DEFENSE & SECURITY

The Association of Southeast Asian Nation's Semiconductor Sector in a World of Bifurcated Supply Chains

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The members of the Association of Southeast Asian Nations (ASEAN) have worked to maintain a balanced approach in their relationship with China and the US. ASEAN acts increasingly as a bridge and an intermediate market between superpowers. Nevertheless, rising trade barriers, sanctions, and tensions add further complexity to the delicate equilibrium that ASEAN aims to craft between China and the US. These concerns are especially relevant to the ambitions of ASEAN's growing semiconductor sector.

ASEAN in a World of Bifurcated Supply Chains.

ASEAN members aim to retain a balanced relationship between the US and China, not only for geopolitical reasons and a tradition leaning towards diplomatic neutrality, but also because this reflects economic reality.

The ASEAN–China Free Trade Agreement (ACFTA) and the Regional Comprehensive Economic Partnership (RCEP) have bolstered trade with China by slashing tariffs and fostering closer supply chain connections. In 2020, ASEAN became China's largest trading partner for the first time in history, reciprocally making them each other's top trading partners. China has been ASEAN's largest trading partner since 2009, with trade between the two more than doubling since 2010 to reach $507.9 billion in 2019. ASEAN's exports to China grew at an average annual rate of 10.4% from 2010 to 2019, while imports from China increased by 12.5% during the same period, leading to a significant widening of ASEAN's trade deficit with China. However, due to China's slowdown, the ASEAN-China trade in goods contracted by almost 10% in the second quarter of 2023 compared to the preceding year.

In 2022, Foreign Direct Investment (FDI) flows from China to ASEAN reached $18,65 billion, positioning China as the ASEAN's third-largest foreign investor. Most Chinese investment in the region is focused on the manufacturing sector, constituting 44% of the total Chinese outbound direct investment in the region. As in other areas, such as Europe, Chinese investment in electric vehicles and renewables has been rising, with Chinese companies like BYD establishing manufacturing plants and investing in local EV companies in Indonesia, Malaysia, Thailand or Vietnam.

Trade between the US and ASEAN has also increased, reaching around $441.7 billion in 2021–making the US ASEAN's second-largest trade partner after China. Here, the trade relation is also imbalanced, but this time in favor of ASEAN. In this sense, ASEAN has become an alternative to Chinese products in the US, although many ASEAN exports to America might still be made by Chinese-owned firms. ASEAN's trade surplus, exceeding $250 billion, was primarily driven by electrical machinery exports, amounting to $73 billion in 2021 and constituting 28% of all ASEAN exports to the US.

ASEAN has also become an alternative geography for US manufacturers wanting to exit China to produce or import products and components. This is how, in 2021, the US became ASEAN's largest FDI investor, injecting $40.2 billion into the region and contributing around 22.5% of ASEAN's total foreign investment. American investment targeted sectors like banking, finance, semiconductors, and pharma and biomedical industries.

Despite the risks that US-China rivalries pose to the region, ASEAN has benefited from these conditions, attracting trade and investment from both nations. That has a translation in a diplomatic context. Even though, in aggregated terms, ASEAN public opinion keeps a balanced position in its preference between China and the US, we can see a growing internal division among member countries. Malaysia, Indonesia and Laos lean more towards China, while Vietnam, the Philippines, and, to a lesser extent, Singapore lean towards the US. Despite their strong trade relation with China, Vietnam and the Philippines are constantly clashing with Beijing due to maritime disputes in the South China Sea, and the possibility of a military confrontation with China makes their relationship with the US much more valuable.

The Semiconductor Sector in ASEAN

Semiconductors are not an unknown technology in ASEAN. In the 1970s, Malaysia was known as the “Silicon Valley of the East,” a leader in chip manufacturing; however, in the 1990s, it lost its throne to Taiwan and Korea. Nevertheless, Malaysia and ASEAN are trying to reclaim their position in this strategic sector and trying to take advantage of the US and China trade tensions.

In 2022, American and Chinese semiconductor exports were $28.4 billion and $220 billion, respectively. In 2022, ASEAN’s semiconductor exports soared to over $165.3 billion, with a projected market revenue of $101.8 billion, showing substantial growth potential. Currently, ASEAN is the top semiconductor exporter to the US. In 2021, ASEAN experienced a 42% increase in FDI to $174 billion, notably in electronics, including semiconductors.

Since October 2022, the US has imposed export controls in the semiconductor sector, intending to limit China’s access to cutting-edge technologies. Japan and the Netherlands also followed suit with similar responses. These disruptions in the global semiconductor supply chain boosted ASEAN’s semiconductor operations. Singapore, which is attracting semiconductor giants like TSMC with incentives for new chip manufacturing facilities, leads in wafer fabrication in the region.

Malaysia, particularly Penang, is drawing investments from Intel and Infineon. Malaysia, which leads in assembly, testing, and packaging, is nevertheless seeking to advance in the value chain to higher segments, from assembling and testing to wafer fabrication and integrated circuit design. Meanwhile, Vietnam plans to establish its first semiconductor fabrication plant by 2030. The ASEAN countries offer tax incentives, cost-effective labor, and skilled workforces. Among the members of ASEAN, we find operations of the top players in the semiconductors sector, including the American corporations Intel, Qualcomm, Texas Instruments, Micron and NVIDIA; the Japanese Toshiba, Renesas and Rohm; the Korean Samsung and SK Hynix; the Taiwanese TSMC, and the Dutch NXP.

Furthermore, Chinese semiconductor design firms, like Xfusion–formerly connected to Huawei–and StarFive are using Malaysian chip-packaging firms to assemble GPUs, a move that currently does not violate any US. restrictions on chip fabrication. Malaysia offers a skilled workforce and geographical proximity to Chinese companies, making it the preferred country

for expanding ASEAN operations. Malaysia currently accounts for 13% of the global semiconductor packaging market, with a target of 15% by 2030. Chip-packaging companies like Unisem are witnessing a surge in business from Chinese clients, indicating a growing trend of Chinese semiconductor firms expanding their operations in Malaysia, whose ambition to further boost its semiconductor industry and attract multi-billion-dollar chip investments has garnered interest from Chinese chip companies looking to establish a presence in that country. Meanwhile, countries like Vietnam and India are also vying to expand their chip-manufacturing services, aiming to attract clients seeking to minimize geopolitical tensions between the US and China. Nevertheless, as mentioned earlier, Malaysia aims to move up in the value chain beyond just assembling and packaging, and it is yet to be seen whether China can help with that goal. Despite its geopolitical tensions with China, Vietnam seems to be another potential candidate for expanding Chinese companies' supply chains.

As Asia solidifies its position as the epicenter of the semiconductor economy, the ASEAN nations find themselves in a complex yet potentially advantageous position amidst the evolving dynamics of the global semiconductor industry and the conflicts between the US and China. Despite Beijing's advancements in Southeast Asia, the US and its allies have a strong dominance in the semiconductor sector.

This dominance could translate into diplomatic gains, combining geoeconomic tools with security assurances. The US could support infrastructure projects in ASEAN countries that bolster the semiconductor supply chain, including logistics, transportation, and digital infrastructure. As well, it could incentivize Western semiconductor companies to invest in ASEAN nations, focusing on high-value segments like wafer fabrication and integrated circuit design, or encourage joint ventures and partnerships between US and ASEAN companies to enhance capacity building. By reinforcing the position of Western semiconductor companies in ASEAN, the US would encourage diversification of semiconductor supply chains to reduce dependence on any single country, thereby enhancing resilience against geopolitical risks.

Although geographical proximity matters and China's economic influence over ASEAN will always have more advantages than America's, the US can leverage shared interests in security and economic growth to deepen alliances and counterbalance Chinese influence in the region.

The US role as a guarantor of stability in the South China Sea should be used to safeguard the semiconductor supply chain and influence in the region.

Nevertheless, it is important to understand that Washington should consider ASEAN's tendency towards geopolitical neutrality when incorporating the semiconductor industry into its regional diplomatic strategies. The potential mistrust of an overdominant China will not necessarily be translated into a total commitment to Washington's interests. A "neutral" ASEAN is better than an ASEAN totally under China's influence. The key to building long-term trust and cooperation in the region lies in acknowledging and respecting ASEAN's diplomatic neutrality, thereby reinforcing the importance of the association's independent foreign policies.
