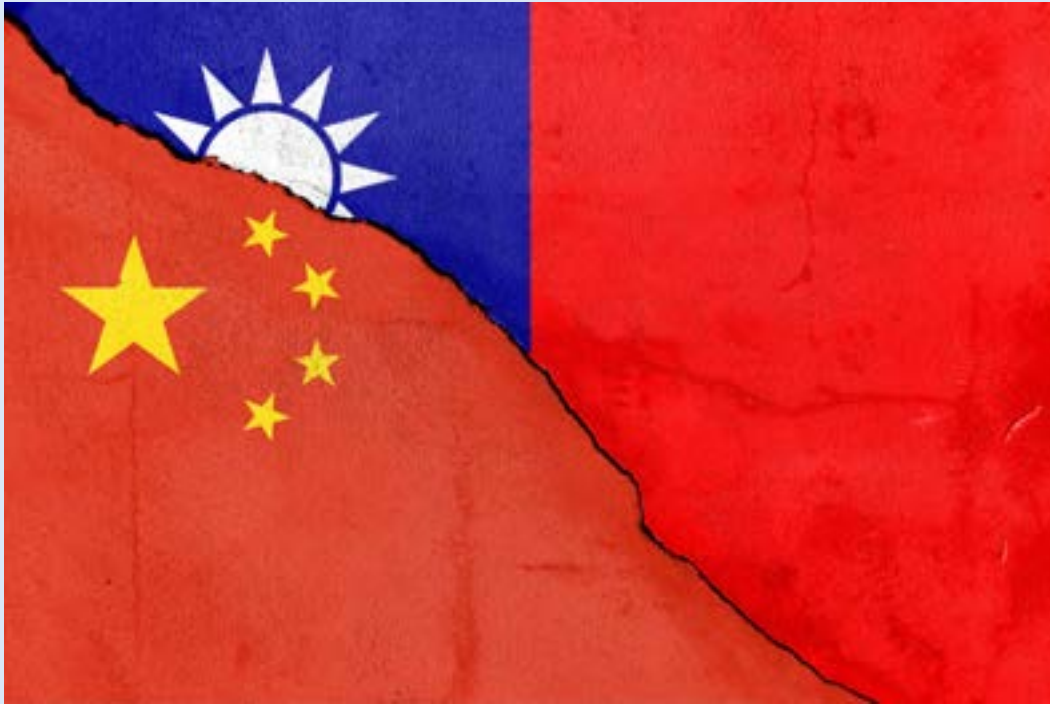


China-Taiwan Tensions



A SiliconExpert White Paper

China-Taiwan Conflict

Beijing is stepping up pressure on Taiwanese leadership after a record number of Chinese military flights near Taiwan over the past few months.

China's tacit support for Russia's invasion of Ukraine has fueled speculations over Beijing's intentions with Taiwan, raising questions about how the world might react should China launch an attack.

As Beijing increased its pressure on Taiwan, United States President Joe Biden announced that his administration would be willing to use force to defend Taiwan in the event of a Chinese invasion.

In response, Beijing announced that it conducted military drills near Taiwan amid President Biden's comments that the US would defend the island if invaded.

How does a China-Taiwan Conflict disrupt the Global Supply Chain?

Taiwan's main exports are electronics, basic metals, and metal products, plastics and rubber, chemicals, and machinery. Its principal export trading partners include China (including Hong Kong), countries of the Association of Southeast Asian Nations (ASEAN), the United States, Japan, and South Korea.

Taiwan's major import commodities include electrical machinery and appliances, mineral fuels and mineral products, and chemicals. Its chief import sources are China, Japan, ASEAN countries, the United States, the countries of the European Union, and South Korea.

China is Taiwan's largest trading partner with a share of over 26% of total trade. The US comes second at 13%, followed by Japan (11%), the

European Union, and Hong Kong (both 8%). While improved diversification would likely bode well for the country, it has also found strength and success by leveraging its skill-based comparative advantage to focus heavily on electronics.

One of the current US administration's strategic goals is what has come to be known as "decoupling" from China, and, insulating global supply chains from Chinese interference or, in some cases, dependence. One way to bypass China is to strengthen ties with alternative raw materials suppliers like rare earth and production capacity owners for chips. The first category will likely include Brazil and India; the latter must include Taiwan and South Korea.

Figure 1



Figure 1 shows the number of suppliers that have Headquarters in China and Taiwan

Impacts on the Electronics Industry

Taiwan has built the only democracy around the South China Sea, dominates the global semiconductor trade with a nearly two-thirds market share, and established itself as a key logistics hub.

The semiconductor industry, including IC manufacturing, design, and packing, forms a major part of Taiwan's IT industry. Due to its strong capabilities in OEM wafer manufacturing and a complete industry supply chain, Taiwan has been able to distinguish itself from its competitors.

Taiwan is the largest producer of electronic chips, which are supplied to almost all industries, from phones to laptops, watches to game consoles, industrial equipment to automotive, and aircraft and fighter jets.

Taiwan Semiconductor Manufacturing Company (TSMC) and United Microelectronics Corporation (UMC) are the two largest contract chip makers in the world, while MediaTek is the fourth-largest fabless supplier globally.

By 2020 Taiwan was the unmatched leader in the global semiconductor industry with Taiwan Semiconductor Manufacturing Company (TSMC) alone accounting for more than 50% of the global market.

With the Russia-Ukraine war that already impacts the semiconductor supply chain—as it hinders neon gas and palladium supply for semiconductors—any aggression over Taiwan would further affect the supply of semiconductors for data centers.

Any potential conflict with China would completely disrupt the entire supply chain of TSMC and labor availability and could cause a major shortage of electronic chips. China controls 5% of the global production of chips, which could also be affected. This could further impact the already existing supply-demand gap for electronic components.

Taiwan also is a hub for global computing, telecommunications, and data management with several large server farms operating in the country. Google’s data center in Changhua is believed to be the largest in Asia.

Impacts on Materials Sector

Taiwan accounts for about 6-8% production of chemicals, which could be affected in case of crisis.

China accounts for over 60% of the global supply of all known metals, minerals, and Ores indirectly.

China accounted for over \$70 Billion of global chemicals exports in 2020. China is the major demand driver for most chemicals, especially petrochemicals (polyethylene, polypropylene, etc.).

China is the world’s largest producer of rare earth elements by a large margin. According to Statista in 2021, China’s production quota of rare earths amounted to 168,000 metric tons of rare-earth-oxide (REO) equivalent.

Figure 2

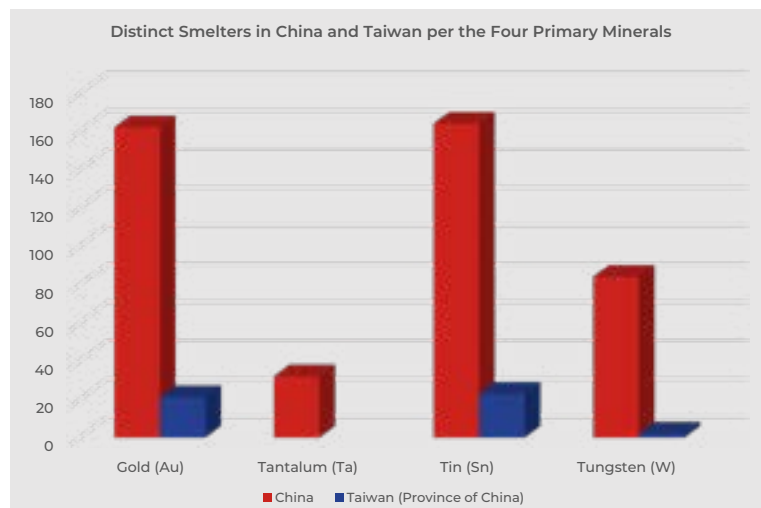


Figure 2 shows the distinct smelters in China and Taiwan per the four primary minerals

Impacts on Shipping Sector

While Taiwan is widely known as a technology exporter, the country also controls about 10% of the world's liner fleet. It plays a vital role in the global supply chains as a container ship operator. This position is further enhanced by its strategic geographical location on the maritime trade route connecting east Asia with south-east Asia and access to the Suez Canal.

According to the Australian Strategic Policy Institute calculations, roughly a third of global shipping the entire global trade passes through these waters. With Japan and Singapore, Taiwan connects two of the most critical destinations for the global economy. From Singapore, ships venture on toward India and the Middle East or into Europe through the Suez Canal.

Two of Taiwan's ports, Kaohsiung and Taipei, are among the largest in the world. Taiwanese ship operators, notably Evergreen, Yang Ming Marine, and Wan Hai control more than 10% of global container capacity

Impacts on Energy Sector

China is the largest producer and a significant importer of coal in the world with roughly 32% of imports from Australia. It is also the largest importer of Liquefied Natural Gas (LNG) since 2021. Australia and Qatar together supply about 60% of China's LNG.

Any direct conflict between China and the U.S. could lead to a cutting-off of imports from allies like Australia, Canada, and Qatar.

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