

# Taiwan's Fastener Export Trends & Automotive Fastener Transformation Challenges

## Taiwan Fastener Exports Show Upward Potential

In the July 2025 issue of Fastener World Magazine (No. 213), we reviewed the statistics of Taiwan's exports of all types of fasteners (HS 7318) to the world over the past 20 years. We found that the export value grew by 15.7% in the last decade (**Figure 1**). The growth is even higher at 80% over the past 20 years' spectrum. The export value peaked for the first time after Trump first took office as President in 2017, reaching 4.639 billion USD. It then fluctuated downward due to the US-China trade war, but surged to a historic high of 6.127 billion USD in 2022 following the outbreak of the COVID-19 pandemic, driven by humongous overseas orders redirected to Taiwan. The export weight also hit a record high at 1.61 million tons (**Figure 2**), indicating **Taiwan's fasteners have been able to sustain a long-term upward trend despite market volatility.**

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In 2023, Taiwan's fastener industry ended the post-pandemic export record driven by strong overseas demand and entered a phase of cyclical recession (downward fluctuations). During this period, Fastener World conducted interviews with several Taiwanese manufacturers and consulted key association chairpersons at major events to understand **the causes behind the sharp decline in Taiwan's fastener exports over the past three years, especially 2025. The findings show the reason was not disappearing rigid demand from overseas clients, but an unveiled structural change.**

Fig. 1. Taiwan's Global Fastener Export Value from 2016 to 2025 (Source: Taiwan Customs)

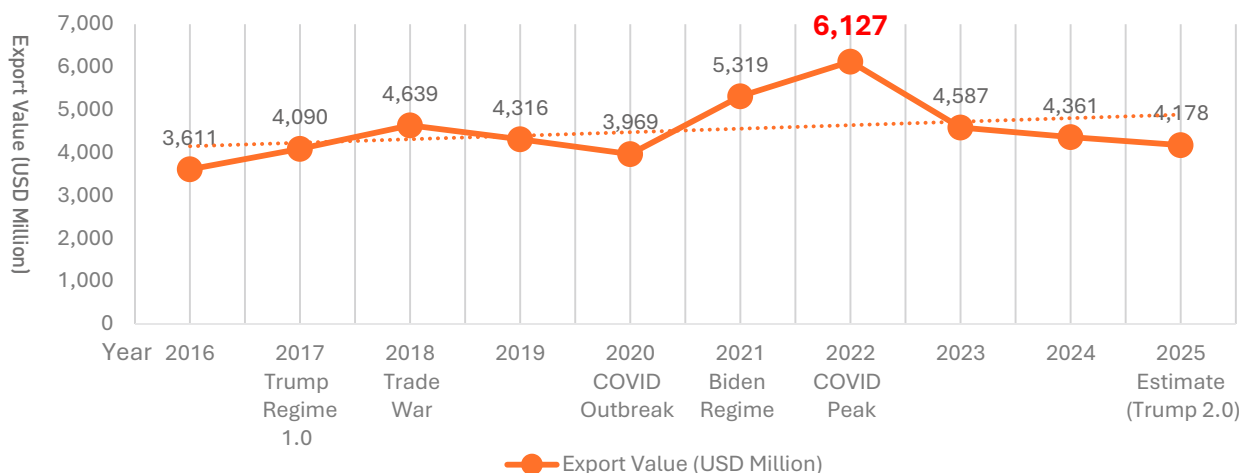
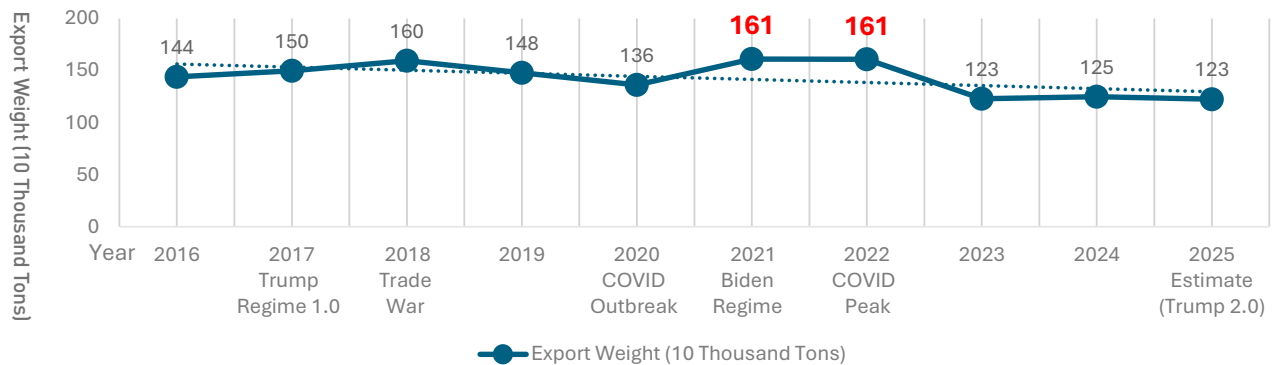


Fig. 2. Taiwan's Global Fastener Export Weight from 2016 to 2025 (Source: Taiwan Customs)

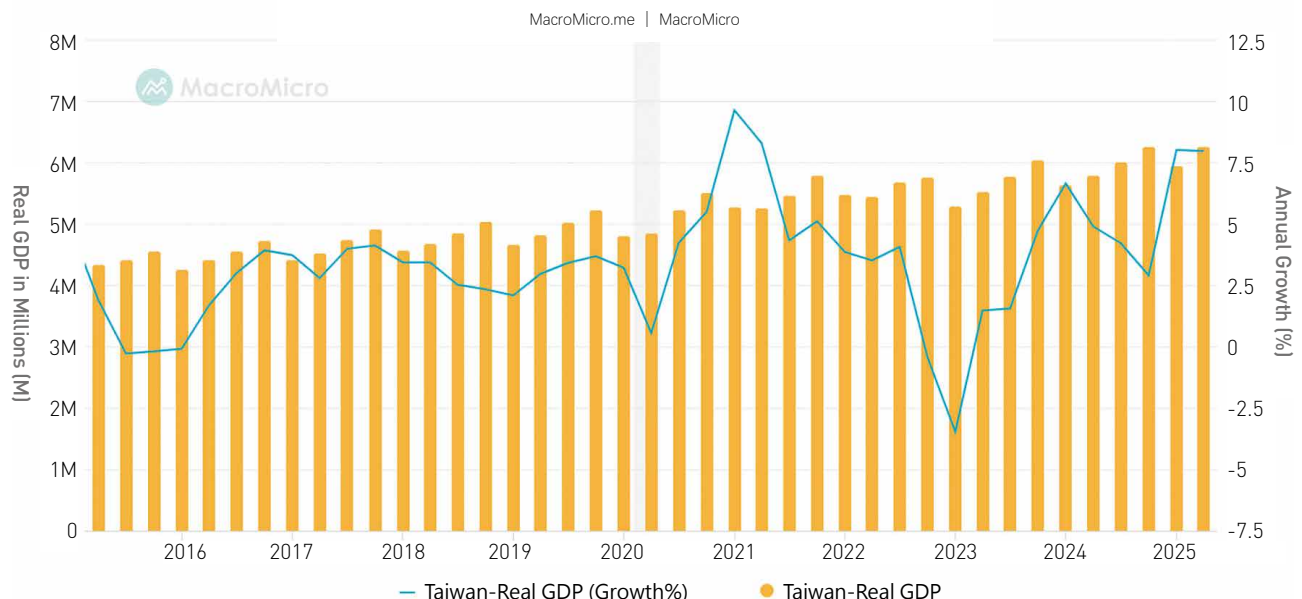


Before Trump's second term, overseas clients ended their explosive purchase of Taiwan fasteners and entered an inventory adjustment phase, causing a significant drop in Taiwan's export volume between 2023 and 2024. At that time, overseas buyers were balancing procurement and inventory—a temporary demand gap that was supposed to restart procurement once inventory levels had been adjusted. However, with Trump's reelection as US president this year, the global economic and trade environment rapidly entered the next phase of structural transformation, causing another round of supply chain reorganization. Rising protectionism, unpredictable tariffs, and currency fluctuations flooded the market with high uncertainty, making buyers and investors more conservative in their purchasing decisions. They manage cash flow cautiously and adopt a wait-and-see stance. Fastener World learned through interviews that some overseas hardware parts companies have paused external procurement and only consume inventory this year to mitigate market risks. This does not mean overseas rigid demand has disappeared; **demand is expected to rebound once uncertainty eases.**

### Taiwan GDP Provides Support from Market Fundamentals; Housing Transactions Coincide with Fastener Export

Looking at the long term and combined with historical statistics, Taiwan's fastener exports are expected to continue rising once market uncertainties ease. Additionally, Fastener World mentioned in the June 2021 issue (No. 188) of the magazine that GDP, besides representing a country's economic conditions, also helps to gauge demand in the fastener market and has become an important

Fig. 3. Taiwan's Real GDP (Past Decade)

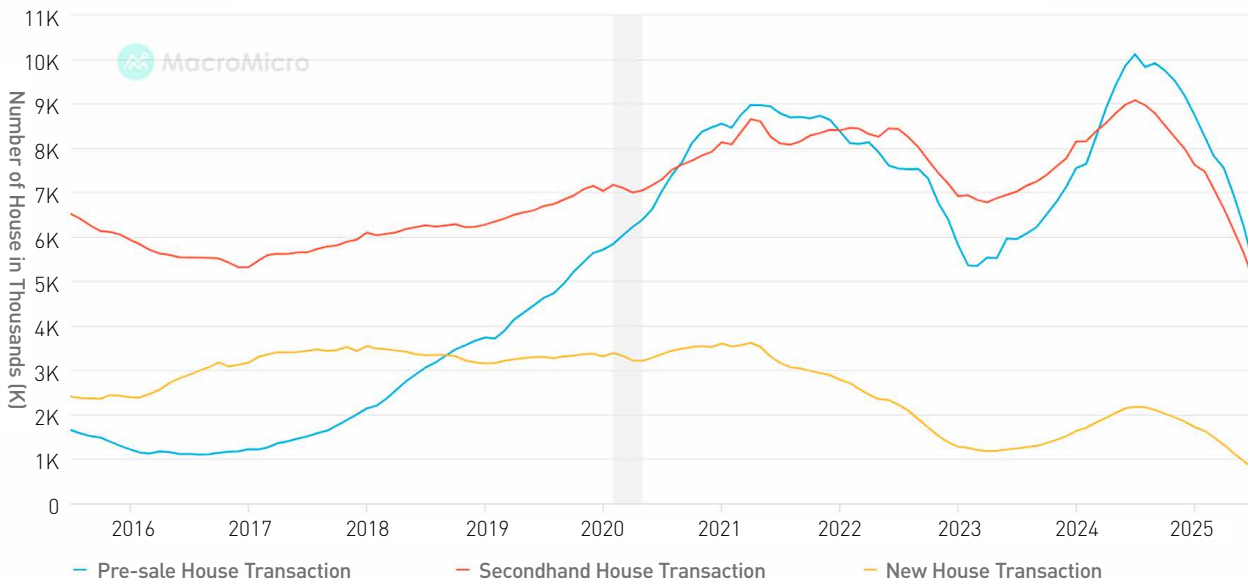


indicator for many Taiwanese fastener business owners to measure market climate. With this in mind, **Figure 3** compiles Taiwan's real GDP changes over the past decade (source: MacroMicro). **Taiwan's GDP has consistently reached new highs over the years, indicating that Taiwan's economic development strength still supports the overall market environment.**

From **Figure 4** (source: MacroMicro), which shows Taiwan's housing transaction volumes over the past 10 years (including new, secondhand, and pre-sale houses), the trend was generally upward until 2022, hitting a bottom in 2023. This trend coincides with Taiwan's fastener export during the same period. Although the transaction volume rose again in 2024, due to the Taiwanese government's housing market cooling policies implemented in the latter half of 2024, the volume sharply declined in 2025, paralleling the 2025 fastener export forecast dip shown in **Figure 1**.

**Fig. 4. Taiwan's Housing Transaction Volumes (Past Decade)**

MacroMicro.me | MacroMicro



## Potential Concerns for Taiwan's Fastener Exports

**Although the long-term trend shows continuous growth in Taiwan's fastener export's value, there is a hidden issue worth noting.** **Figure 5** records Taiwan's automotive fastener exports over the past decade. Since automotive fasteners in Taiwan do not have a dedicated customs code, this article uses five categories of fasteners commonly used by car manufacturers for statistical analysis: Customs codes HS 731815 (other screws and bolts, including those with or without nuts and washers), HS 731816 (nuts), HS 731821 (spring washers and other locking washers), HS 731823 (rivets), and HS 731824 (cotter pins and split pins).

The findings show these five categories generally declined over the past decade, with HS 731815 and HS 731823 declining the most significantly. This indicates **a persistent drop in demand for automotive-related fasteners, which impacts Taiwan's fastener export performance.** This article further analyzes changes in automotive fastener demand and provides relevant countermeasures.

## Potential Factors for the Decline in Taiwan's Automotive Fastener Exports

### 1 Structural Changes in Global Automotive Fastener Demand

In recent years, the global economy has been filled with uncertainties, and the US and European markets have slowed down. Central banks worldwide have raised interest rates and tightened credit conditions; auto loan rates are increased, raising car purchase costs. New car prices have been pushed higher in recent years, reducing affordability for consumers.

Furthermore, starting from the second half of 2024, the global automotive sales growth slowed down. The three major car markets—USA, China, and Europe—had been rapidly destocking, with Europe recovering the slowest, reaching only about 80% of the pre-pandemic level. In the first half of 2025, many regions experienced weak car buying sentiment, partly due to expectations of tariff and goods tax, causing consumer hesitation and a decline in new car sales.



While emerging markets like China, India, and Southeast Asia still have growth potential supporting the global automotive market, mature markets in Europe and the US face sales stagnation or decline pressures. **As vehicle production and sales fall short of expectations, demand for automotive components is pulled back.**

## 2 Technical Transformation Impact from Fuel Vehicles Shifting to Electric Vehicles

Despite overall automotive market weakness, new energy vehicles such as electric vehicles and plug-in hybrids continue fast growth, driving the global car industry. **Cars are moving toward lightweighting, increased use of carbon fiber, composite materials, aluminum alloys, plastics, and high-performance materials, altering demand and design specifications for conventional metal fasteners.** Table 1 compares fastener use in fuel vehicles and electric vehicles.

Some carmakers may intend to design critical components in-house or shift to autonomous supply chains, reducing reliance on external procurement. The transformation challenge for Taiwan's automotive fastener makers is to move toward modularization, system integration, lightweighting, and multi-material combinations to create irreplaceable value.

Fig. 5. Taiwan's Global Automotive Fastener Export Weights in the Past Decade



## 3 Changes in Carmakers' Deployment

Lower manufacturing costs in China, Vietnam, India, and production base shifts by some carmakers to Southeast Asia make it easier for suppliers located in those places to win fastener orders over Taiwan. **To reduce transportation costs and tariff risks, carmakers often require key component suppliers to establish local plants or source nearby, causing existing Taiwanese suppliers' orders to be displaced.** Overreliance on few automakers or regions would expose Taiwanese fastener companies to big revenue risks when clients change strategies or reduce orders.

Table 1. Fastener Use in Fuel Vehicles and Electric Vehicles

| Item                           | Fuel Vehicles                                                                                                                                                                                                                                | Electric Vehicles                                                                                                                                                                                                        |
|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Fastener Quantity              | About 3,000 to 5,000 pieces.                                                                                                                                                                                                                 | About 2,000 to 3,500 pieces (variable by design), about 6.16% fewer than fuel vehicles (e.g., General Motors EVs).                                                                                                       |
| Fastener Weight % of a Vehicle | About 2–3%.                                                                                                                                                                                                                                  | About 1.5–2.5%.                                                                                                                                                                                                          |
| Fastener Types                 | High-strength steel fasteners for engine, transmission, and exhaust. Common fasteners for chassis, body structure, engine, drivetrain, suspension, seats, doors, interior panels like bolts, nuts, rivets, clips, spring clips, and latches. | Mainly used for batteries, electric motors, and body. Adhesives and welding replace traditional fasteners, further reducing metal fastener use. Demand for lightweight, special alloys, and plastic fasteners increases. |
| Main Differences               | Complexity of internal combustion engine and transmission leads to higher fastener use.                                                                                                                                                      | Simpler powertrain with only 20–30 moving parts (motors and drivetrain), drastically reducing fastener usage.                                                                                                            |
| Fastener Demand Trends         | Automotive fastener demand declines due to shrinking conventional fuel vehicle markets.                                                                                                                                                      | Automotive fasteners move toward lightweight, customized high-value fasteners for EVs.                                                                                                                                   |

#### 4 Tariffs and Appreciating Taiwan Dollar Erode Profit Margins

The US government levies a 25% additional tariff on imported cars and some auto parts, and a 50% tariff on steel and aluminum products (including fasteners).

Facing tariff barriers, many automotive parts manufacturers have set up plants in the US or Mexico to avoid taxes, and Taiwanese fastener firms are also expanding multinational manufacturing.

Additionally, the USD-to-TWD exchange rate dropped sharply from around 33 TWD against 1 USD in April to 28.95 on June 27, and was 30.7 as of October 15, showing a persistent trend of TWD appreciation during Trump's current term, lasting over six months. Some Taiwanese companies reported foreign exchange losses exceeding 10%.

Rising raw material, shipping, and logistics costs have also increased international transport and distribution expenses in fastener cost structures.

Taiwan already faces intense competition from low-cost Chinese and Southeast Asian products; the loss of currency advantage further weakens the international price competitiveness of Taiwanese automotive fasteners.

### Possible Measures for Taiwanese Automotive Fastener Companies

Given the four potential factors mentioned above, this article offers several upgrade and transformation suggestions for Taiwanese automotive fastener companies through **Table 2**.

Regarding "Build Alliances / Collaborate on Overseas Deployment" mentioned in **Table 2**, a new development in Taiwan is in the making. Over the past 40 years, Taiwan's automotive industry mainly focused on assembly and after-sales services, lacking a foundation for an independent automobile industry. However, a significant shift has occurred recently. Foxconn actively strengthens its prowess in the automotive sector, completing the acquisition of a 50% stake in German technology leader ZF's chassis module company in April last year and establishing a joint venture. This move not only strengthened Foxconn's strategic position in the automotive components supply chain, especially in chassis modules, but also laid the foundation for its future competitive advantages. Using its CDMS (Contract Design and Manufacturing Services) model, Foxconn collaborates with overseas customers to export EV models such as MODEL B, MODEL C, and MODEL T. Through its acquisition strategy and business model combination, Foxconn is building a Taiwanese automotive supply chain linked to international giants and gradually

Taiwan's fastener industry has demonstrated strong market resilience and development potential through years of steady growth. However, facing global economic changes and deep structural transformation in automotive fastener demand, Taiwanese companies must actively adjust strategies—from enhancing product value, innovating new materials, to expanding global deployment and diversifying customer portfolios—to maintain advantages in fierce global competition. By adapting to market changes and seizing emerging opportunities, Taiwan's fastener industry will continue to shine on the global stage.



realizing Taiwan's assembly of EVs. For Taiwan's automotive fastener companies, entering Foxconn's supply chain, if successful, would bring new production, R&D and export opportunities, promoting Taiwan's fastener industry development and enhancing international competitiveness.

**Table 2. Recommended Transformation Strategies for Taiwanese Automotive Fastener Companies**

|                                                                      |                                                                                                                                                                                                                             |
|----------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Multi-site Deployment / Risk Diversification                         | Establish production bases or contract manufacturing partners in the US, Mexico, Southeast Asia, Latin America to reduce transportation cost pressures and meet carmakers' demands for local production or nearby sourcing. |
| Enter Higher Tiers of Carmaker Supply Chains                         | Upgrade from a fastener-level solution provider to a module/system-level solution provider, enhancing added value and customer royalty.                                                                                     |
| Develop High-strength / Bi-metal / Lightweight Fasteners             | Examples include corrosion-resistant, plated, surface modified, bi-metal fasteners, or plastic/steel combinations, meeting EV and future vehicle structural demands.                                                        |
| Differentiation & Cross-domain Applications                          | Explore new applications of fasteners in new energy vehicles, smart cars, body structure integration, sensor brackets, battery module supports, and other emerging scenarios.                                               |
| Collaborate with Up- and Downstream Companies and System Integrators | Build module integration capabilities or work with cable ties, structural parts, and support parts manufacturers to provide one-stop solutions.                                                                             |
| Build Alliances / Collaborate on Overseas Deployment                 | Form teams or collaborate through industry alliances to build overseas bases, sharing risks and resources.                                                                                                                  |
| Foreign Exchange, Cost, and Financial Hedging                        | Design hedging strategies to manage exchange rate risks and raw material price fluctuations.                                                                                                                                |
| Customer Portfolio Adjustment                                        | Reduce reliance on single major clients and expand to multiple countries and brands.                                                                                                                                        |



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