

# **The Study on Fertilizer Industry Policies and Competition Regulations**

## **Abstract**

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Following Taiwan's accession to the WTO in 2002, the government completed the transition of public fertilizer distribution back to the market mechanism in early 2003. The Taiwanese government withdrew from the fertilizer supply and distribution system, fully liberalizing fertilizer trading. Farmers gained the freedom to purchase fertilizers from agricultural associations or fertilizer dealers, and fertilizer prices were determined by market mechanisms. However, the 2008 global food crisis led to fluctuations in international fertilizer raw material prices, severely impacting farmers' income. This resulted in fertilizer shortages and crises.

To address these issues, the Taiwanese government implemented the "Fertilizer Price Adjustment and Stable Supply-Demand Response Plan" in 2008. This involved subsidizing the price difference for chemical fertilizers to maintain a stable price for farmers at the end of the supply chain. Nevertheless, government policies inevitably influence fertilizer prices and market competition. Therefore, understanding and evaluating the control of the industry's supply chain, competitive dynamics, and potential competition-related issues become necessary.

This study focuses on analyzing the market structure and supply chain of the fertilizer industry in Taiwan. Through a comprehensive comparison of fertilizer industry supply chains in various countries, the goal is to understand differences between Taiwan and other nations. Additionally, by collecting and presenting

information on major countries' competition authorities and their relevant enforcement cases against the fertilizer industry, the study aims to provide insights for Taiwan's Fair Trade Commission.

The study recognizes that Taiwan's regulatory policies for the fertilizer industry are based on the importance of fertilizers to agricultural production and the necessity of stable fertilizer supply for Taiwan's food security. According to statistics from the Ministry of Economic Affairs, the domestic fertilizer and nitrogen compound industry had a production value of NT\$24.25 billion in 2022, with a total of 199 registered fertilizer manufacturers in Taiwan. Using the Structure-Conduct-Performance analysis framework, the fertilizer industry structure in Taiwan exhibits an oligopolistic market structure in the upper and middle segments. The top 5 firms, in terms of market share by revenue or production volume, account for 80-90% of all registered 199 firms. The domestic fertilizer industry is dominated by a few large enterprises.

Taiwan's fertilizer industry has undergone a historical process spanning over a century, from initial private competition to complete state control, followed by market liberalization and the transition from state to private ownership. Although the policies implemented for this regulated industry may be justified by other laws, their execution should avoid violating competition laws. Faced with the risk of rising international fertilizer raw material prices, the regulatory authorities in Taiwan should closely communicate with competition law authorities when formulating temporary measures to stabilize fertilizer prices, to prevent anticompetitive situations.

Comparing Taiwan's fertilizer industry with those of other countries, it is observed that most countries exhibit an oligopolistic structure in the upper and middle segments of the fertilizer industry. This is primarily due to the reliance of fertilizer production on raw materials and technology. Large enterprises have the ability to obtain rights to extract raw materials and access related capabilities and technological

resources. In many cases, large enterprises in the fertilizer industry engage in mergers or vertical integration to expand their scale or reduce production costs, leading to a monopolistic structure with a few major players dominating the market.

A notable difference is the intervention or assistance by national or farmer organizations in the fertilizer industry chains of some countries. For instance, in India, government-operated production firms participate in the fertilizer production stage and hold approximately 20-30% market share. In Japan and South Korea, farmer organizations assist in distribution at the fertilizer sales stage, with nearly 70% of fertilizer products sold through agricultural cooperatives in Japan and around 30% through agricultural product distribution corporations in South Korea.

Analyzing competition law cases related to the fertilizer industry in various countries reveals different patterns. In the United States, cases primarily involve cartel behavior by fertilizer manufacturers attempting to control prices or engage in coordinated sales. In the European Union, cases involve both cartel behavior by manufacturers and policies related to the Common Agricultural Policy and national aid. Japan mainly addresses anticompetitive behavior by agricultural cooperatives against downstream entities (cooperatives, retailers, and farmers). In Canada, besides manufacturers' cartels, there are cases related to the combination of retailers, which may impact fair competition after consolidation.

Based on these case analyses, several competition issues or areas for enhanced scrutiny and enforcement for Taiwan's Fair Trade Commission can be inferred. These include focusing on potential joint actions or cartels, given that a few fertilizer manufacturers such as Taiwan Fertilizer Company dominate the market, and agricultural cooperatives control the distribution channels. Close supervision by Taiwan's Ministry of Agriculture and the Fair Trade Commission is necessary to prevent anticompetitive behavior. Regarding consolidation cases, the impact on

competition should be carefully assessed after consolidation. Finally, when promoting fertilizer-related policies, interdepartmental collaboration is essential to conduct thorough assessments of the impact on fair competition.