

Recent Trends in Taiwan's Machinery Exports and Market Share in Major Regions

STATISTICS DEPT., MOF
July 24, 2025

1. Introduction

Taiwan's machinery industry is a pillar of the national economy, distinguished by its competitive cost-performance ratio and comprehensive industrial clustering. These strengths have enabled Taiwan to secure a firm and enduring position in the global machinery market. Over recent years, international developments have been volatile. The ongoing ripple effects of the U.S.-China trade war have triggered a global industrial supply chain restructuring, while competition has intensified as emerging economies strive to upgrade their technologies. Meanwhile, the rise of artificial intelligence (AI) has shifted the industry focus toward smart manufacturing and industrial robots. Against this backdrop of both challenges and opportunities, this report aims to analyze Taiwan's recent machinery export trends, shifts in major markets, and cross-country comparisons, in order to assess the strengths and weaknesses of the machinery industry, key transitions in momentum, and future prospects.

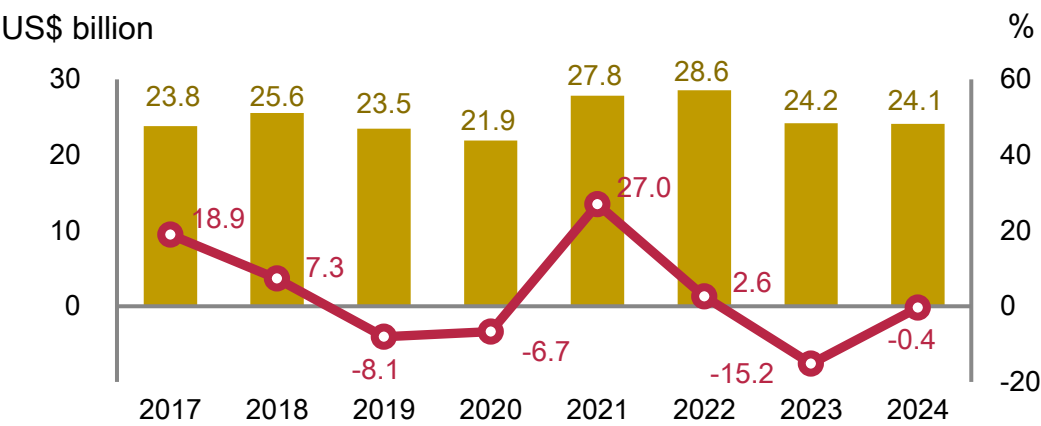
2. Overview

2.1 Machinery's share of total exports drops to a record low amid global competition and the surge of ICT product exports

Taiwan's machinery exports are highly linked to global economic trends. Although exports declined during the COVID-19 pandemic, they rebounded in 2021 and 2022 as countries accelerated the development of semiconductor industries, driving demand for related manufacturing equipment. However, due to global economic slowdown and rising competition from neighboring countries, exports have declined for two consecutive years. In 2024, the export value dropped to US\$24.1 billion—the lowest in four years and a 15.5% decrease from the 2022 peak. Although exports rose 4.3% in the first six months of 2025, the ongoing U.S.-China trade conflict and delayed reconstruction opportunities cast uncertainties on the outlook.

Due to the rapid expansion of exports of Parts of Electronic Product, Information, Communication and Audio-video Products, the share of machinery exports in total exports has steadily declined from 8.5% in the 2000s to 5.1% in 2024, hitting the lowest level since records began.

Figure 1 Taiwan's Machinery Export Value and Annual Growth Rate



2.2 In 2024, the U.S. share of Taiwan’s machinery exports approached one-fourth, surpassing Mainland China and Hong Kong for the first time

Taiwan’s machinery exports have traditionally been heavily concentrated in Mainland China and Hong Kong, accounting for approximately 30% of total exports. However, in recent years, the rapid development of China’s domestic machinery industry, along with its import substitution policies, has led to a cumulative 16.8% decline in exports to these markets from 2019 to 2024. Consequently, their share of Taiwan’s total machinery exports has dropped to 23.7%.

Driven by the U.S.-China trade war and the reshoring trend under the “Made in America” initiative, Taiwan’s machinery exports to the United States increased by 24.5% over the past five years. In 2024, the U.S. accounted for 24.2% of Taiwan’s total machinery exports, surpassing Mainland China and Hong Kong for the first time.

Table 1 Machinery Export Value and Growth Rate of Major Markets

Unit: US\$ billion, %

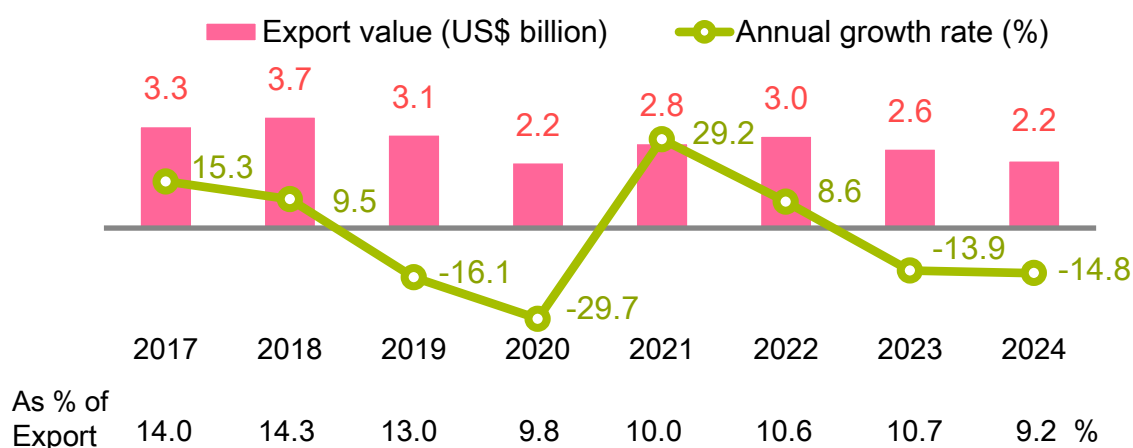
CY	CN&HK	Japan	ASEAN		USA	Europe
				Singapore		
2019	6.9	1.7	3.5	0.7	4.7	3.3
2021	8.9	1.8	3.6	1.1	6.0	3.6
2022	7.7	1.8	4.2	1.7	6.5	3.9
2023	5.8	2.0	3.5	1.5	5.5	3.6
2024	5.7	1.8	3.7	1.4	5.8	3.2
Annual Growth Rate	-1.5	-11.1	5.8	-5.8	6.1	-11.2
Growth Rate Compared to 2019	-16.8	3.5	5.1	92.9	24.5	-4.5

2.3 Exports of Machine Tools have weakened, accounting for less than 10% of total machinery exports

In terms of product categories, exports of traditional industrial machinery and components have declined in recent years. In 2024, export values fell to a range between US\$0.58 billion and US\$1.77 billion.

Machine Tools for Metal or Metal Carbides, traditionally the mainstay of Taiwan's machinery export, have experienced a notable downturn in recent years, as Japan dominates the high-end segment, while Chinese firms lead the low-end market. In 2024, Taiwan's exports of machine tools dropped to US\$2.2 billion, only 52% of the 2012 peak, and accounted for just 9.2% of total machinery exports, a sharp decline of 11.8 percentage points from the 2008 peak.

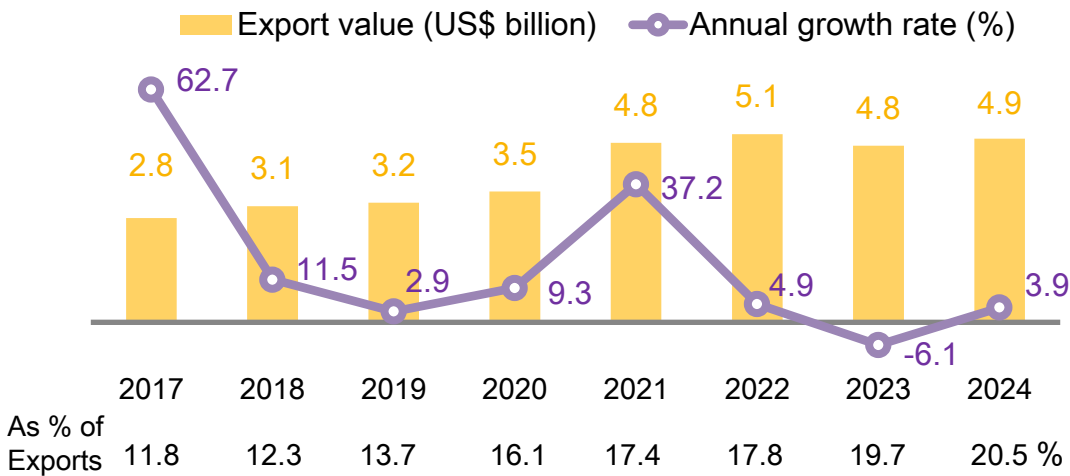
Figure 2 Overview of Machine Tools



2.4 Shift in export markets for Machines for the Manufacture of Semiconductor from Mainland China and Hong Kong to ASEAN accelerates

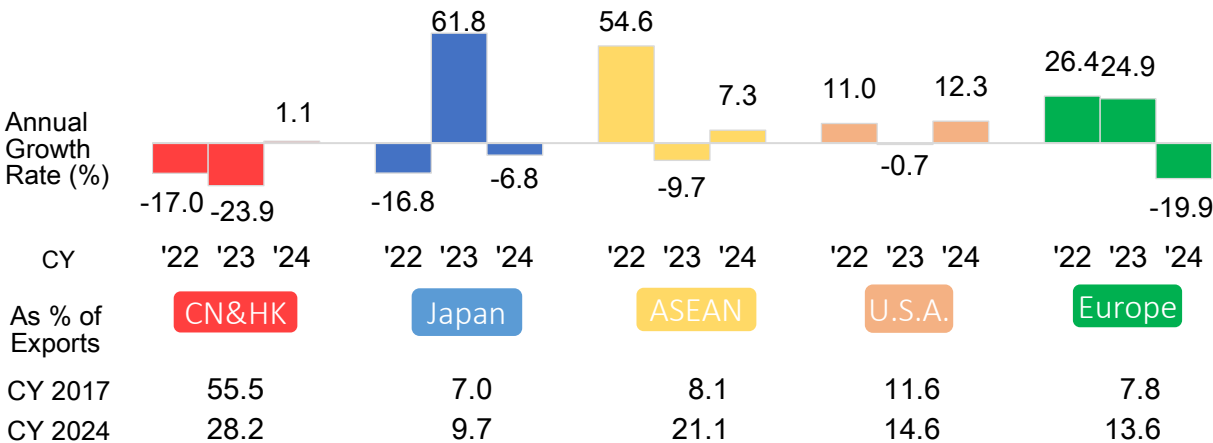
Benefiting from strong demand in the semiconductor technology supply chain and advancements in domestic manufacturing capabilities, Taiwan’s exports of Machines for the Manufacture of Semiconductor achieved record highs for ten consecutive years from 2013 to 2022. The proportion of total machinery exports rose from 6.4% in 2013 to 17.8% in 2022, reaching 20.5% in 2024.

Figure 3 Overview of Machines for the Manufacture of Semiconductor



For many years, Mainland China and Hong Kong were the primary markets for Taiwan’s exports of Machines for the Manufacture of Semiconductor, with the share peaking at 56% in 2017. However, in the past two years, this share dropped to below 30%. Amid the "China+1" strategy, countries from Europe, the U.S., and East Asia have increasingly invested in ASEAN, driving the region’s share to over 20%, and making it the second-largest export destination.

Figure 4 Changes in Taiwan’s Machines for the Manufacture of Semiconductor Export Markets



3. Main Markets

3.1 Taiwan's machinery ranks 11th in the U.S. machinery import market, with Machine Tools showing stronger competitiveness

The United States is the world's largest importer of machinery. In 2024, Mexico became the top source of U.S. machinery imports, benefiting from the United States-Mexico-Canada Agreement (USMCA), and accounting for 16.1% of the total. Mainland China, Japan, and Germany ranked 2nd to 4th, while Taiwan held a 2.0% share, placing 11th. Compared to 2019, Mainland China's share declined by 3.6 percentage points, while Taiwan's share increased slightly by 0.1 percentage point. Both countries fell one position in the ranking.

In terms of specific product categories, Taiwan demonstrated stronger competitiveness in Machine Tools and Machines for the Manufacture of Semiconductor, ranking 5th and 8th respectively in the U.S. market in 2024, with market shares exceeding 4% in both segments.

Table 2 U.S. Machinery Import Market Share by Country

Unit: %, ranking

Commodity	Market	Mexico		Mainland China		Japan		Germany		Taiwan	
	CY	2024	2019	2024	2019	2024	2019	2024	2019	2024	2019
Machinery		16.1	13.5	11.2	14.8	11.2	13.4	10.5	10.5	2.0	1.9
	rank	1	2	2	1	3	3	4	4	11	10
Machinery for Making Paper and Printing Machinery		4.8	3.0	11.7	28.7	19.5	18.8	5.9	4.8	0.9	1.1
	rank	7	7	3	1	1	2	6	6	21	17
Machinery for Textile		33.8	30.8	7.3	8.9	4.0	6.1	8.8	10.8	3.7	4.4
	rank	1	1	4	4	6	5	3	3	7	7
Machine Tools for Metal or Metal Carbides		0.6	0.9	4.3	3.9	21.7	31.1	20.3	17.0	5.3	7.1
	rank	19	14	7	7	1	1	2	2	5	5
Machinery for Working Rubber or Plastics		0.4	0.3	7.1	7.4	8.4	12.3	28.9	25.9	1.8	2.3
	rank	19	19	6	5	4	3	1	1	11	9
Mechanical Appliances; having Individual Functions		7.1	7.0	9.1	13.4	8.1	9.1	18.7	21.1	1.2	1.2
	rank	6	5	4	2	5	4	1	1	14	14
Roller Bearings, Transmission Shafts		8.7	7.2	12.8	18.2	13.5	16.3	12.0	12.3	1.9	1.5
	rank	5	5	2	1	1	2	3	3	12	13
Machines for the Manufacture of Semiconductor		1.5	1.1	6.7	4.4	28.7	44.9	8.3	5.5	4.1	1.4
	rank	10	11	7	5	1	1	4	4	8	8

3.2 Taiwan holds a stronger position in Mainland China's machinery imports for Machine Tools, Roller Bearings, Transmission Shafts, with market share around 10%

Mainland China is the world's second-largest machinery import market. In 2024, Japan ranked as the top supplier, capturing a 22.8% share of the market. Over the past five years, market shares of Taiwan, Japan, and South Korea declined by 0.9 to 3.2 percentage points, mainly due to decreased exports of Machines for the Manufacture of Semiconductor. Taiwan's ranking dropped from 5th to 7th, while the Netherlands and Singapore gained 5.2 and 2.9 percentage points respectively.

In specific product categories, Taiwan's Machine Tools held an 11% market share in Mainland China, while Roller Bearings, Transmission Shafts accounted for 9.7%, ranking 3rd and 4th respectively, both performing strongly.

Table 3 Mainland China Machinery Import Market Share by Country

Unit: %, ranking

Commodity	Market	Japan		Germany		U.S.A.		South Korea		Taiwan	
	CY	2024	2019	2024	2019	2024	2019	2024	2019	2024	2019
Machinery		22.8	25.3	13.6	16.4	12.8	12.2	7.4	10.6	4.4	5.3
	rank	1	1	2	2	3	3	4	4	7	5
Machinery for Making Paper and Printing Machinery		30.7	27.0	11.2	9.3	3.1	2.8	1.3	1.9	2.1	2.2
	rank	1	1	3	4	8	8	12	12	9	10
Machinery for Textile		39.3	36.6	24.3	27.2	0.3	1.4	3.1	2.3	4.1	4.5
	rank	1	1	2	2	17	12	7	8	4	4
Machine Tools for Metal or Metal Carbides		33.6	29.6	23.4	29.2	1.7	2.4	3.8	6.0	11.0	10.8
	rank	1	1	2	2	9	7	6	4	3	3
Machinery for Working Rubber or Plastics		38.8	39.1	35.4	25.6	2.4	3.1	3.8	5.9	2.9	5.8
	rank	1	1	2	2	7	7	4	3	6	4
Mechanical Appliances; having Individual Functions		32.2	29.2	20.4	20.5	7.1	5.4	9.3	15.7	5.8	4.8
	rank	1	1	2	2	4	4	3	3	5	5
Roller Bearings, Transmission Shafts		20.0	23.5	23.2	24.1	9.8	9.2	5.6	6.4	9.7	5.9
	rank	2	2	1	1	3	3	5	4	4	5
Machines for the Manufacture of Semiconductor		30.4	33.7	2.4	3.3	9.5	15.6	9.1	19.7	5.3	9.4
	rank	1	1	8	7	4	3	5	2	6	4

3.3 Taiwan stands out in Germany's machinery import market in the areas of Machine Tools and Machines for the Manufacture of Semiconductor

In 2024, Germany's leading sources of machinery imports were Mainland China and the United States, accounting for 11.5% and 11.2% of total imports, respectively. Countries ranked 3rd through 10th were all neighboring European nations. Taiwan's share was just 0.6%, placing it 28th overall.

Benefiting from clear market segmentation and favorable cost-performance advantages, in 2024, Taiwan's Machine Tools accounted for 3.8% of Germany's Machine Tool imports, ranking 8th; Machines for the Manufacture of Semiconductor accounted for 2.5%, ranking 9th—both significantly outperforming Taiwan's overall ranking in Germany's machinery import market.

Table 4 Germany Machinery Import Market Share by Country

Unit: %, ranking

Commodity	Market	Mainland China		U.S.A.		Poland		Italy		Taiwan	
	CY	2024	2019	2024	2019	2024	2019	2024	2019	2024	2019
Machinery		11.5	10.1	11.2	12.8	7.1	5.1	7.0	7.1	0.6	0.7
	rank	1	2	2	1	3	8	4	3	28	27
Machinery for Making Paper and Printing Machinery		25.1	31.6	2.4	2.9	2.1	2.2	2.0	1.8	0.5	0.7
	rank	1	1	10	9	11	10	12	14	20	19
Machinery for Textile		12.5	12.1	1.1	1.7	25.4	22.3	4.2	6.3	1.8	3.1
	rank	3	3	17	13	1	1	7	5	11	8
Machine Tools for Metal or Metal Carbides		6.5	5.5	2.3	3.4	1.7	2.2	8.5	9.2	3.8	3.8
	rank	4	5	11	9	12	12	3	3	8	8
Machinery for Working Rubber or Plastics		11.9	9.8	4.0	8.4	1.0	0.8	10.5	10.1	0.2	0.7
	rank	3	3	7	5	13	18	4	2	30	22
Mechanical Appliances; having Individual Functions		13.9	8.4	8.5	8.1	5.8	5.4	6.4	6.9	0.4	0.4
	rank	1	2	3	3	6	8	5	5	30	29
Roller Bearings, Transmission Shafts		14.0	11.8	4.8	5.4	4.6	3.9	9.9	11.1	1.1	1.1
	rank	1	1	8	8	10	10	2	2	18	20
Machines for the Manufacture of Semiconductor		2.6	2.6	29.0	29.9	2.4	1.4	1.1	0.5	2.5	1.6
	rank	8	8	1	1	10	12	15	16	9	11

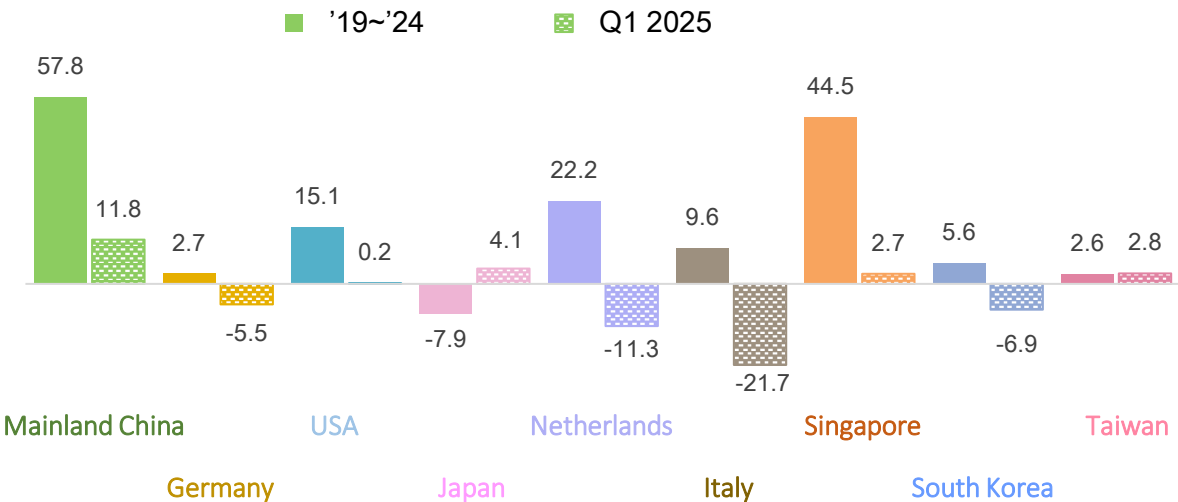
4. International Comparison

4.1 Among major economies, only Singapore and Mainland China increased their share in machinery exports, while Taiwan experienced the most notable decline

Among the world’s leading machinery exporters, Mainland China has ranked first for four consecutive years, followed by Germany, the United States, Japan, and Italy — traditional manufacturing powerhouses — while Singapore, South Korea, and the Netherlands are regarded as rising players.

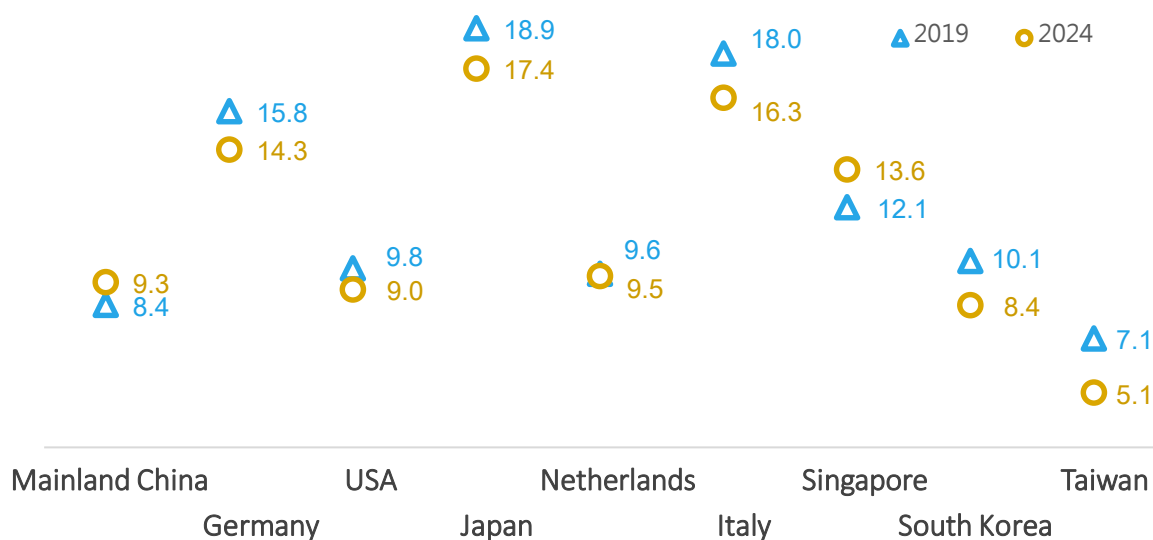
From 2019 to 2024, among the selected countries, only Japan’s machinery exports declined by 7.9%, while those of Mainland China, Singapore, and the Netherlands increased by 57.8%, 44.5%, and 22.2%, respectively. Taiwan showed a modest rise of 2.6%, reflecting relatively weak performance.

Figure 5 Growth Rates of Machinery Exports by Major Countries/Regions (%)



In terms of machinery’s share of total exports in 2024, Japan, Italy, Germany, and Singapore reported relatively high proportions ranging from 13.6% to 17.4%. Mainland China recorded a 9.3% share, and along with Singapore, was one of only two countries to show an increase compared to 2019. Taiwan’s share dropped to 5.1%, making the sharpest decrease of 2.0 percentage points over the five-year period.

Figure 6 Share of Machinery in Total Exports by Major Countries/Regions (%)



4.2 Over the past five years, the machinery export market structure of major countries has largely followed a trend of “rising U.S. and declining China”

Following the U.S.-China trade war, the share of Mainland China and the U.S. in each other’s machinery exports market declined, falling by 3.5 and 0.8 percentage points, respectively, from 2019 to 2024. Meanwhile, Mainland China’s export share to Russia increased by 3.5 percentage points.

Singapore and the Netherlands each increased their machinery export share to Mainland China by about 9 percentage points, due to China’s strong demand for semiconductor equipment.

Japan, South Korea, and Taiwan all regard the U.S. and Mainland China as their top two markets. The U.S. market has gained prominence, with its share of machinery exports rising by 10.7, 4.3, and 1.9 percentage points for South Korea, Taiwan, and Japan, respectively, over the past five years.

Table 5 2024 Major Export Markets for Machinery by Country

Unit: %, PP

Mainland China			Germany			U.S.A.		
Export Markets	As % of Exports	Compared to 2019	Export Markets	As % of Exports	Compared to 2019	Export Markets	As % of Exports	Compared to 2019
U.S.A.	12.4	-3.5	U.S.A.	13.6	1.8	Canada	23.4	0.5
Russia	6.6	3.5	China	8.3	-1.1	Mexico	18.2	0.5
India	5.1	0.7	France	6.8	-0.1	China	6.0	-0.8
Vietnam	4.2	-0.2	Poland	5.2	0.9	Korea	3.6	-0.1
Japan	3.9	-2.2	U.K.	4.8	-0.2	Germany	3.5	0.1
Japan			Italy			Netherlands		
Export Markets	As % of Exports	Compared to 2019	Export Markets	As % of Exports	Compared to 2019	Export Markets	As % of Exports	Compared to 2019
U.S.A.	25.6	1.9	U.S.A.	13.5	2.6	China	14.2	9.2
China	24.4	1.5	Germany	9.7	-0.7	Germany	13.3	-2.4
Korea	6.7	0.6	France	7.4	-0.4	U.S.A.	10.5	0.9
Taiwan	6.1	-0.3	Spain	4.0	-0.4	Korea	7.4	4.2
Thailand	3.4	-1.3	U.K.	4.0	-0.2	France	5.1	-2.0
Singapore			South Korea			Taiwan		
Export Markets	As % of Exports	Compared to 2019	Export Markets	As % of Exports	Compared to 2019	Export Markets	As % of Exports	Compared to 2019
China	20.6	8.8	U.S.A.	27.0	10.7	U.S.A.	24.2	4.3
U.S.A.	13.3	-4.6	China	18.2	-9.0	China	22.8	-5.1
Malaysia	7.6	0.3	Japan	4.7	-1.4	Japan	7.4	0.1
Korea	7.1	2.8	Vietnam	4.4	-1.2	Singapore	5.7	2.7
Taiwan	6.5	0.3	Mexico	3.8	1.3	Korea	4.2	1.3

4.3 Mainland China has surged to become the world's largest exporter of Machine Tools, while Taiwan dropped to 8th place

In 2024, the world's top four Machine Tool exporters were Mainland China, Germany, Japan, and Italy. China surpassed Germany to claim the top spot for the first time. Due to consecutive declines, Taiwan fell from 5th place in 2022 to 8th. Compared to 2019, Machine Tools exports from Taiwan and Japan both fell by 27.7%, while Mainland China's surged by nearly 90%.

Table 6 Top Export Countries for Machine Tools

Unit: US\$ billion, %

CY	Mainland China	Germany	Japan	Italy	U.S.A.	South Korea	Taiwan
2019	4.4	9.3	7.9	3.8	2.4	2.3	3.1
2020	4.0	6.9	5.9	3.0	1.9	1.8	2.2
2021	5.2	7.7	7.4	3.5	2.5	2.2	2.8
2022	6.3	7.4	7.4	3.3	2.6	2.4	3.0
2023	7.8	8.5	6.8	4.2	2.8	2.9	2.6
2024	8.2	8.1	5.7	4.0	2.6	2.5	2.2
International Ranking	1	2	3	4	5	6	8
Growth Rate Compared to 2019	87.0	-13.4	-27.7	5.9	6.1	8.2	-27.7
Share of Machinery Exports in 2024	2.5	3.3	4.7	3.8	1.4	4.3	9.2

4.4 Japan dominates global exports of Machines for the Manufacture of Semiconductor, with the Netherlands and Singapore ranking second and third

In 2024, Japan, the Netherlands, and Singapore remained the top three global exporters of Machines for the Manufacture of Semiconductor, with the U.S. slipping to 4th. South Korea, Mainland China, and Taiwan ranked 5th to 7th. Compared to 2019, Singapore and Mainland China's export values increased by 1.9 and 1.4 times, respectively, making the fastest growth. As for the share of total machinery exports by country, this sector accounted for over 30% in Singapore and the Netherlands in 2024, but only 1.6% in Mainland China.

Table 7 Top Export Countries for Machines for the Manufacture of Semiconductor

Unit: US\$ billion, %

CY	Japan	Netherlands	Singapore	U.S.A.	South Korea	Mainland China	Taiwan
2019	22.6	13.8	8.5	15.4	7.9	2.2	3.2
2020	23.6	15.2	11.3	19.6	8.4	2.6	3.5
2021	30.5	20.0	17.7	26.3	9.2	3.6	4.8
2022	31.0	21.3	21.2	26.8	8.1	4.1	5.1
2023	25.2	24.1	21.6	20.1	6.6	4.7	4.8
2024	29.7	26.1	24.8	19.7	8.3	5.2	4.9
International Ranking	1	2	3	4	5	6	7
Growth Rate Compared to 2019	31.2	89.5	190.8	27.6	5.1	135.6	53.5
Share of Machinery Exports in 2024	24.1	31.4	36.3	10.6	14.3	1.6	20.5

4.5 Japan dominates global exports of Industrial Robots export market, while Mainland China grows the fastest

Japan has long been the leading exporter of Industrial Robots. However, due to the lack of significant technological breakthroughs, its export value declined in 2024. Mainland China rapidly advanced in robot manufacturing, surpassing Germany to become the second-largest exporter, while the U.S. ranked 4th. In terms of proportion of total machinery exports, only Japan exceeded 1%, with other countries ranging between 0.2% and 0.5%.

From 2019 to 2024, Mainland China's Industrial Robot exports increased by 1.4 times, leading other countries. The U.S. and South Korea followed with increases of 22.8% and 17.4%, respectively, while Taiwan experienced a 30% decline.

Table 8 Changes in Industrial Robot Exports by Country

Unit: US\$ million, %

CY		Japan		Mainland China		Germany	
		Industrial Robots		Industrial Robots		Industrial Robots	
			847950		847950		847950
2019		1,590	1,590	240	240	695	695
2020		1,724	1,724	243	243	627	627
2021		2,373	2,373	341	341	726	726
2022		2,614	2,490	525	408	762	730
2023		2,287	2,159	661	453	846	794
2024		1,385	1,279	926	574	727	639
Growth Rate Compared to 2019		-	-19.6	-	139.2	-	-8.0
Share of Machinery Exports	2019	1.2	-	0.1	-	0.3	-
	2024	1.1	-	0.3	-	0.3	-
CY		U.S.A.		South Korea		Taiwan	
		Industrial Robots		Industrial Robots		Industrial Robots	
			847950		847950		847950
2019		226	226	204	204	136	136
2020		231	231	156	156	135	135
2021		330	330	180	180	151	151
2022		481	375	208	189	144	144
2023		492	334	267	215	101	98
2024		447	278	309	240	101	94
Growth Rate Compared to 2019		-	22.8	-	17.4	-	-30.5
Share of Machinery Exports	2019	0.1	-	0.4	-	0.6	-
	2024	0.2	-	0.5	-	0.4	-

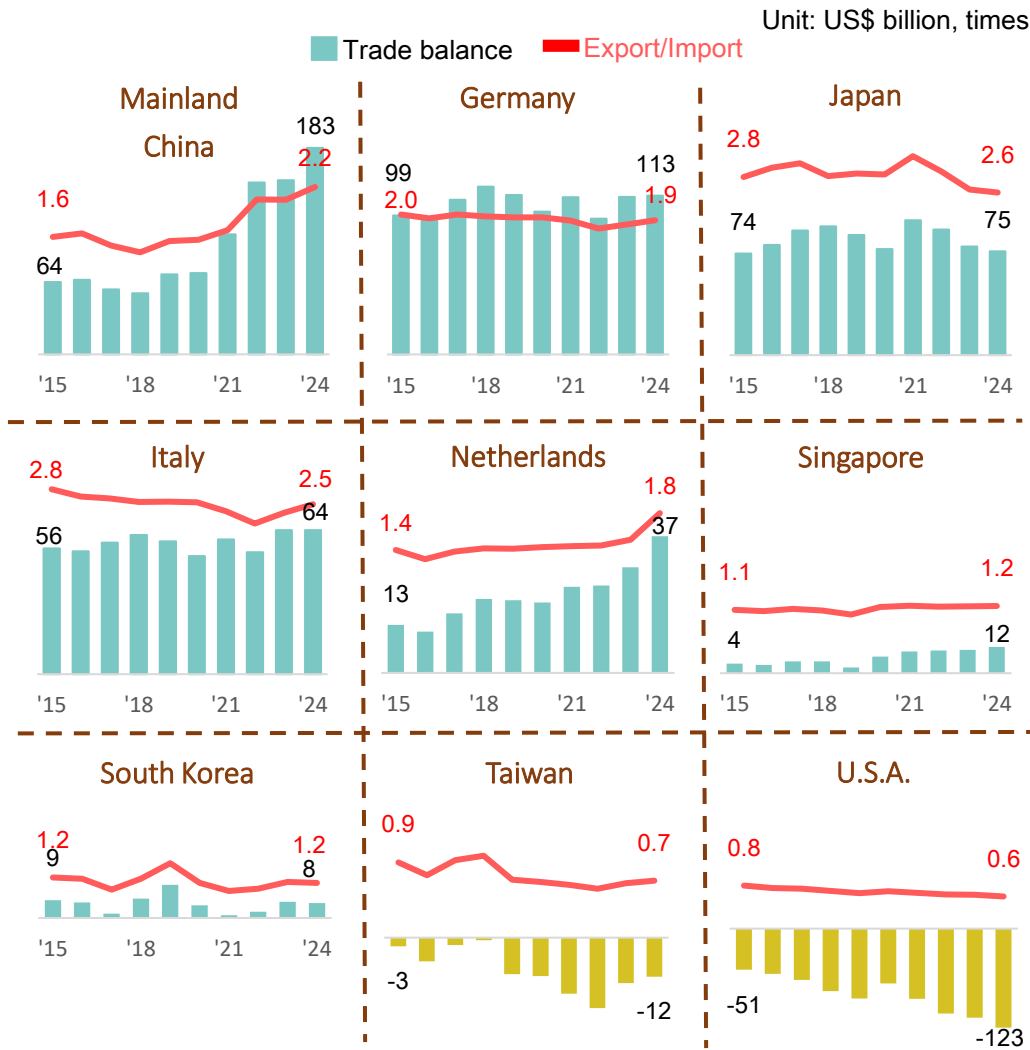
Note: Industrial robots correspond to HS codes 847950 (not elsewhere specified or multipurpose) and 842870 (for handling or loading/unloading). HS code 842870 was newly added in the HS 2022 revision and has only three years of available data. To maintain consistency in the data basis, the growth rate is calculated using HS code 847950 only.

4.6 Mainland China's machinery export-to-import ratio exceeded 2, while trade deficits widened in Taiwan and the U.S.

Over the past decade, Mainland China's export-to-import ratio for machinery increased from 1.6 to 2.2. In contrast, Germany and Japan saw slight declines. In the U.S., the ratio fell from 0.8 to 0.6, driven by reshoring of manufacturing and increased investment in equipment.

The Netherlands and Singapore saw their export-to-import ratios rise to 1.8 and 1.2, respectively. South Korea's ratio fluctuated between 1.0 and 1.2. Taiwan's ratio declined from 0.9 to 0.7, mainly due to increased imports of Machines for the Manufacture of Semiconductor in recent years.

Figure 7 Machinery Trade Balance and Export/Import Ratio by Major Countries



5. Conclusion

Taiwan's machinery exports are highly correlated with the global economy. Although they experienced a downturn during the COVID-19 pandemic, the global chip shortage prompted countries to boost semiconductor industries, driving demand for related equipment and leading Taiwan's machinery exports to record highs in 2021 and 2022. However, the recent global economic slowdown, intensified competition from neighboring countries, geopolitical risks, and challenges such as tariffs and exchange rates have weakened Taiwan's machinery exports. Although there was a 4.3% growth in the first half of this year, the outlook for the entire year remains cautious.

Export trends among machinery items are diverging. Traditional machinery sectors have been losing export momentum, with Machine Tool exports nearly halving from their 2012 peak. In contrast, Machines for the Manufacture of Semiconductor have shown stronger performance, with exports shifting rapidly from Mainland China and Hong Kong to ASEAN countries. Due to the U.S.-China trade war and the reshoring of U.S. manufacturing, Taiwan's machinery exports share to the U.S. reached nearly one-fourth in 2024, surpassing that to Mainland China and Hong Kong for the first time. Most major countries also show an export market structure characterized by "rising U.S. and declining China" trend.

Compared with other major machinery-producing countries over the past five years (2019–2024), Mainland China recorded the strongest performance, with a 60% increase in machinery exports. Singapore, the Netherlands, and the U.S. grew by 40%, 20%, and 15%, respectively. South Korea and Taiwan recorded only growth of 5.6% and 2.6%, while Japan declined by 7.9%. Though Taiwan's performance has been relatively modest, emerging opportunities driven by AI development and domestic industrial policies, particularly in industrial robotics and semiconductor-related sectors, are well aligned with the country's strengths and are expected to inject new momentum into the machinery industry and its exports.