

Why did the bicycle industry develop in Dajia, Taichung County, Taiwan?

Because it had the right mix: a strong metalworking base, government protection and export policies, and innovators who turned original equipment manufacturing contracts into global brands.

Taiwan's post-war economy was built on original equipment manufacturing (OEM) across many labor-intensive, export-oriented industries like textiles, electronics, and bicycles.

These OEM industries were the foundation of Taiwan's so-called "economic miracle" in the 1960s–1980s, before shifting toward higher value-added production and innovation.

But the rise in globalization caused profit margins to fall, and industries upgraded through branding and innovation.

The bicycle industry in Taiwan emerged in the 1950s through state-protected OEM exports, grew rapidly in the 1970s–80s, and was forced to upgrade after OEM dependence crises in the 1980s–90s.

The 1950s started with bicycle parts production under strong state protection: imports of complete bicycles were banned, and only 12 key parts could be imported.

Bicycle firms were concentrated in central Taiwan, where there was already a strong metal machinery-processing base, so skills in welding, forging, and materials handling easily transferred to bicycles. The government also set national standards and export inspections, which boosted global buyer confidence.

In the 1960s and 70s, OEM exports expanded dramatically. Taiwan overtook Japan as the world's number-one bicycle exporter in the 1980s.

In the 1980s and 90s, rising wages and land costs pushed firms to relocate production to China.

Textiles and apparel were one of Taiwan's earliest OEM export industries post-WWII, providing foreign exchange and employment, fueling Taiwan's early economic miracle, but were later offshored to lower-cost China and Southeast Asia. Bicycles seemed to be following the same trajectory.

Taiwan was operating center-satellite systems where hundreds of small and medium enterprises (SMEs) specialized in parts—frames, gears, wheels, welding, paint—while large assemblers like Giant coordinated with the web of smaller specialized suppliers.

The proximity lowered transaction costs and accelerated knowledge spillovers, and firms could quickly reconfigure production for different models (flexibility).

But by the late 1990s and early 2000s, Taiwan's bicycle makers faced intense price competition from China, where low-end bicycles were much cheaper.

Giant Manufacturing is the world's largest bicycle designer and manufacturer.

Established in 1972 in Dajia, Giant has manufacturing facilities in Taiwan, the Netherlands, China, and Hungary.

Merida Industry was also founded in 1972 and produces over two million bikes annually at factories in Taiwan, China, and Germany, and sells in more than 77 countries.

OEM dependence created vulnerability. Giant depended on Schwinn for 75% of its output before Schwinn shifted to China in 1985.

This crisis pushed Giant and others toward own-brand production and innovation.

In 2003, initiated by Giant and Merida, the A-Team network adopted the Toyota Production System for lean production, just-in-time delivery, and continuous improvement.

Government research and development institutions like the Metal Industries R&D Center (MIRDC) and the Industrial Technology Research Institute (ITRI) interfaced with the cluster to diffuse new

technologies.

This shifted Taiwan from mass, low-cost production to premium, branded, high-value products like carbon fiber bikes, mountain bikes, and e-bikes.

This kept high-value production in Taiwan, while low-end production remained offshore, and institutionalized knowledge exchange across the cluster.

From the 1950s to 70s, imports of complete bicycles were banned to encourage local production.

National standards and export inspections were set to protect Taiwan's reputation abroad.

In the 1980s to 90s, Taiwan allowed investment in China, enabling cost reduction but forcing Taiwanese firms to upgrade at home. Capital came from preferential loans and R&D subsidies offered by the Taiwanese state in the 1980s–90s, alongside capital raised through the stock market when Giant went public in 1994.

From the 1980s onward, ITRI partnered with Giant on carbon fiber and aluminum frame projects, while MIRDC modernized manufacturing standards. The National Chung-Shan Institute of Science and Technology collaborated on welding and aluminum technologies. *Public research funding channeled through institutes like ITRI and MIRDC effectively acted as a form of state subsidy, lowering the cost of advanced materials R&D for private firms such as Giant and Merida.*

At the local level, cities like Taipei promoted cycling infrastructure and culture. The Ubike system, first introduced by Giant in Taipei, became a globally recognized model for bike-sharing. Local governments supported cycling-friendly urban planning to position Taiwan as a "Cycling Island."

Taiwan's expanding technical universities supplied engineers, managers, and research and development staff. Taiwan also leveraged export markets to the U.S., Europe, and later China. Trade liberalization allowed firms to build cross-national production networks.

Dajia's bicycle industry reflects Taiwan's wider economic story: protected beginnings, clustered innovation, and a relentless drive to upgrade.