



# Analyzing the Supply Chain Development of Vietnamese Fastener Industry

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## 1. Introduction

Since Vietnam carried out an economic reform, the economic development has driven the development of manufacturing and service industry in the country. The population keeps gathering to the city, which has driven the demand for residential houses and public infrastructure, increasing Vietnam's needs for fastener products. According to the data from Asian Development Bank, the proportion of GDP in the fastener-related industry in Vietnam is 34.3%, of which 11.5% in the mining industry, 17.5% in the manufacturing industry and 5.3% in construction.

With Taiwan's government promoting New Southbound Policy, Vietnam is ranked as one of the policy-focused countries. So far, the trade between Taiwan and Vietnam has been mostly machinery and electric machinery equipment. These two major industries mostly belong to metal parts and components areas, which have some influence on Taiwan's metal industry development. The total investment in Vietnam by Taiwanese investors ranked the fourth place and the investment mostly came from Taiwan's leading industries: textile, metal finishing, steel and electronics communication products. Both Northern and Southern Vietnam have the investment in metal finishing industry by Taiwanese investors, but not so many in Central Vietnam. The most representative one is Formosa Petrochemical Corporation's steel factory in Ha Tinh Province. Most Taiwanese investors in Vietnam are located in Southern Vietnam.

## 2. The Raw Material End of Vietnam's Fastener Industry Supply Chain

1. Import/ Export trade status: **Table 1** is the import/export trend table of Vietnam's steel industry during 2011~2015. In 2015, Vietnam's steel import value with the world was 8.725 billion USD. The CAGR in the five years was 3.21%; the total export value with the world was 2.204 billion USD, with a CAGR of 4.39% in the five years, showing the status of import > export. In contrast, Taiwan's steel material imported from Vietnam has dropped by nearly 20%. Taiwan's import value with Vietnam was only 1.165 billion NTD and the export value with Vietnam decreased to 17.407 billion NTD in 2015. Both the CAGR in export and import dropped in the five years. The trend shows a sign of cooldown in the steel material trade between Taiwan and Vietnam.

**Table 1. Import/Export of Vietnam's Steel Industry During 2011~2015**

	2011	2012	2013	2014	2015	CAGR
Vietnam's Steel Import Value with the World (USD 100 million)	76.88	75.47	80.95	92.90	87.25	3.21%
Vietnam's Steel Export Value with the World (USD 100 million)	18.56	18.72	20.22	25.03	22.04	4.39%
Taiwan's Steel Import Value with Vietnam (NTD 100 million)	28.43	26.02	16.77	25.21	11.65	-19.99%
Taiwan's Steel Export Value with Vietnam (NTD 100 million)	210.61	164.66	179.11	207.70	174.07	-4.65%

Unit: USD 100 million; NTD 100 million ;%

Source: ITC/ TIER Import and Export/ compiled by MII-ITIS of MIRDC

Status of Companies and Industries: The scale of Vietnamese steel producing factories is smaller and they are located in many different areas of the country. The quality of machines they use is uneven and the productivity is unstable as well. Except for part of new steel companies (mostly 100% of foreign enterprise) having more advanced manufacturing technique and equipment, others show low production efficiency. Vietnam's steel companies mainly produce wire rods and bar steels and their total capacity is more than 10 million tons; there are 27 companies manufacturing small billets and their total capacity is about 11.43 million tons. The main steel factories in Vietnam include TISCO (which belongs to VNsteel), SSC and the publicly traded Pomina. In addition, Vietnamese government is also actively encouraging investment in expanding productivity of hot rolling, cold rolling and coating steel plates, producing high quality steel, alloy steel for construction machinery and shipbuilding and reducing their dependence on imported steel material. Items Vietnamese steel industry will go to invest in first will be as follows: pig iron, billet (iron ore), different kinds of hot rolled steel, alloy steel and stainless steel.

## 3. The Current Development of Fasteners and Fastening Tools in Vietnam:

### a. The Fastener Market-

**Table 2** shows the import/export trend of Vietnam's fastener industry during 2011~2015. In 2015, Vietnam imported 571 million USD worth of fasteners from the world. The CAGR in the five years was 9.27%; its total export value with the world

was 369 million USD, with a CAGR of 10.32% in the five years, although the import/ export values were not high, the growth margins were significant. Taiwan's fastener import value with Vietnam was only 158 million NTD; however, its export value with Vietnam increased to 1.421 billion NTD in 2015 and the CAGR in the five years was about 10.04%, showing that Vietnam is a potential market for Taiwanese fastener industry to pay attention to.

**Table 2. Import/Export Trend of Vietnam's Fastener Industry During 2011-2015**

	2011	2012	2013	2014	2015	CAGR
Vietnam's Fastener Import Value with the World (USD 100 million)	4.01	4.08	4.24	4.63	5.71	9.27%
Vietnam's Fastener Export Value with the World (USD 100 million)	2.49	2.63	3.22	3.92	3.69	10.32%
Taiwan's Fastener Import Value with Vietnam (NTD 100 million)	1.48	1.51	1.36	1.70	1.58	1.66%
Taiwan's Fastener Export Value with Vietnam (NTD 100 million)	9.69	10.08	12.15	13.95	14.21	10.04%

Unit: USD 100 million; NTD 100 million ; %

Source: ITC/ TIER Import and Export/ compiled by MII-ITIS of MIRDC

**Table 3** shows the import trend of Vietnam's fastening products trade with the world during 2011~2015. The top three categories of Vietnam's fastening products imported from the world were as follows: other screws and bolts (139 million USD), other washers (107 million USD) and other iron and steel non-threaded articles (55 million USD). The CAGR of each of the top three categories of Vietnam's

fastening products was not low, showing the growing demand for fastening products in Vietnam; the top three fastening products with the highest CAGR were: other iron and steel threaded articles (38.65%), rivets (14.67%) and other iron and steel non-threaded articles (12.79%), all of which are fastening products with potential in future Vietnam's growing demand.

**Table 3. Import Trend of Vietnam's Fastening Products Trade with the World During 2011~2015**

Product Type	2011	2012	2013	2014	2015	CAGR
Other Screws & Bolts	105,731	78,155	85,223	101,351	139,998	7.27%
Other Washers	73,616	81,143	74,085	87,525	106,713	9.73%
Other Iron and Steel Non-Threaded Articles	34,115	44,269	45,307	47,467	55,215	12.79%
Pins & Cotter Pins	38,004	33,920	44,723	45,851	50,882	7.57%
Nuts	33,032	31,836	37,744	38,805	50,280	11.07%
Other Iron and Steel Threaded Articles	11,694	29,315	28,191	34,294	43,222	38.65%
Steel Nails, Tacks, Corrugated Nails, Staples, Thumbtacks	25,995	37,440	41,665	40,173	41,564	12.45%
Metallic Tubular Rivets or Bifurcated Rivets	12,009	14,529	17,426	14,946	16,350	8.02%
Aluminum Screws and Bolts, Nails, Hooks, Pins and Washers	7,474	13,702	8,892	10,450	12,017	12.61%
Steel Anchors, Grapnels and Other Parts	15,360	10,277	9,612	9,364	11,439	-7.10%
Rivets	5,796	5,843	6,868	7,208	10,021	14.67%
Other Copper Threaded Articles	4,674	6,605	5,815	4,420	7,114	11.07%
Copper Washers (Incl. Spring Washers)	5,644	3,638	2,991	2,824	5,344	-1.36%
Other Copper Threaded Articles: Screws, Bolts and Nuts	3,242	2,917	2,768	3,044	4,158	6.42%
Spring Washers and Other Locking Washers	9,866	3,621	2,934	3,455	4,069	-19.86%
Other Copper Alloy Screws, Bolts, Nails, Hooks, Pins, Washers	3,096	4,473	3,095	3,472	3,407	2.42%
Other Wood Screws	4,235	1,580	1,508	1,448	3,150	-7.13%
Iron and Steel Self Tapping Screws	3,305	1,912	2,472	3,206	3,123	-1.41%
Copper Nails, Tacks, Pins, Staples	2,305	1,374	1,567	1,797	1,383	-11.99%
Iron and Steel Automobile Screws	772	986	1,159	1,351	1,125	9.87%
Spiral Hooks and Spiral Rings	705	228	363	301	591	-4.31%
Total	400,670	407,763	424,408	462,752	571,165	9.27%

Unit: Thousand USD; %

Source: compiled by MII-ITIS of MIRDC

## b. Vietnam's Fastening Tools Market

**Table 4** shows the import/export trend of Vietnam's fastening tools trade during 2011-2015. In 2015 the total import value

of Vietnam's fastening tools with the world was 58 million USD, with a CAGR of 10.60% in the five years; the total export value of Vietnam's fastening tools to the world was USD 14 million, with a CAGR of 23.82% in the five years. Although the import/export values were not high, the growth margins were significant. Furthermore, Taiwan's fastening

tools import value with Vietnam was only NTD 116 million, and the export value with Vietnam was only NTD 195 million, with a CAGR of about 7.24% in the five years. It shows that Taiwanese suppliers have not devoted themselves too much in Vietnam's fastening tools market and there is still much space for them to increase their export to the market.

**Table 4. Import/Export Trend of Vietnam's Fastening Tools Trade During 2011-2015**

	2011	2012	2013	2014	2015	CAGR
Vietnam's Fastening Tools Import Value with the World (USD thousand)	37,247	41,515	39,569	50,861	55,725	10.60%
Vietnam's Fastening Tools Export Value with the World (USD thousand)	5,945	5,311	7,762	8,960	13,972	23.82%
Taiwan's Fastening Tools Import Value with Vietnam (NTD 100 million)	1.04	0.98	0.87	0.97	1.16	2.64%
Taiwan's Fastening Tools Export Value with Vietnam (NTD 100 million)	1.47	1.32	1.35	1.54	1.95	7.24%

Unit: 1,000 USD; NTD 100 million; %

Source: ITC/ TIER Import and Export/ compiled by MII-ITIS of MIRDC

**Table 5** shows the import trend of Vietnam's fastening tools with the world during 2011-2015. The top two Vietnam's fastening tools imported from the world in 2015 were electric socket wrenches (USD 37 million) and hand-operated wrenches & spanners (USD 9 million). The CAGR of each of these two imported fastening tools was not low, with a CAGR of 11.21% and 12.98%, respectively, showing the potential demand for these two categories of fastening tools. The top two fastening tools with the highest CAGR were: screwdrivers (24.31%) and hand-operated wrenches & spanners (12.98%), both of which are potential products that will show high demand in future Vietnamese market.

**Table 5 Import Trade Trend of Vietnam's Fastening Tools with the World During 2011-2015**

Product Category	2011	2012	2013	2014	2015	CAGR
Bolt Cutters & Similar Tools	1,251	3,272	1,740	1,498	1,026	-4.84%
Hand-Operated Wrenches & Spanners	5,791	7,181	5,536	6,606	9,436	12.98%
Interchangeable Wrench Sockets With or Without Handles	1,031	613	487	496	846	-4.82%
Boring, Thread Cutting or Tapping Tools	660	4,414	2,611	1,440	1,114	13.98%
Screwdrivers	1,473	1,551	1,855	2,947	3,517	24.31%
Hand-held Pneumatic Screwdrivers/ Wrenches	2,927	2,639	2,238	2,813	2,906	-0.18%
Electric Socket Wrenches	24,114	21,845	25,102	35,061	36,880	11.21%
Total	37,247	41,515	39,569	50,861	55,725	10.60%

Unit: Thousand USD; %

Source: ITC/ TIER Import and Export/ compiled by MII-ITIS of MIRDC

## 4. The Current Development of Vietnam's Fastening-Related Industry

### a. Vietnam's Automotive Market

**Table 6** shows the automotive production and import in Vietnam during 2008-2015. According to the statistics by Vietnamese Customs, in 2015 Vietnam's total car import was 72 thousand units, with the total value of USD 1.57 billion. Compared to 2014, the car import and the value grew 103.8% and 117.3%, respectively. In 2015, Vietnam's car import accounted for 50% of its annual domestic car sales, revealing the trend of car import and increasing demand.

**Table 6. Car Production and Import in Vietnam During 2008-2015**


Item	2008	2009	2010	2011	2012	2013	2014	2015	CAGR
Sale of Domestically Manufactured Cars	80,392	111,946	119,460	112,224	110,938	80,487	88,119	116,000	5.38%
Import Value of Cars	579,100	1,039,865	1,268,629	978,514	1,028,694	627,000	722,500	1,570,000	15.31%
Import Volume of Cars	30,300	51,059	80,596	53,841	54,619	27,000	35,330	72,000	13.16%

Unit: vehicle; USD thousand; %

Sources: VAMA/General Statistics Office of Vietnam / compiled by MII-ITIS of MIRDC

### b. Vietnam's Motorcycle Market

**Table 7** shows the market share and sales of major motorcycle factories in Vietnam during 2014-2015. The capacity of



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Japanese motorcycle manufacturers will increase by 2~3 times in the future. It is estimated that the sales of foreigner invested companies in Vietnam will gradually grow as well; 2 million units of new motorcycle are assembled in Vietnam per year; meanwhile, the existing 30 million units of motorcycles in Vietnam also mean tremendous demand for maintenance & repair service, which also shows the great demand in Vietnam for motorcycle parts.

In terms of maintenance & repair, Vietnamese motorcycle owners with medium or high salary prefer motorcycle parts imported from Taiwan and Japan, so Vietnam imports hundreds of millions of precision motorcycle parts every year. In the future, Vietnamese government will reduce the tariff on motorcycles in order to encourage the collaboration between foreign parts suppliers and local motorcycle assembly plants and boost the development of Vietnamese motorcycle market.

**Table 7 The Market Share and Sales of Major Motorcycle Manufacturers in Vietnam During 2014-2015**

| Manufacturer | 2014      | 2015      | Market Share in 2015 | Main Motorcycle Brands |
|--------------|-----------|-----------|----------------------|------------------------|
| HONDA        | 1,872,460 | 1,909,909 | 70.40%               | Air Blade,Wave         |
| YAMAHA       | 730,820   | 633,622   | 23.40%               | Nouvoo,Sirius          |
| VMEP         | 82,370    | 74,135    | 2.70%                | Attila,Joyride         |
| Piaggio      | 55,720    | 56,443    | 2.10%                | Vespa,Liberty          |
| Suzuki       | 53,630    | 37,047    | 1.40%                | Revo,Viva              |
| Total        | 2,795,000 | 2,711,156 | 100.00%              | ---                    |

Unit: vehicle; %  
 Source: (VAMM)/Taiwan External Trade Development Council / compiled by MII-ITIS of MIRDC

## 5. Conclusion

Although fasteners and fastening tools are Taiwan's advantageous export goods, the export/import values and proportion of these two products between Taiwan and Vietnam aren't high. How can Taiwan compete with China's low priced fasteners and fastening tools in the less developed Vietnamese market is one of the big issues for Taiwanese government and the industry. In the future, Taiwan can try to change its unilateral communication with domestic businesses and consider turning to manufacturing in Vietnam and exporting through it directly. It can also utilize bilateral industrial investment and trade exchange to make Vietnam an extension of Taiwan's domestic market. Considering the local expense, growth potential of infrastructure, and the need of industrial transformation, the trade and financial collaboration between Taiwan and Vietnam should focus on integrating the industrial value chain, connecting domestic markets and collaborating on infrastructure engineering. It should strive to eliminate market barriers, and foster economic collaboration and mutual prosperity for Taiwan and Vietnam by means of repositioning and improving the industrial value chain.

Based on the above statements, below are my advices for Taiwan's fastener-related industry in Vietnam's market according to economic and trade perspective:

1. Enhance the deployment of industrial clusters in Vietnam: The government should develop investment strategic partnership with Vietnam, establish an investment collaboration platform, conglomerate Taiwanese industry clusters and supply routes, enhance Taiwanese business support system, set up Taiwan Desk, connect with local resources, and strengthen the connection with domestic industries.
2. Increase the export of consumables and service most demanded in Vietnam: Depending on the condition and market demand in Vietnam, Taiwan should target specific consumers, make a customized sales expansion strategy, take relative advantages into consideration. In response to Vietnam's urbanization trend, Taiwanese companies can gradually target urban consumers with medium/high incomes; in addition to providing high quality and budget made-in-Taiwan products, Taiwan can set Vietnamese emerging industry as its advancement target.
3. Promote the brand image of Taiwanese fasteners and fastening tools in Vietnam: Taiwanese companies can select representative fasteners and fastening tools, and utilize various ways of integration as well as creative marketing ways to improve the brand image of Taiwanese companies in Vietnam, decrease low priced competition with China and strengthen systematic capability.
4. The government should assist Taiwanese businessmen in eliminating obstacles like tariff to enter the local market: The government should solve problems such as delayed customs clearance, quarantine, product certification, and reduce restrictions on the exchange of products, personnel, funds as well as the service industry market between Taiwan and Vietnam.
5. Taiwanese fastener-related industry should make a risk assessment before investing: The fastener-related product trade between Taiwan and Vietnam has not achieved good performance in terms of the investment value, export value and export proportion. Therefore, Taiwanese companies should assess issues like talent demand and return of investment before they go invest in Vietnam. With a complete risk assessment strategy and monitoring mechanism along with the government's resources, risks are reduced and investment efficacy is expanded, and only then can Taiwanese companies stand firmly in the Vietnamese market.



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