

Introduction

According to the data released by World Bank, Mexico was the 15th largest economy in the world in 2014. Based on the data of Mexico Statistics Bureau, the economic growth of Mexico was 2.5% in 2015 and its GDP reached USD 1.79 trillion; the manufacturing industry grew 7.37% and the service industry grew 5.51%. In terms of external trade, Mexico was influenced by the global slow economic recovery in 2015, and its total trade value in 2015 was USD 776 billion, down 2.65% from 2014. The export value of Mexico was USD 380.8 billion and its import value was USD 395.2 billion, down 4.12% and 1.19% from 2014 respectively.

The FDI in Mexico in 2015 increased by 10.74% and 50% of the FDI was in manufacturing. The total value Taiwanese companies invested in Mexico was ranked the 26th. As the U.S., adjacent to Mexico, is one of the major export destinations for Taiwanese fasteners and related hardware, how to make the most of the geographical advantage of Mexico and compete with low priced and low-grade fasteners and fastening tools from China in the less developed Mexican market has become the issue Taiwanese Government and fasteners & hardware manufacturers are concerned about. In this article. fasteners and related hardware often used in metal machinery are taken as the research samples, especially the two major categories: fasteners and fastening tools.

Current Conditions of Mexican Fasteners & Related Hardware Markets

Fastener Market

Table 1 shows the import and export trend of Mexican fastener industry in 2012-2016. The total fastener value Mexico imported from the world in 2016 was USD 5.385 billion with the 5-year CAGR being 3.32%. However, the fastener value Mexico exported to the world in the same period was only USD 0.234 billion, with the 5-year CAGR being 5.33%. As a result, Mexico is a net importer of fasteners, which shows high demand for fasteners. The total fastener value Taiwan exported to Mexico increased from NTD 1.485 billion in 2012 to NTD 2.316 billion in 2016, with the 5-year CAGR being 11.75%. As Mexico is adjacent to one of Taiwan's major export destinations- the U.S., it can create a multiplier effect in the growth of Taiwan's export.

Table 1. Mexico's Fastener Import and Export in 2012-2016

	2012	2013	2014	2015	2016	CAGR
Mexico's Fastener Import from the World (USD 0.1 bn)	47.25	49.96	53.87	58.05	53.85	3.32%
Mexico's Fastener Export to the World (USD 0.1 bn)	1.90	1.93	2.22	2.33	2.34	5.33%
Taiwan's Fastener Import from Mexico (NTD 0.1 bn)	0.04	0.03	0.03	0.04	0.02	-15.72%
Taiwan's Fastener Export to Mexico (NTD 0.1 bn)	14.85	16.93	20.48	23.80	23.16	11.75%

Source: ITC/TIER Import & Export Statistics, compiled by MII-IT IS (MIRDC)

Table 2 shows Mexico's fastener import from the world in 2012-2016. The top 3 major product categories Mexico imported from the world in 2016 were: Other Screws & Bolts (USD 1.271 billion), Nuts (USD 0.426 billion), Other Iron & Steel Non-threaded Articles (USD 0.199 billion). Over the past 5 years, each of these 3 product categories maintained a CAGR of 3-5%, showing very high demand from Mexico for the top 3 product categories. The top 3 product categories with the highest 5-year CAGR were: Iron & Steel Automotive Screws (19.38%), Helical Hooks & Helical Rings (12.92%) and Iron & Steel Self-tapping Screws (7.32%). The CAGR of Iron & Steel Automotive Screws reflects the current growing trend of Mexican automotive, motorbike and bicycle component market and the growth potential of automotive screws in Mexican market.

Mexican Fastening Tools Market

Table 3 shows Mexico's fastening tools import and export trend in 2012-2016. In 2016, Mexico imported USD 0.251 billion worth of fastening tools from the world, with the 5-year CAGR being 2.34%. Mexico also exported USD 0.339 billion worth of fastening tools to the world in the same year, with the 5-year CAGR being 7.74%. Mexico is adjacent to the U.S., the largest hand tool export destination for Taiwan, so whether Mexican suppliers will become strong competitors to Taiwanese companies or

not is still worth noting. On the other hand, Taiwan only imported NTD 4 million worth of fastening tools from Mexico and only exported NTD 0.13 billion worth of fastening tools to Mexico, with the 5-year CAGR being -10.32%, showing most of Taiwan's share in Mexican fastening tools market may have been taken by China and local suppliers. As a result, Taiwanese fastening tools suppliers must figure out their strategy as soon as possible to maintain their presence in the Mexican market.

Table 2. Mexico's Fastener Import from the World in 2012-2016

Unit: 1,000 USD

Product Category	2012	2013	2014	2015	2016	CAGR
Other Screws and Bolts	1,126,848	1,180,620	1,309,082	1,316,868	1,271,348	3.06%
Nuts	355,695	392,191	418,656	445,280	426,115	4.62%
Other Iron & Steel Non-threaded Articles	171,784	192,225	188,372	348,917	199,173	3.77%
Other Washers	153,886	160,786	176,778	181,106	177,737	3.67%
Pins & Cotter Pins	125,084	123,683	136,983	136,422	144,263	3.63%
Rivets	88,923	86,147	89,802	95,950	91,621	0.75%
Aluminum Bolts, Nuts, Nails, Hooks, Pins and Washers	74,064	65,652	69,955	65,146	69,341	-1.63%
Iron & Steel Self-tapping Screws	48,295	54,240	61,586	62,989	64,076	7.32%
Other Iron & Steel Threaded Articles	47,479	49,630	57,426	57,707	57,201	4.77%
Spring Washers & Other Locking Washers	33,912	37,001	42,111	43,454	43,884	6.66%
Other Copper Threaded Articles: Screws, Bolts and Nuts	39,137	44,149	38,330	39,009	38,095	-0.67%
Iron & Steel Screws, Flat Head/Wave Screws, Thumbtacks/Elbow Screws	23,484	23,542	20,745	24,694	24,049	0.60%
Other Copper Bolts, Nuts, Screws, Hooks, Pins, etc.	18,955	27,518	22,532	22,078	23,622	5.66%
Base Metal Tubular Rivets or Open-end Rivets	16,854	18,771	18,744	21,278	20,361	4.84%
Other Wood Screws	14,248	12,504	13,604	13,942	14,489	0.42%
Other Copper Threaded Articles	10,657	10,560	11,905	11,666	10,938	0.65%
Copper Washers (Incl. Spring Washers)	7,764	11,527	9,010	7,785	8,871	3.39%
Helical Hooks & Helical Rings	2,415	2,736	3,503	3,766	3,926	12.92%
Iron & Steel Automotive Screws	996	1,587	1,833	2,184	2,023	19.38%
Copper Screws and Flat Head Screws, Thumbtacks, Elbow Screws, etc.	1,675	1,740	1,971	1,325	1,245	-7.15%
Iron & Steel Anchors, 4-Claws Anchors and Components	545	1,329	574	806	224	-19.93%
Total	4,725,400	4,996,276	5,387,004	5,804,744	5,385,204	3.32%

Source: ITC/Compiled by MII-IT IS (MIRDC)

Table 3. Mexico's Fastening Tools Import and Export in 2012~2016

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	2012	2013	2014	2015	2016	CAGR
Mexico's Fastening Tools Import from the World (USD 0.1 bn)	2.28	2.14	2.29	2.57	2.51	2.34%
Mexico's Fastening Tools Export to the World (USD 0.1 bn)	2.52	3.15	2.39	3.67	3.39	7.74%
Taiwan's Fastening Tools Import from Mexico (NTD 0.1 bn)	0.03	0.02	0.03	0.00	0.04	8.46%
Taiwan's Fastening Tools Export to Mexico (NTD 0.1 bn)	2.00	1.94	1.57	1.48	1.30	-10.32%

Source: ITC/TIER Import & Export Statistics/ Compiled by MII-IT IS (MIRDC)

Table 4 shows Mexico's fastening tools import and export from the world in 2012-2016. In 2016, the top 2 major fastening tools Mexico imported from the world were: Power Socket Wrenches (total value: USD 0.117 bn; CAGR: 2.73%) and Hand-operated Wrenches & Spanners (total value: USD 49 million; CAGR: 1.66%). The 5-year CAGRs of both products were not high but still quite stable. The top 2 fastening tools with the highest 5-year CAGR were Interchangeable Socket Wrenches with or Without Handles (4.48%) and Bolt Cutters & Similar Tools (3.51%). Socket wrenches are the most competitive products of Taiwanese hand tools suppliers and Taiwanese companies can seize this opportunity to tap into Latin American market (particularly Mexico) with their socket wrenches.

Table 4. Mexico's Fastening Tools Import from the World in 2012-2016

Unit: 1,000 USD

Product Category	2012	2013	2014	2015	2016	CAGR
Bolt Cutters & Similar Tools	6,204	6,314	7,703	8,075	7,123	3.51%
Hand-operated Wrenches & Spanners	46,218	46,024	50,472	52,685	49,373	1.66%
Interchangeable Socket Wrenches With/Without Handles	18,665	18,105	20,469	21,577	22,240	4.48%
Drilling and Thread Cutting/Tapping Tools	2,337	2,305	2,053	2,528	2,039	-3.35%
Screwdrivers	14,450	15,714	17,761	18,694	16,302	3.06%
Hand-held Pneumatic Screwdrivers and Spanners	34,990	34,215	36,678	37,506	35,916	0.66%
Power Socket Wrenches	105,557	91,396	94,131	115,578	117,581	2.73%
Total	228,421	214,073	229,267	256,643	250,574	2.34%

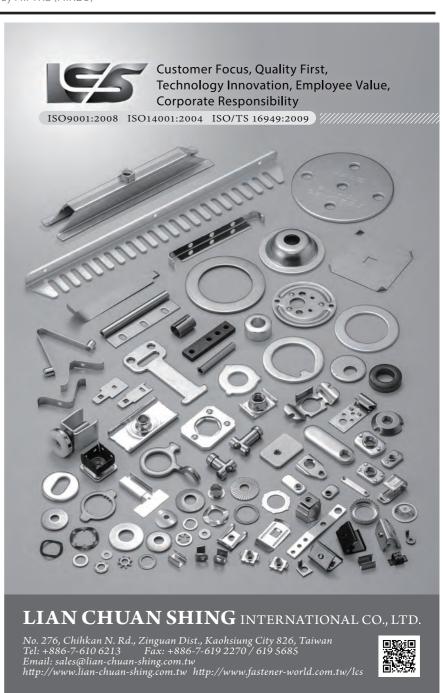
Source: ITC/TIER Import & Export Statistics/Compiled by MII-ITIS (MIRDC)

Current Conditions of Mexican Fasteners & Related Hardware Industries

The Mexican government is pushing the development of automotive & components, electric/electronic, aerospace, green energy, semiconductor and other high-tech industries. In recent years, the new administration of Mexico has been dedicated to promoting its new energy policy to reduce the reliance on imported oil on the one hand and increase the domestic oil production and oil refining efficiency on the other hand. The Mexican government will also continue the investment in airports and public transport infrastructure. Below are the analysis on related fastening products industries:

Mexican Automotive Industry

Mexico is one of the world's largest car manufacturing countries, so many int'l car manufacturers have set up or expanded their plants in Mexico in recent years. In 2015, the car production of Mexico increased to 3.565 million units of vehicles, up 5.9% from 2014's 3.22 million units of vehicles, showing a continuously flourishing Mexican automotive industry. In 2014, the performance of Mexican automotive industry was outstanding compared to other major car manufacturing countries in the world. The car production in Mexico in 2014 even outpaced that of Brazil, making Mexico the 7th largest car manufacturing country in the world and the 2nd largest car manufacturing country in the Americas, only second to the U.S.



In 2015, the car production of Mexico reached a new high again. The production of passenger cars was 1,968,054 units of vehicles and the production of commercial cars were 1,597,415 units of vehicles. With the influence of tariff-free treaty within NAFTA and the move to reduce cost in order to increase the competitive edge, the U.S. car manufacturers started to reduce the production of passenger vehicles and have their cars assembled in Mexico. It is expected that in 2017 the car production in Mexico will exceed 4 million units of vehicles.

The auto parts market is very important to Taiwanese fastener and related products suppliers, so I would suggest Taiwanese companies continue collaboration with their U.S. customers and set up plants in Mexico to increase the possibility for getting more OEM orders. As for the after-sales market, around 2/3 of the products are manufactured by OEMs and auto parts manufacturers from China and other emerging countries are using the price cutting strategy to gradually increase their market share in the market. As a result, Taiwanese fastener and related products suppliers must continue to reinforce their R&D, utilize new technology/materials/electronic parts and offer high value added customized products in order to seize the business opportunities.

Mexican Steel Industry

Steel is an indispensable material for production of fasteners and fastening tools. In 2015, Mexico was the world's 13th largest crude steel producer (second to Taiwan at the 12th place) and the 2nd largest in Central & South America (after Brazil). The crude steel production of Mexico in 2015 was 18.23 million tons, down 3.5% from 2014's 18.90 million tons. However, Mexico has been a net steel products importer for many years. In 2015, it exported 4.3 million tons of related products and imported 13.7 million tons of related products. When it comes to the investment of Taiwanese steel companies in Mexico, China Steel Global Trading, a subsidiary of Taiwan CSC, has set up a representative office in Mexico City since 2013 for handling all sales of Taiwan CSC's products in Latin America.

Guadalajara is the 2nd largest city of Mexico and is often dubbed "the Silicon Valley of Mexico." Monterry, famous for its steel and concrete industries, is the 3rd largest city of Mexico and is very close to Texas. Both are cities Taiwanese fasteners and related products manufacturers can take into account for investment. However, Mexican Steel Industries Association(CANACERO) has been unfriendly to imported products for a long period of time, especially the low priced Chinese products, because the main threat to Mexican steel industry is China. In Jan. 2012, the Mexican government once reduced the import tax on industrial materials and semi-finished products to 0%, which later received a protest from a Mexican association. Accordingly, in Aug 2012 The Ministry of Economic Affairs of Mexico increased the import tax on 268 items of imported steel products from 0% to 3%, which affects 155 WTO members including Taiwan and China. Facing the pressure from Mexican steel industry, the Mexican government then imposed the antidumping taxes on certain steel products of China and some E. European countries. Taiwan were also accused of dumping 19 items of steel products (in the category of steel plates) to Mexico in 2015. Although Taiwanese fasteners and fastening tools have not been influenced by the antidumping investigation from Mexico yet, they still have to pay more attention to the future development of related issues.

The Outlook for Mexican Market

Mexico is rich in minerals and natural resources and it also has very flourishing automotive and white goods industries, sufficient labor force, great domestic market demand and an open and free economy, making it the country with the 2nd largest population and territory in Latin America (after Brazil). According to a PwC market survey released at World Economic Forum held in Davos, Switzerland in Jan. 2016, Mexico was ranked the 9th place in "the Most Attractive Country for Investors" list. That is why Mexico can be one of the most important bases for business expansion plans of many companies in the world.

For Taiwanese fasteners and related products manufacturers, they still face many challenges while investing in Mexico. These challenges include:

- (a) Poor public security
- (b) Inefficient administration of the government
- (c) Complicated trade and financial regulations that are often amended. The Mexican administration has the ultimate power to explain which regulation article is applicable and who should be affected, thus adding more uncertainty and risk to the investment.
- (d) Labor more concerned about their rights, thus resulting in high employee turnover and low work efficiency.
- (e) Underdeveloped industrial manufacturing supply chain, causing heavy reliance on imported components at higher costs.
 - (f) Insufficient infrastructure, which increases the cost indirectly.

Despite so many challenges, Mexico still has 3 advantages which are the richness in steel resources, a suitable country for product processing before export and great domestic market demand. Mexico is still one of the good choices for Taiwanese fasteners and related products manufacturers and there will definitely be growth potential for these Taiwanese products in Mexico. What's worth mentioning is that there is at least one industrial area in every State of Mexico. For example, the land cost of the industrial area located at the USA-Mexico border is quite fair (USD2.30-23.7 per sq. ft.). In addition to Misiones Industrial Area in Tijuana, which is to the South of California, the industrial area in Torreon, Coahuila, also offers preference to foreign investors based on their total investment value. As a result, Taiwanese manufacturers can consider having their products processed in Mexico and directly exported through the country. Both Taiwan and Mexico can be definitely benefited if the bilateral industrial investment and trade collaboration can be established, the local consumption and infrastructure in Mexico and industrial transformation can be taken into account, the value chain of Mexican fastener industry can be integrated and repositioned and the market entry barriers can be eliminated.