



China Briefing

Taiwan and conflict: Saved by the chips

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Executive summary

- *We assess there is almost no chance of war between Taiwan and China. Beijing has a far more desperate need for capital that will retard fighting.*
- *That said, the status quo is changing and neither the US nor China seem to be interested in toning down the rhetoric.*
- *Taiwan's chips will remain essential no matter what due to human capital shortages (US) or overcentralisation and detachment from global supply chains (China). This will help tamp down any temptations to act on the war front but will also need to be priced in by investors.*

China Briefing

Taiwan, or the Republic of China (“ROC”), was recently dubbed “the most dangerous location on Earth” by The Economist.

A small, contested island off China’s coast that is split between economic ties to China and military ties to the US, Taiwan is possibly the most critical location in the world for determining who will lead the globe in artificial intelligence, 5G wireless, and other cutting-edge technology. Hence, this danger, should it exist, would be of grave concern to investors.

Taiwan is a democracy that is claimed as a Chinese province and is protected by an obscure American statute that has distinct English and Chinese versions. Understanding Taiwan’s wave of claim and counterclaim is a lifetime endeavour, and we do not mean to strain the reader’s patience by wallowing in the past.

Nonetheless, there is a continual stream of views indicating a possible shock to global markets in the coming decade as a result of the People’s Republic of China (PRC)’s invasion of Taiwan. As such, we shall estimate the chances of that occurring in this essay.

We suggest that this shock is highly improbable.

Our optimistic attitude toward the unlikelihood of war in Taiwan stems from an examination of contemporary arguments about war, which are somewhat circular and based on a lack of understanding of how Taiwan’s industry operates. A requirement for semiconductors is considerably more likely to deter the People’s Liberation Army than to encourage them.

Does more heated jaw-jaw indicate more war-war?

China and Taiwan were divided during the 1940s civil war, and Beijing now regards Taiwan as a breakaway province, an internal matter, and a fundamental interest. Taiwan asserts that the island is already a de facto independent nation, with its own constitution, democratically elected authorities, and an armed forces of approximately 300,000 active personnel. It aspires to be a member of as many international forums and organisations as possible. Although the US has no

diplomatic connections to Taiwan, it is required by law to assist the island with self-defence capabilities.

This triangle is the so-called “one China” problem. While Beijing insists that the “one China principle” means that the PRC represents all of China (including what it calls “Taiwan Province”), Washington emphasises its “one China policy” that treats Taiwan as a separate entity from the PRC.

This status quo persisted for a long period of time. There have been several modifications recently. To begin, it is self-evident that relations between China and the US have deteriorated. This has spilled over. US Secretary of State Anthony Blinken’s October 2021 public statement supporting Taiwan’s participation in the UN system and President Joe Biden’s claim that the US has a “rock-solid” commitment to protect Taiwan have both raised more than just eyebrows. The Taiwan issue became so serious that it topped the agenda of the first Biden-Xi virtual meeting in November 2021, with President Xi Jinping telling President Biden that “should the separatist forces for Taiwan independence provoke us, force our hands, or even cross the red line, we will be compelled to take resolute measures.”

Second, China’s rhetoric has strengthened. In July, Xi Jinping promised to “smash” any attempt at formal Taiwanese independence.¹ Speaking during a commemoration of the 110th anniversary of the revolution that deposed China’s last imperial dynasty in 1911, he stated that peaceful reunification was “more in the interests of the Chinese nation, including Taiwan compatriots” and added “However, no one should underestimate the Chinese people’s tenacity, resolve, and capacity to preserve national sovereignty and territorial integrity.”

China significantly raised its rhetoric in a military sense, with record numbers of air force flights inside Taiwan’s air defence identification zone as part of Beijing’s warfare-adjacent “grey-zone” activity.

China is concerned about third-party countries being involved. Taiwan is an excellent issue to bring up at any leadership or defence discussion. Consider the signing of a new five-year agreement to share the expense of the US military presence in Japan; both nations’

¹Part of this is a language issue: he used a metaphor that sounds particularly blood-thirsty when translated, but in regular use can also mean “will exert every effort”.

foreign and defence ministers stated that the deal was in part to improve coordination on Taiwan. Chinese state-owned and semi-state-owned media responded angrily. According to the Global Times, “the meeting brought together foreign and defence ministers from the two countries and also - somewhat predictably - targeted China, which was accused of undermining the (US-created) rules-based international order and posing “current political, economic, military, and technological challenges to the region and the world.”

The US sells Taiwan billions of dollars' worth of defence armaments. Additionally, Washington officials have made statements indicating that the US will likely come to Taiwan's help militarily in the event of conflict. For decades, the US has pursued a strategy of strategic ambiguity, neither confirming nor rejecting assistance agreements, in order to prevent both Beijing and Taipei from taking provocative action. For Taiwan, the problems with this are clear: strategic ambiguity is an informal relationship, and as such, it is not clear that it will have the same power as a formal alliance. But as Taiwan is not treated as a nation, a situation that China is incredibly strict in enforcing, how can it sign formal agreements?

There are usually thought to be three paths to conflict. One would be that China's reliance on Taiwan for semiconductor manufacturing is analogous to how Japanese war planners regarded oil supply during World War II. Indeed, the problem is exactly the opposite: semiconductors will never be a commodity because they require an enormous amount of human process knowledge. This is precisely what China would lose if it invaded.

Another key reason for a war is Chinese nationalism. This trend has undoubtedly accelerated under Xi. However, because nationalism is built on blood, Taiwan is a less desirable target than other countries. Even today, there remains a great deal of friendship and trade between the two nations on a people-to-people basis.

Finally, the point is that a miscalculation is possible. While the likelihood of this has increased as a result of continuing People's Liberation Army Air Force sorties, the advantage is that the two air forces are well familiar with one another.

Chips in the game brings skin in the game

China is the world's largest manufacturing hub, generating 36% of all electronics - including smartphones, computers, cloud servers, and telecom equipment - establishing the country as the supply chain's largest node.

Additionally, with almost one-fifth of the world's population, China is the second-largest ultimate consumer market - behind the US - for semiconductor-based electronic gadgets. China imported USD 378bn in semiconductors in 2020; built 35% of the world's electronic gadgets; exported 30% to 70% (depending on the product) of worldwide TV, PC, and mobile phone exports; and consumed a quarter of all semiconductor-enabled electronics.

The primary beneficiaries are located abroad. US companies, South Korea's Samsung, and Taiwan's Foxconn all profited handsomely from China's cheap labour. Supply chains were pervasive and flexible. Though this arrangement worked for decades, it was reliant on the US and China maintaining a level of goodwill and economic cooperation. Today, there is a growing consensus in Washington that China is a direct danger.

This is why war is so easy to talk about. The Chinese government's top priority is semiconductors. It owns or controls 43% of registered capital (a total of USD 51bn) in the Chinese semiconductor industry, suggesting the government's strong influence over the industry's future. The US also has semiconductors as a key priority economically, and is committed to defend Taiwan. Hence, war games at DC think tanks discuss semiconductors as the likely trigger of action.

That is because Taiwan is home to the world's best and largest semiconductor manufacturing. Taiwan Semiconductor Manufacturing Corporation (“TSMC”) plans to invest USD 40-44bn in capital expenditures in 2022. This is in comparison to Taiwan's overall defence spending of USD 28bn, intertwining a level of national fate with the future of TSMC production. There is a poem used in TSMC recruiting: A hundred thousand youths, a hundred thousand livers, shift by shift, TSMC is saving Taiwan”.

Think tank presidents refer to the company as Taiwan's "Sacred Protective Mountain".

But one cannot confuse a company and a country. Indeed, TSMC is one of the strongest reasons that there is unlikely to be a war. They are a semiconductor fabrication company, which means they manufacture chips designed by other companies. Chinese companies are able to design chips, just like any nation's company. But they cannot produce chips anywhere near as well as TSMC. And that will apply regardless of whether China physically controls the semiconductor factories.

Why? Because you cannot replace the human capital in TSMC. It is frequently compared as a disciplined army, known to employ PhDs to monitor a single piece of production line equipment.

“Basically, one machine does not require a PhD to maintain. However, because we have these over-educated engineers controlling the process, they can resolve issues fast on-site. That is how TSMC's competitiveness truly developed. We are fielding our PhDs as foot soldiers, but many of them have the potential to become colonels. That culture would not be tolerated in the US”.

— Lai I-Chung, President of The Prospect Foundation

Source: [EE Times](#)

These machines are incredibly specialised, costly, and complicated. Not only are they irreplaceable if they are sabotaged or bombed, but they are impossible to maintain or use without the process knowledge of how they work. So if China invades, then they cannot have TSMC make the chips.

From the Taiwanese side, they also have considerable skin in the game. Their capital expenditures are among the largest for a single item in the world. A new fab can cost up to USD 20bn, in comparison to USD 9bn for nuclear power facilities and USD 13bn for an aircraft carrier. So TSMC must assume that there is a

market for their product, and also recognise that even if demand exists, it will dwindle significantly over the next few years (as that is the length of a chip cycle). They have very little room to stimulate demand in the event of a shortage. They can construct cutting-edge facilities, but such facilities will become stranded assets unless the rest of the ecosystem conducts cutting-edge research of its own, and wants to buy chips. And that means they need China.

Taipei is attempting to utilise its position as an important supplier to America's most strategic industry. This is in order to convince Washington to defend it in order to maintain its economic dominance. However, in an ironic twist, TSMC establishes itself as important not only to Taiwan's would-be protector, but also to the country that threatens to invade it — China. Beijing's continued reliance on Taiwanese enterprises for economic innovation is likely to dissuade it from launching a military attack on Taipei.

In both circumstances, the human, ironically, makes it impossible to attack. Humans are required to manufacture the chips, and if Taiwan is invaded or assaulted, this is precisely what will be rendered inoperable. And Beijing is well aware of this. It has been frantically attempting to increase capacity and generate semiconductor supplies; all to no avail thus far.

China needs to release control not the troops

So what do we think the biggest problem is? It is not, perhaps surprisingly, one of military miscalculation. (Indeed, a recent survey of Taiwanese nationals indicated that they are 15% less likely to believe in war than they were last year).

Rather, we think it is more likely that China takes the wrong lessons from the global supply chain and tries to detach from the world. The components and subsystems – as well as the critical intellectual property they contain – are manufactured in five Asian countries. America manufactures less than 12% of the world's microelectronics. And, as any supply chain expert will tell you, you cannot control what you do not generate. China is far too intent on acquiring such control.

"The Chinese nation's cornerstone is self-reliance", Xi Jinping argued. And so China's plans are largely revolved around having things made in China. Not only is the Party promoting domestic production, but it is also subsidising its largest enterprises – Alibaba, Bytedance, and Tencent. It is giving this to firms on the cheap, including for American firms. Apple can develop subsidised, tax-favoured manufacturing facilities in China for a fraction of the cost in the United States, and with lower labour costs. Hence Apple struck a USD 275bn deal with China.

However, China is in this way misreading the lessons of Taiwan's success. The small island's dominance in semiconductors was achieved in part not through the massive top-down spending seen today, but through a highly decentralised method. (Indeed, it is probably worth noting here that Taiwan doesn't only lead in the battle over chips. It is also a world-leader in printed circuit boards that can accommodate chips. The most advanced Taiwanese ones can achieve a resolution of 10 microns or less, compared to a minimum spacing of 75 microns in the US).

Why? We may need to dive into history in this instance. As with other prosperous East Asian countries, Taiwan's government dismantled major estates and promoted local agriculture – but unlike its East Asian partners, it then supported nimble small businesses specialising in labour-intensive exports, rather than classic big economy goods such as steel etc. These small businesses filled the gaps that South Korea and Japan were not so interested in. Taiwan remained cheaper for longer. In the mid-1960s, US textile employees earned USD 333 per month, Japanese textile workers earned USD 69 per month, and Taiwanese textile workers earned USD 23 per month.²

This was then passed on to China. Taiwan began outsourcing its manufacturing to China, frequently via Hong Kong. Taiwanese contract manufacturers possessed competence in managing complex supply chains, strong relationships with retailers and distributors, and an uncanny ability to respond to customer whims. All they required was reasonably

priced labour. China, with a population of 1.14bn people in 1990 and a GDP per capita of USD 320 at the time, possessed both. Thus, Taiwanese firms relocated to China industry by industry. Hence TSMC as a blocker to future wars. It has the Taiwanese exporter ecosystem advantage; Taiwan is a great white label supplier.

Today, China is trying to steal Taiwan's throne. But it does not invest as much as TSMC and it remains behind even if it did. Moreover, it is unable to have the white label philosophy and integration of Taiwan into the global supply chain. Thus, the more worrying issue may actually be one of China's overcentralisation impeding its economy, not of China suddenly invading Taiwan.

What does this mean for investors?

The biggest takeaway is simply that we don't think that China will invade Taiwan. We have shown clearly above the economic costs; those alone are enough to send China's economy back multiple generations. As we have written previously, this would make it almost impossible for China to reach the 2035 and 2050 goals, especially given the many demographic, social, and economic challenges the nation currently faces.

Hence, should investors lose money, it will be in a trickle rather than a war-driven deluge. We worry more about an overshoot of domestic spending, squandering public funds. This may lead to some of the big tech stocks facing risks of overpaying for chips in a need to "buy local". These large tech stocks are a large part of many portfolios with some exposure to emerging markets. Semiconductor research may prove more and more necessary for equities research. At the sector level, semiconductors and hard technology remain favourable over the long run. But if this deep dive into just one part of the puzzle shows, it is that geopolitical stock picking remains difficult. It is more critical to be balanced and nimble, and to rely on evidence from on the ground.

²Byrne Hobart, The Diff, TSMC books

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