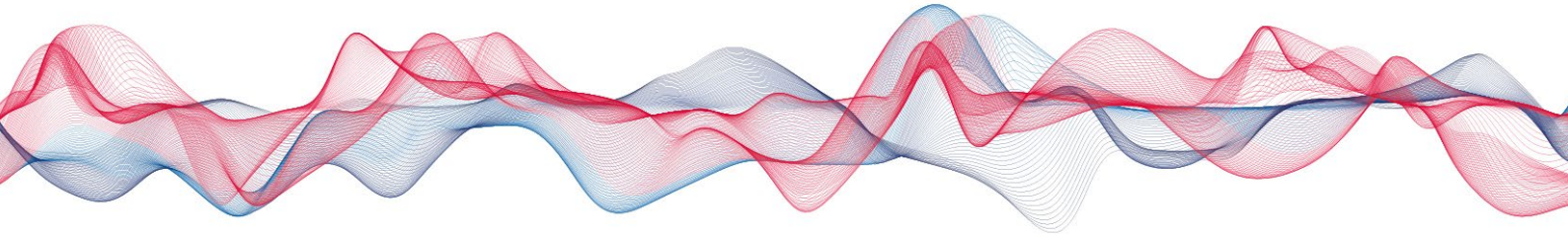


AUGMENTING OPPORTUNITY

Catching the upside of a revitalized Japan



Inflation is back, national security concerns are impacting global trade patterns, and artificial intelligence (AI) is transforming a number of industries. How is Japan positioned to fit into this new economic world? The answer, according to many of the experts who addressed the global audience at the BofA Global Research 2024 Japan Conference, is that Japan has some key strengths worth considering.

In his address to the hundreds of global financiers and senior Japanese executives who had gathered in Tokyo, Jared Woodard, Head of Bank of America's Research Investment Committee, explained how the world has changed. He cautioned against assuming that there would be a return to the very low inflation and interest rates of the pre-COVID-19 era.

"Our contention is that in quarters, years, even decades to come, on a structural view, on a trend basis, inflation and interest rates will trend higher, averaging around the 5% that has been the norm for so much of economic history," he told the audience.

"In other words, we think that the outbreak of inflation in the last several years is not transitory, as the policymakers in America kept trying to tell us, and that it's much more about structural forces that are changing, and about the reversal of the catalysts that gave us that 2% world: demographics, trade and globalization, debt levels, technology disruption. These were all very disinflationary in this little interregnum."

Woodard noted that flows of goods are becoming very contentious, and that rising trade restrictions apply to almost two and a half trillion dollars' worth of global imports — almost 10% of world trade.¹

"Many investor portfolios that we see are very poorly structured for the world we expect over the next decade." said Woodard.

As for the idea that AI will prove to be a disinflationary force, for instance by alleviating labor shortfalls, Woodard said that while this would be welcome, it was likely to be a back-end result of the AI revolution. At the front end was the technology's enormous demand for electricity, which amid a transition to renewables was more likely to push prices up than down in the short-to-medium term.

How does Japan fit in?

Much of the debate around AI has focused on major U.S. tech companies. The regulation around AI has likewise been a topic of much discussion, as have China's efforts to build AI capability in the face of U.S.-mandated export bans to that country.² Japan, however, has been largely missing from the debate.

The BofA Global Research 2024 Japan Conference saw experts address this gap. As a country with an acute labor shortage, AI could be particularly impactful in Japan - nearly a quarter of Japanese companies have already adopted its use.³ But Japanese companies are also critical to the semiconductor supply chain, amid sizeable government investment in the sector.⁴ These facts are augmenting opportunities in Japan's revitalized equity markets.

In a round-table discussion, three of BofA Global Research's leading technology experts, Masashi Kubota, Simon Woo and Mikio Hirakawa, assessed the ways that Japanese companies are participating in the AI revolution. They took the view that Japan's component manufacturers, which dominate several

¹ See also World Bank, Report shows increase in trade restrictions amidst economic uncertainty, multiple crises, December 2022

² The Economist, China's AI firms are cleverly innovating around chip bans, September 2024

³ Reuters, More than 40% of Japanese companies have no plan to make use of AI, July 2024

⁴ World Economic Forum, How Japan's semiconductor industry is leaping into the future, November 2023

⁵ Brookings, The renaissance of the Japanese semiconductor industry, June 2024

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sections of the semiconductor supply chain,⁵ will see the benefits when AI is truly integrated across devices, including mobile phones.

Kubota noted that Japan's component suppliers appeared to be at the start of a new cycle, following years of weakness, but that AI would take time to establish itself as a major market driver. "As of today, the impact on companies' manifest earnings from AI is not so big," he said.

"For component makers to enjoy the full-scale benefits from the AI market expansion, we need to see actual strong demand for artificial general intelligence devices like smartphones." said Kubota.

Apple and China Original Equipment Manufacturers (OEMs) have both announced AI phones, in what is a microcosm of the broader strategic competition between the U.S. and China.⁶

But Simon Woo cautioned that the ecosystem may not yet be strong enough for edge AI to function effectively on portable devices (versus datacenter servers).

Nevertheless, he viewed the long-term prospects as positive for Japanese suppliers. "For the semiconductor area, edge AI's impact could be delayed to next year, but it's good for the mid-term and long-term trend."

Outside mobile devices, both Kubota and Hirakawa pointed to the emergence of new AI-focused graphics processing unit (GPU) architectures with faster processing power as another driver of

demand both for generative AI applications and the necessary hardware components needed to operate them.

One headwind is the increasingly complex considerations around exporting such technology to China, Japan's largest neighbor. The \$600 billion global semiconductor market is widely predicted to be a trillion-dollar industry by 2030, but Mikio Hirakawa warned that restrictions on exports to China were a significant issue.

Kubota noted that due to U.S. export restrictions, many Japanese companies are shifting production away from China to smaller Asian countries like Vietnam and Malaysia. Japan remains more tentative about restrictions on China than the U.S., according to reports, fearing that China could block exports of critical minerals like gallium and graphite.⁷

How the relationship between the U.S and China develops in the future, and its impact on supply chains, is a matter of speculation. Previous generations may recall that in the 1980s, it was Japan itself that faced U.S. tariffs on its microchips,⁸ whereas now the countries are close allies. What is less open to doubt is that Japan remains a key player in semiconductor supply chains, and that demand for AI computational power over the coming years and decades will likely bolster Japan's return to economic dynamism.

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⁶ *Fortune*, *Apple and Huawei's newest devices are going head-to-head in China*, September 2024

⁷ *Financial Times*: *US and Japan near deal to curb chip technology exports to China*, September 2024

⁸ *Foreign Policy*, *A Semiconducting Trade War*, July 2024

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