting supply chain operations. Strategies to mitigate these

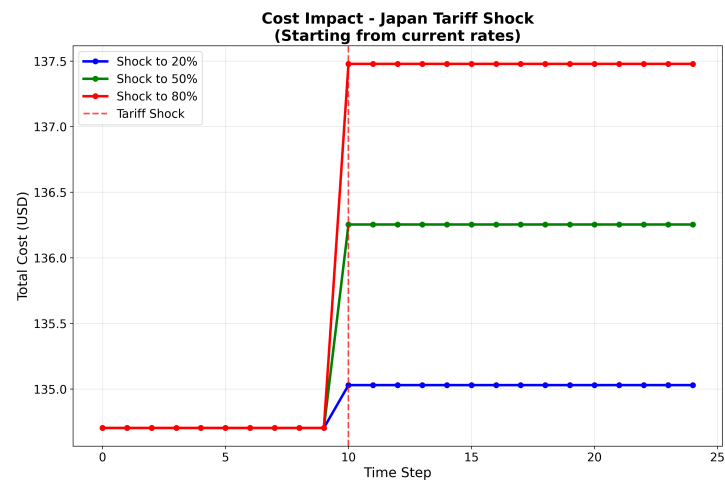
impacts include diversifying suppliers, increasing local production, and leveraging trade agreements.

## Simulation Results

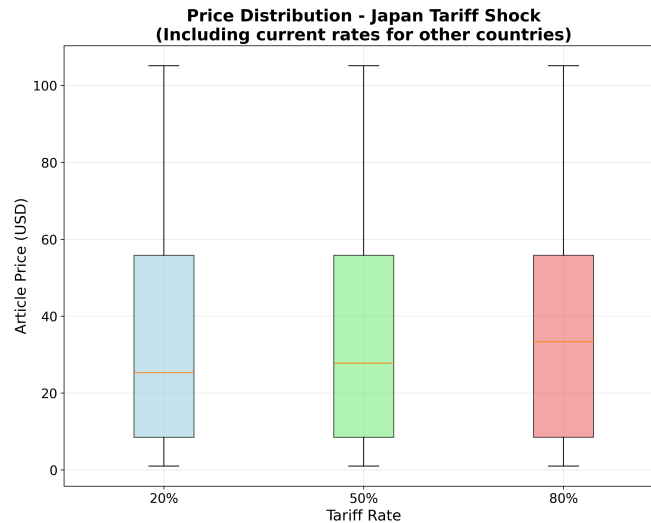
The simulation results show that with a 20% tariff, the cost increase is 0.24%, leading to a final cost of \$135.03. At a 50% tariff, the cost increase is 1.15%, with a final cost of \$136.25. An 80% tariff results in a 2.06% cost increase, raising the final cost to \$137.48. Key suppliers affected include FEBEST, with significant price adjustments across different tariff scenarios.



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## Risk Assessment

The current supply chain faces several risks, including geopolitical tensions, supply disruptions, and dependency on specific suppliers. Tariff changes exacerbate these risks by increasing costs and potentially causing supply chain disruptions. The supply chain's resilience and flexibility are crucial in mitigating these risks, requiring strategic planning and risk management.

## Conclusion and Recommendations

The analysis highlights the potential impact of tariff changes on the Toyota RAV4 braking system supply chain. To enhance resilience, Toyota should consider diversifying its supplier base, increasing local production, and leveraging trade agreements. Cost optimization strategies, such as improving logistics efficiency and adopting advanced technologies, can also mitigate the impact of tariffs and ensure a robust supply chain.

## References

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